Goldsmiths Research Online

*Goldsmiths Research Online (GRO)
is the institutional research repository for
Goldsmiths, University of London*

Citation

Persistent URL

Versions

Goldsmiths
UNIVERSITY OF LONDON

Acceptance and Commitment Therapy (ACT) Informed Coaching: Examining Outcomes and Mechanisms of Change

Rachael Skews

Goldsmiths, University of London

Thesis submitted in partial fulfilment for the degree of Doctor of Philosophy (PhD)

Declaration of Authorship

I, Rachael Skews, hereby declare that this thesis and the work presented in it is entirely my own. Where I have consulted the work of others, this is always clearly stated.

Signed: _____ Date: _____

Acknowledgements

During this research, I had the support of an incredible network of family, colleagues, and friends. However, I would like to acknowledge here the people who have been truly instrumental to this thesis. My greatest appreciation goes to Dr Jo Lloyd. She has been a source of encouragement and inspiration throughout, and it has been a privilege to work with her. Secondly, to Tom, for his unfaltering companionship. I would like to thank the Institute of Management Studies for supporting this research. Finally, I would like to acknowledge the coaching psychology and contextual behavioural science research communities, as without their collective endeavours this research would not have been possible.

Abstract

This thesis presents a programme of research designed to examine the impact of Acceptance and Commitment Therapy (ACT) informed performance and development coaching. A preliminary repeated measures study tested the impact of a brief ACT-informed coaching intervention on coachee general mental health, generalised self-efficacy, life satisfaction, intrinsic motivation, goal-directed thinking, goal attainment, and psychological flexibility with 53 UK adults. Data were collected at four time points over 5 weeks. Analyses revealed significant increases in general mental health, life satisfaction, goal-directed thinking, and goal attainment.

A randomised controlled trial (RCT) study tested the impact of a more substantial ACT-informed coaching intervention on coachee work performance, general mental health, generalised self-efficacy, job satisfaction, job motivation, goal-directed thinking, goal attainment, and psychological flexibility with 126 senior managers in the UK Civil Service. Participants were randomly allocated to either an ACT-informed coaching intervention ($n = 65$) or a waitlist control condition ($n = 61$). Data were collected at four time points over 13 weeks. Analyses showed significant increases in general mental health, generalised self-efficacy, goal-directed thinking, goal attainment, and psychological flexibility in the ACT group compared to the control condition. Consistent with ACT theory, analyses indicated that increases in psychological flexibility mediated improvements in general mental health, generalised self-efficacy, goal-directed thinking, and goal attainment.

A final parallel mediation study compared the effects of psychological flexibility and working alliance (a plausible alternative mediator) using data from the coaching arm of the RCT study. These analyses revealed that significant increases in psychological flexibility mediated increases in generalised self-efficacy, goal-directed thinking, and goal attainment. Despite significant increases in working alliance over

time, no mediation effects for increases in study variables were found. Overall, findings suggest that ACT-informed coaching is an effective approach to performance and development coaching, and psychological flexibility mediates the beneficial impact of the ACT coaching intervention.

Table of Contents

List of Tables

List of Figures

List of Acronyms

Acceptance and Action Questionnaire	AAQ
Analysis of covariance	ANCOVA
Analysis of variance	ANOVA
Applied behavioural analysis	ABA
Acceptance and commitment therapy	ACT
Chartered Institute of Personnel and Development	CIPD
Coaching-as-usual	CAU
Cognitive behavioural coaching	CBC
Cognitive behavioural therapy	CBT
Common factors	CF
Dialectical behaviour therapy	DBT
Expectation maximisation	EM
General Health Questionnaire	GHQ
General Job Satisfaction Scale	GJSS
General practitioner	GP
Generalised Self-Efficacy Scale	GSE
Goal attainment scaling	GAS
Human resources	HR
Intentional change theory	ICT
Interpretive phenomenological analysis	IPA
Intrinsic Job Motivation Scale	IJMS

Learning and development	L&D
Maslach Burnout Inventory	MBI
Master of Business Administration	MBA
Mindfulness-based cognitive therapy	MBCT
Mindfulness-based stress reduction	MBSR
Missing completely at random	MCAR
Motivational interviewing	MI
Multivariate analysis of covariance	MANCOVA
Multivariate analysis of variance	MANOVA
Problem-focused	PF
Randomised controlled trial	RCT
Return on investment	ROI
Satisfaction with Life Scale	SWLS
Situational Motivation Scale	SIMS
Solution-focused	SF
Solution-focused coaching	SFC
State Hope Scale	SHS
Work Acceptance and Action Questionnaire	WAAQ
Working Alliance Inventory	WAI

Introduction

This thesis presents a programme of research of three empirical studies testing coaching interventions informed by theory and principles from Acceptance and Commitment Therapy (ACT). Chapter 1 provides a summary of meta-analytic research into coaching intervention effectiveness. These meta-analytic studies highlight a number of key limitations in the current evidence base. These are (a) the lack of theoretical underpinning in coaching interventions, (b) the lack of methodologically rigorous coaching-specific studies, (c) inconsistency and lack of rigour in outcome measurement in coaching studies, and (d) limited exploration of processes of change in coaching interventions. For these reasons, the thesis argues that further research into the effectiveness of coaching interventions is required. Chapter 2 summarises the main theoretical approaches taken in coaching psychology specifically, and that have generated research. Chapter 3 summarises the quantitative data generated from the theoretical approaches in coaching psychology. These quantitative studies are evaluated against recommendations from clinical intervention studies for high quality, rigorous research. Chapter 4 presents an argument for adapting the principles from Acceptance and Commitment Therapy (ACT) to an approach to coaching. This chapter highlights the theoretical strengths of the ACT Model, and evaluates coaching-related ACT-informed intervention research against the same criteria recommended from clinical studies for high quality, rigorous research.

The thesis then presents a programme of research consisting of three empirical studies. Chapter 5 presents a preliminary study exploring the impact of ACT-informed coaching on outcomes from a contemporary framework of coaching outcome categories and psychological flexibility. Chapter 6 presents a RCT study investigating the impact of ACT-informed coaching on outcomes (related to the same

contemporary framework of coaching outcome categories), and tests whether psychological flexibility mediates the change in outcomes. Chapter 7 presents a study comparing the mediation effects of psychological flexibility and working alliance. This research aims to respond to four main limitations in the coaching evidence base identified by coaching meta-research. Chapter 8 presents a general discussion of the empirical findings of the programme of research, and the theoretical, practical and methodological implications of the research. The limitations of the research and opportunities for future research are also discussed.

Chapter 1: The Current State of Research and Practice in Coaching

1.1 What is Coaching?

Defining coaching is complex, as the characteristics of coaching depend largely on the context in which coaching is taking place, as well as the level of development being targeted. Coaching is a broad field, but the main contexts in which it is applied are in work, life, career, sport, health, and education domains. Work-related coaching (focused on the work domain) is often defined as either workplace coaching (with non-executive employees) or executive coaching (with employees who have a managerial authority responsibility) (Grant, 2005). Life coaching focuses on helping individuals to attain their life goals, and enhance performance and wellbeing in their lives (Grant & Cavanagh, 2010). The key difference between life and work coaching is that life coaching focuses on the personal sphere, and work-related coaching focuses on work and employment (Grant & Cavanagh, 2010). Career coaching is focused on career-related goals such as career decisions, career development, career transition, and job searching (Hazen & Steckler, 2010). Career coaching occurs within both the work and personal domains (Hazen & Steckler, 2010). Sport coaching is focused on participation within sport (i.e. sports leadership), or the performance of athletes against competitive goals (Lyle, 2002). Health coaching aims to educate individuals on specific health-related topics, and support them in achieving health-related goals (Palmer, Tubbs, & Whybrow, 2003). Health coaching can occur in work as well as personal domains, for example in stress management coaching (Palmer, et al., 2003). Finally, educational coaching focuses on enhancing student learning, and teachers' professional development and learning (Pürçek, 2014).

As well as being applied in different contexts, coaching can be employed at different planes of development. Skills coaching is focused on developing a particular

skill in the coachee, and relates to technical mastery (Cox & Jackson, 2010). An example would be surgical coaching that aims to improve the operative performance of surgeons, and has been shown to be effective in improving technical surgical performance (Gagnon & Abbasi, 2017). Skills coaching is likely to be shorter in duration than other types of coaching, and focuses on the development of specific skills or behaviours (Grant, 2005). Performance coaching focuses on improving coachees' performance in relation to an organisational, career, or aspirational goal (Cox & Jackson, 2010). In this type of coaching the focus is on setting goals, overcoming obstacles, and monitoring and evaluating the coachee's progress towards their goals (Grant, 2005). It is more strategic and less specific than skills coaching (Grant, 2005). Both skills and performance coaching are aimed at maximising the coachee's contribution; either to a skill area (e.g. sport) or organisation (Cox & Jackson, 2010).

In contrast, developmental coaching focuses on developing the capacity of the coachee in terms of their growth as a whole person (Cox & Jackson, 2010). Developmental coaching aims to facilitate longer-term changes in the coachee's thoughts, feelings, beliefs, and other mental frameworks (Tschannen-Moran, 2010). It has a broader strategic focus than performance coaching (Grant, 2005), and the coachee may be working on emerging goals and evolving objectives (Cox & Jackson, 2010). Transformational coaching is a deeper form of developmental coaching which aims to create a fundamental shift in a coachee's capacity, by transforming how they think, feel, and behave in relation to others (Hawkins & Smith, 2010). Transformational coaching aims to generate a shift in meaning and perspective for the coachee; working with patterns of behaviour, feelings, and assumptions the coachee may have (Hawkins & Smith, 2010). Depending on the context, a coaching session or programme may work at more than one level of coaching (Grant, 2005). For example,

leadership development coaching may combine elements of skills coaching, performance coaching and developmental coaching.

The categorisation of coaching contexts and levels of development are helpful to define what coaching is; however they are to some extent artificial. There is overlap among coaching contexts, e.g. work-related coaching may include elements of the personal domain, such as work-life balance, and the health domain, in terms of stress management and wellbeing at work. Similarly, coaching programmes may move between planes of development depending on the needs of the coachee, e.g. career coaching may include coaching on job search skills, as well as developmental coaching around career decision. Nevertheless, it is beyond the scope of this thesis to explore all contexts of coaching across all planes of development. This thesis focuses on performance and development coaching, where the coaching centres on improving the coachee's performance, and developing the coachee's capacity for personal growth, in work, career, and personal domains.

1.2 Prevalence of Coaching in Industry

In a global survey of coaches, the International Coach Federation estimates there are a total of 53,300 professional coach practitioners worldwide in a coaching industry worth over $2bn annually (with $898m attributed to Western Europe; International Coach Federation, 2016). Work-related coaching has become a widely used learning and development activity both in the UK and globally. Recent research from the Chartered Institute of Personnel and Development (CIPD) indicates that over 75% of UK organisations offer coaching or mentoring to employees, rising to 89% in the public sector (CIPD, 2015). In the UK, 40% of organisations use in-house coaches, 33% offer a blend of in-house and external coaching, and 6% use external coaching only (CIPD, 2015). Work-related coaching is employed in a variety of organisational contexts, namely talent management, leadership development,

succession planning, performance engagement, and induction into an organisation or role (CIPD, 2012). CIPD research shows that 40% of UK learning and development (L&D) practitioners felt coaching by line managers or peers was one of the most effective L&D practices used in their organisation, with another 16% reporting the same of coaching by external practitioners (CIPD, 2015). As well as executive coaching, workplace coaching can be delivered with a specific focus, such as leadership coaching (Ely et al., 2010), coaching of employees by managers (Ellinger, Beattie, & Hamlin, 2010), team coaching (Clutterbuck, 2010), and peer coaching (Ladyshewsky, 2010).

1.3 The Economic and Productivity Benefits of Coaching

As work-related coaching has become more commonly used in the workplace, researchers have sought to establish the economic and productivity benefits for coachees and organisations. One method used to calculate the economic benefits of coaching interventions in early work-related coaching research was return on investment (ROI) (e.g. Anderson, 2001; McGovern et al., 2001). To calculate ROI the costs of an intervention are subtracted from the estimated value of intervention outcomes, then expressed as a percentage (Grant, 2012c). However, the use of ROI as a way of demonstrating the economic impact of coaching interventions has received criticism. ROI is dependent on a variety of contextual and systemic factors, and there is no reliable measure or calculation of the benefits of coaching in terms of ROI yet (Grover & Furnham, 2016). Therefore, researchers see ROI as offering poor criteria for evaluation in comparison to other metrics (e.g. De Meuse, Dai, & Lee, 2009; Grant, 2012c).

As an alternative to an economic measure of the impact of work-related coaching interventions, researchers have used work performance as a measure of employee productivity. Work performance is a latent construct that has been

conceptualised, operationalised, and measured in various ways in management and occupational psychology research. A recent systematic review of the work performance literature from occupational health, psychology, and management fields offers a heuristic framework of work performance This consists of the general factor of individual work performance, and sub-components of task performance, contextual performance, adaptive performance, and counterproductive work behaviour (Koopmans et al., 2011). As a general factor, work performance has been shown in meta-analytic data to predict up to 60% of the variance in various dimensions of job performance after controlling for measurement error (Viswesvaran, Schmidt, & Ones, 2005).

To date, summaries of empirical evidence evaluating the impact of coaching interventions have indicated a positive impact on general work performance (De Meuse et al., 2009; Jones, Woods, & Guillaume, 2016; Sonesh, Coultas, Lacerenza, et al., 2015; Theeboom, Beersma, & van Vianen, 2014). In work-related coaching studies, work performance has been operationalised using both subjective and objective measures of performance: Examples include (a) behaviours required for organisational effectiveness, such as transformational leadership behaviours (Theeboom et al., 2014), (b) individual level results of coaching, such as financial achievement, goal achievement, and productivity (Jones et al., 2016), and (c) generic behaviour change, such as technical or leadership skills (Sonesh, Coultas, Lacerenza, et al., 2015). However, it should be noted that in each of these reviews only a small number of studies are available, and therefore results should be generalised with caution (De Meuse et al., 2009; Jones et al., 2016; Theeboom et al., 2014). Furthermore, it has been asserted that the methodological quality of the studies that have been carried out to date is poor overall (Grover & Furnham, 2016; Lai & McDowall, 2014). Conducting further methodologically rigorous outcome studies

will allow a more reliable determination of the extent to which coaching impacts work performance.

1.4 The Wellbeing and Health Benefits of Coaching

Wellbeing can be defined as the equilibrium of psychological, social, and physical resources of an individual to meet the psychological, social, and physical challenges they encounter (Dodge, Daly, Huyton, & Sanders, 2012). Wellbeing is not conceptualised as a static factor, but a fluctuating state in response to the balance of resources and challenges (Dodge et al., 2012). Coaching interventions have been shown to have a positive impact on wellbeing in both work and personal domains (Jarosz, 2016; Jones et al., 2016; Sonesh, Coultas, Lacerenza, et al., 2015; Theeboom et al., 2014). Studies have explored the specific benefits of health coaching, and show that coaching interventions can significantly increase health-related behaviours such as healthy nutrition, physical activity, weight management, and medication adherence (Olsen & Nesbitt, 2010).

While the relevance of wellbeing and health in both life coaching and health coaching is clear, wellbeing and health are also important factors to consider in work-related coaching for two reasons. Firstly, occupational health psychology theories, such as the happy-productive worker hypothesis (Lucas & Diener, 2002), posit a link between wellbeing and performance, and research evidence supports this theory (e.g. Taris, 2006; Taris & Schreurs, 2009). The happy-productive worker hypothesis proposes that workers who are happier have natural advantages in the workplace, such as being more sociable, self-confident, and healthier (Lucas & Diener, 2002). Therefore, people who are happier may have advantages that mean they can perform more effectively, and this leads to performance benefits at the organisational level. Secondly, to achieve sustainable work performance, productivity should not be at the

cost of the employee's wellbeing (Taris & Schaufeli, 2014). As previously mentioned, wellbeing can be seen as a balance between the resources an individual possesses and the challenges they face. If work demands outweigh the psychological, social, and physical resources available to an individual, this can have an impact on their wellbeing. As a result of decreases in wellbeing, an employee's performance may decrease, as the advantages of happier workers disappear.

There is evidence to suggest that work-related coaching has benefits in terms of increasing coachee wellbeing, and affective outcomes related to work performance, such as job satisfaction (Judge, Thoresen, Bono, & Patton, 2001). The meta-analytic review by Theeboom et al. (2014) found a positive relationship between coaching interventions and wellbeing ($k = 10$, $N = 564$, $g = 0.46$[1]). Included in the wellbeing category were subjective and objective measures of wellbeing, health, need fulfilment, and affective responses such as burnout (Theeboom et al., 2014). Jones et al. (2016) looked at wellbeing as part of an overall category of affective outcomes. In addition to wellbeing measures, this category contained other attitudinal measures such as satisfaction and motivation. This meta-analysis reported similar findings to the previous study ($k = 10$, $N = 592$, $g = 0.51$). Sonesh, Coultas, Lacerenza, et al. (2015) explored wellbeing-related variables, such as happiness and reduced stress, as a category of personal-related attitude change. This meta-analysis also showed a positive effect of coaching on wellbeing-related variables, but a smaller effect size than the other studies ($k = 5$, $N = 149$, $g = 0.07$), which could be partly due to the smaller sample of studies included in the analysis. To summarise these findings, all three studies showed a positive impact of coaching on wellbeing, and related attitudinal factors. However, the extent to which coaching impacts wellbeing is not fully clear. As with work performance, there are only a small number of

---

[1] Note: k = number of studies; N = overall number of participants; g = standardised effect size.

methodologically rigorous coaching outcome studies available, which is problematic. There is greater inconsistency in the ways in which wellbeing and related measures have been categorised in comparison to work performance. Jones et al. (2016) included self-efficacy, satisfaction, and motivation with wellbeing as part of an affective outcome category, whilst Theeboom et al. (2014) reported these measures in different categories to wellbeing. Therefore, it seems meta-analyses are comparing different factors with wellbeing, which may reduce the coherence of meta-analytic findings across the research literature.

1.5 Reviewing the Coaching Research Agenda

Researchers have argued for, and stressed the importance of, coaching using an evidence-based approach to practice (e.g. Briner, 2012; Grant & Cavanagh, 2007). Evidence-based practice has three features (Briner & Rousseau, 2011). Firstly, evidence-based practice explicitly combines practitioner expertise and external research evidence (Briner & Rousseau, 2011). Secondly, it uses the best available evidence to answer a particular question of interest (Briner & Rousseau, 2011). Thirdly, it uses systematic reviews to access all the available evidence relevant to the question of interest, rather than being reliant on single studies (Briner & Rousseau, 2011). The term evidence-based coaching was first used by the Coaching Psychology Unit at the University of Sydney in 2003 to distinguish between coaching based explicitly on empirical science and driven by theory, from that developed from pop psychology or personal development literature (Grant, 2003). Grant (2016, p.76) defines evidence-based coaching as "the intelligent and conscious use of relevant and best current knowledge integrated with professional practitioner expertise in making decisions about how to deliver coaching to coaching clients and in designing and delivering coaching training programmes".

The evidence base for coaching is still evolving. Passmore and Theeboom (2015) outline the broad phases of development the coaching evidence base has gone through, and how the field is continuing to evolve. The first phase they identify is establishing the boundaries and definitions of what constitutes coaching, and distinguishing between the various forms of coaching, such as life coaching and executive coaching. The second phase refers to the generation of qualitative data, which focuses on the experience of coaching (Passmore & Theeboom, 2015). This research consists mainly of case studies and survey data, with two journals actively publishing this research between 1995 and 2009: *Consulting Psychology Journal: Practice and Research*, and *International Coaching Psychology Review* (Passmore & Theeboom, 2015). The third phase of development consists of qualitative research using methodologies such as Grounded Theory, Interpretive Phenomenological Analysis, and Thematic Analysis. The qualitative studies in the second and third phases provide useful theoretical insights and a deeper understanding of the phenomenological aspects of coaching, e.g. exploring the impact of critical moments in coaching sessions on insight and learning (De Haan, 2008). However, the limitations of qualitative methodologies remain. Namely, the inability to generalise results from a sample to a wider population, or to establish causal relationships between variables, as there are no controls for confounding variables in this type of study.

The fourth phase of development represents an emergence of quantitative studies and small-scale randomised controlled trials (RCT's). RCT's are a critical addition to the evidence base because this study design is able to control for confounding variables by randomly allocating participants to either experimental conditions or a control group. In coaching studies, the randomisation process controls for potential confounds such as (a) placebo effect, (b) selection effect (which can

occur if participants who self-select for coaching are compared with a non-random group that have not self-selected), and (c) the natural maturation of participants over time (Passmore & Theeboom, 2015). RCT's address two key limitations in qualitative studies: Being able to generalise findings, and establishing causal relationships between study variables. Random sampling ensures all participants come from the same homogenous group prior to an intervention (Tabachnick & Fidell, 2001). This makes it possible to generalise findings from the research sample to a population of the same type, and to estimate the efficacy of an intervention based on differences between outcomes in the experimental and control groups.

The final phase of development is meta-research (i.e. systematic reviews and meta-analyses) summarising findings across the evidence base developed in the previous stages. Systematic reviews are defined as a systematic and critical review of available evidence, using explicit methods to identify and select studies relevant to a clearly stated research question (Moher, Liberati, Tetzlaff, Altman, & Prisma Group, 2009). In the last three years, three systematic reviews of coaching evidence have been published (Blackman, Moscardo, & Gray, 2016; Grover & Furnham, 2016; Lai & McDowall, 2014). Meta-analytic studies are a systematic review that generates integrated quantitative results from the included studies using statistical techniques (Moher, et al., 2009). There have been four meta-analytic reviews of coaching published since 2009 (De Meuse et al., 2009; Jones et al., 2016; Sonesh, Coultas, Lacerenza, et al., 2015; Theeboom et al., 2014).

The recent production of meta-research indicates that the coaching evidence base is growing and maturing. However, as will be seen, despite reaching a stage where meta-research is possible, the coaching evidence base has a number of limitations that mean firm conclusions about the impact of coaching interventions on outcomes such as work performance and employee wellbeing cannot yet be drawn.

For the coaching research agenda to develop in line with the requirements for evidence-based practice, a key requirement is that coaching research provides the best possible external research evidence to support practitioners in answering particular questions of interest. The recent systematic reviews and meta-analyses are invaluable for identifying gaps and limitations in the current evidence base to inform how the field moves forward.

1.6 The Requirement for Further Coaching Research

The recent emergence of meta-research has provided helpful insights into the overall efficacy of coaching. These reviews have also identified limitations in the current evidence base for coaching, and made recommendations for addressing these in future research. These can be summarised in four main limitations, (a) a lack of theoretical underpinning in coaching research, (b) a lack of methodologically rigorous studies, (c) inconsistency in the outcomes measured, and (d) limited explanation for the processes of change in coaching interventions. Each of these limitations will now be discussed in more detail.

The lack of theoretical underpinning in coaching research. The first limitation identified in the coaching evidence base relates to the lack of theoretical underpinning in coaching research, and the need for a strong theoretical framework in future coaching research (Blackman et al., 2016; Jones et al., 2016; Sonesh, Coultas, Lacerenza, et al., 2015; Theeboom et al., 2014). This is important as, although data characterise empirical observations, theory supplies the explanation for characteristics and relationships in the data (Whetten, 1989). The majority of coaching outcome studies reviewed did not design research in relation to a particular theoretical model or conceptual framework (Blackman et al., 2016) meaning there is little theoretically sound evidence available. Therefore, the current evidence base does not provide enough empirical research to examine any one specific theoretical framework, or to

determine the processes of change in a particular coaching approach (Lai & McDowall, 2014).

The lack of methodologically rigorous studies. The second limitation identified in the coaching evidence base relates to a lack of methodologically rigorous studies. As previously discussed, the emergence of empirical coaching studies using experimental methodologies to control for confounding variables has been relatively recent (Passmore & Theeboom, 2015). Over 70% of published coaching studies are qualitative (Lai & McDowall, 2014), so reviewers have called specifically for more replicable randomised controlled trials (Grover & Furnham, 2016; Lai & McDowall, 2014). All reviews noted that more rigorous, well-conducted studies are required to constitute a true evidence base for coaching (Blackman et al., 2016; De Meuse et al., 2009; Grover & Furnham, 2016; Jones et al., 2016; Lai & McDowall, 2014; Sonesh, Coultas, Lacerenza, et al., 2015; Theeboom et al., 2014). Factors that aid methodological rigour in the design of studies in particular are adequate sample sizes, random allocation, and measuring outcomes over time to determine longitudinal impacts (De Meuse et al., 2009; Grover & Furnham, 2016; Sonesh, Coultas, Lacerenza, et al., 2015; Theeboom et al., 2014).

The inconsistency in the outcomes measured. The third limitation identified in the coaching evidence base relates to the inconsistency in the outcomes researchers measured, and how rigorously outcomes are measured. There has been diversity in the coaching outcomes studied (Blackman et al., 2016), and as the field moves forward researchers could look to use conceptual frameworks of coaching outcomes to homogenise the outcomes included. The coaching systematic reviews and meta-analyses are well placed to suggest conceptual frameworks for coaching outcomes, and the frameworks proposed to date will be presented later in this thesis. The validity and appropriateness of outcome measures has also been discussed by

coaching research reviewers (Blackman et al., 2016; De Meuse et al., 2009; Grover & Furnham, 2016; Lai & McDowall, 2014; Sonesh, Coultas, Lacerenza, et al., 2015; Theeboom et al., 2014). Reviewers highlight that measures need to be rigorous and replicable (Lai & McDowall, 2014). Measures also need to be appropriate for the outcome being assessed; specifically, self-report measures, while useful for measuring individual perceptions and satisfaction, are not appropriate for measuring organisational outcomes (Grover & Furnham, 2016; Theeboom et al., 2014).

The limited explanation for processes of change in coaching interventions. The final limitation in the coaching evidence base relates to the limited explanation of processes of change in coaching interventions. Processes of change relate to two things, (a) the conditions under which an intervention may be less or more effective, and (b) the processes through which an intervention generates change (Kendall, Comer, & Chow, 2013). Moderators are variables that influence to whom and in what circumstances an intervention is effective (Kendall et al., 2013). Mediators are variables that explain how and why an intervention takes effect (Kendall et al., 2013).

There is very little evidence for the processes of change in coaching interventions at present, and reviewers suggest that coaching research explore the mediators and moderators active in coaching interventions (De Meuse et al., 2009; Grover & Furnham, 2016; Jones et al., 2016; Sonesh, Coultas, Lacerenza, et al., 2015; Theeboom et al., 2014). Moderators indicate the contextual factors relevant to coaching, such as the purpose of coaching, type of coaching, or content. Mediators explain why a coaching intervention works (De Meuse et al., 2009). The random sampling in RCT's allows us to make assertions about causal relationships between an intervention and study outcomes (i.e. whether a coaching intervention is effective). However, to evaluate how changes come about as a result of an intervention we need

to look at mediators (Kazdin, 2007). When designing studies to investigate processes

of change, Kazdin (2007) recommends using theory as a guide to determine relevant

moderators or mediators in an intervention. Theoretical approaches to coaching may

have hypothesised moderators and mediators which can guide researchers towards

variables to explore. For example, increases in insight may act as a mediator in

psychodynamic approaches, or changes in cognition in cognitive-behavioural

approaches (Crits-Christoph, Gibbons, & Mukherjee, 2013). Grover and Furnham

(2016) suggest that coaching research could also explore whether common factors

identified in psychotherapy research as potential process of change in psychotherapy

generalise to coaching interventions. For example, the relationship between the coach

and coachee could be a moderating or mediating factor in coaching (Grover &

Furnham, 2016). Kazdin (2007) recommends that theory should be used to identify

potential processes of change that influence either the effectiveness of an

intervention, or generate change in an intervention. This means the hypothesised

characteristics and relationships between variables in a theory can be tested, and the

hypothesised processes of change can be explored. Ideally studies should assess more

than one potential mediator, in order to establish the comparative contribution of

different variables (Kazdin, 2007).

In summary, to strengthen the evidence base for coaching there are a number

of things future studies should do. Firstly, coaching research studies should be theory-

driven and use a specific approach to coaching that is based on theory to inform the

coaching intervention. Secondly, research studies should be methodologically

rigorous, with adequate sample sizes, random allocation, and measurement of

outcomes over time to determine longitudinal impact. Specifically, more replicable

randomised controlled trials would generate generalisable data, and indicate causal

relationships between coaching interventions and coaching outcomes. Thirdly, there

should be a standardised approach to the measurement of outcome variables, using a conceptual framework of outcomes, and rigorous and replicable outcome measures. Finally, coaching studies should include variables that are theoretically proposed as processes of change in coaching interventions. If possible, studies should include more than one mediator in order to make an assessment of the contributions of different mediators.

Chapter 2: Theoretical Positions in Coaching

2.1 The Theoretical Issues in Coaching Research

The first limitation identified in the coaching evidence base is the lack of theoretical underpinning in coaching research studies. In order to move forward, research exploring the impact and outcomes of coaching needs to be conducted using theory-driven approaches and interventions. There are a number of benefits to using theoretically underpinned interventions in research. Firstly, interventions are likely to be more effective if they are targeted at specific behavioural determinants (i.e. processes of change in the intervention; Michie, Johnston, Francis, Hardeman, & Eccles, 2008). Secondly, if an intervention is theory-driven, the theory can be tested and developed by evaluating the intervention (Michie et al., 2008), thereby facilitating a better understanding of what works and why. This provides a firm foundation for developing theory across contexts, populations and behaviours (Michie et al., 2008). Theory informs the behaviours to target and how to target them (i.e. the techniques to use) (Medical Research Council, 2006). Then, an intervention can be experimentally tested to establish its effectiveness (Medical Research Council, 2006).

This chapter will therefore review theories that have informed research exploring the impact and outcomes of coaching. An unbounded review of the theories and models applied to coaching is beyond the scope of this thesis, so we have applied two boundaries to the discussion. Firstly, we focus specifically on psychological theories. Lowman (2005) proposes that psychology adds something important to the wider field of coaching, as coaching researchers can use psychological theories as a guide towards what works and what does not, and draw on a range of methodologies (both qualitative and quantitative) to test and refine coaching theory. Coaching psychology can be distinguished from other approaches to coaching through its focus

on adapting psychological theory to coaching (Palmer & Whybrow, 2005). The aim of coaching psychology is to enhance the wellbeing and performance of individuals in their personal life and work domains, and to use interventions informed by established adult learning or psychological approaches (Palmer & Whybrow, 2005). Even when focusing on the sub-field of coaching psychology, the diversity of the full scope of psychological theories applied to coaching means it is not possible to comprehensively present all the conceptual adaptations of psychological theories to coaching practice. Therefore, this discussion presents psychological theories that have been adapted into coaching approaches and interventions that have generated research exploring the impact and outcomes of coaching. We also present emerging approaches from developments in psychological theory, such as positive psychology, that are influencing coaching practice and maturing into new approaches that are beginning to produce research, but may have had less opportunity to date.

The second boundary applied to this discussion relates to the developmental level coaching interventions are concerned with, and the context in which the coaching is being applied. Coaching can be applied at different planes of development, such as skills coaching, performance coaching, developmental coaching, and transformational coaching (Cox & Jackson, 2010). Coaching can also be applied in different domains such as work, personal, career, health, sport, and educational contexts. This thesis is specifically interested in performance and development coaching, where the coaching focuses on improving the coachee's performance and developing the coachee's capacity for personal growth, in work, career, and personal domains. Therefore, this discussion presents research conducted in the context of performance and development coaching in work, career, and personal domains specifically.

To determine theories to include in this discussion we began by identifying the theoretically-informed approaches used in research studies included in three systematic reviews and four meta-analytic reviews discussed in Chapter 1. To broaden the discussion beyond the theories used in these studies, we also reviewed chapters in three seminal coaching-specific texts (Cox, Bachkirova, & Clutterbuck, 2010; Palmer & Whybrow, 2008; Stober & Grant, 2006b) and articles in three widely-read coaching-specific journals (*Coaching: An International Journal Of Theory, Research and Practice*; *International Coaching Psychology Review*; *International Journal of Evidence Based Coaching and Mentoring*). This resulted in three groupings of theoretically underpinned approaches in coaching psychology that have generated research studies exploring the impact of coaching interventions. The first grouping encompasses two approaches where the psychological theories relate to processes of goal-setting and learning in coaching; goal-related approaches, and adult learning approaches. The second grouping comprises approaches related to four psychotherapeutic traditions in psychology; solution-focused, psychodynamic, humanistic, and cognitive-behavioural approaches. The third grouping comprises approaches related to emerging developments in psychology, namely positive psychology, and mindfulness- and acceptance-based approaches. The mindfulness- and acceptance-based approaches include third-wave mindfulness- and acceptance-based cognitive behavioural therapy (CBT) approaches. As the aim of this overview is to identify coaching approaches that have the theoretical rigour recommended for future coaching research, atheoretical, eclectic, and theoretically integrative approaches (such as solution-focused cognitive-behavioural coaching, e.g. Grant, 2003; Grant, Curtayne, & Burton, 2009; Green, Oades, & Grant, 2006; Spence & Grant, 2007) have been excluded.

To evaluate the contribution of these coaching approaches, theories will be evaluated against criteria proposed by Whetten (1989) for sound theoretical development. Firstly, a theory should provide a description of the factors that constitute the theory (Whetten, 1989). In determining the factors to include, researchers should ensure a theory is adequately comprehensive to identify the required variables, but also parsimonious, to ensure no extraneous variables to the theory are included (Whetten, 1989). Secondly, a theory should describe how the factors relate to each other (Whetten, 1989). Thirdly, a theory should provide a plausible and cogent explanation of why the factors relate to each other as they do (Whetten, 1989). This criterion is important in terms of outlining why a theory works as it does, and help researchers identify processes of change.

The fourth criterion relates to the limitations and sensitivities that generate the boundaries of generalisability for a theory (Whetten, 1989). More specifically, this relates to the population that a theory can generalise to (such as whether a clinical theory can generalise to a general adult population), or the form of intervention the theory informs (such as whether a psychotherapeutic intervention can generalise to a coaching intervention). Grant (2016) proposes coaching-specific research (which has a specific focus on coaching contexts) provides stronger evidence for coaching than coaching-related research (which indirectly informs coaching practice, but is not specifically focused on coaching e.g., psychotherapy research). The psychological theories included in this chapter meet this criterion as they have informed interventions in coaching-specific research. The context in which the coaching is being applied (e.g. workplace) and level of development (e.g. performance coaching) are also relevant contextual factors. This thesis is focused on performance and development coaching in work, career, and personal domains. The discussion excludes studies conducted in health coaching, sport coaching, and educational

coaching contexts (e.g. Gardner & Moore, 2004; Mantler, Irwin, Morrow, Hall, &

Mandich, 2015; Newnham-Kanas, Irwin, Morrow, & Battram, 2011). Studies at the

skill development and transformational levels are also excluded (e.g. driving skill

development; Passmore & Rehman, 2012).

To summarise, in order to ensure the progression of coaching research, it is

imperative that future research is theory-driven. This chapter will summarise the

psychological theories that have informed coaching approaches and interventions,

and the coaching-specific research studies they have generated; and the emerging

theories in psychology that are informing current developments in coaching research.

These theoretically informed approaches have been categorised into three groupings,

(a) approaches related to coaching processes, (b) approaches derived from

psychotherapy, and (c) approaches derived from emerging areas in psychology. The

studies reviewed are relevant to performance and development coaching in work,

career, and personal contexts. Psychological theories will be evaluated against the

remaining criteria for sound theoretical development: A comprehensive and

parsimonious description of relevant factors and how these factors relate; and a

plausible, cogent explanation of why the theory works.

2.2 Approaches Related to Coaching Processes

There are two approaches that focus on coaching processes that are central to

coaching. The first approach is informed by goal-related theories, and the second

approach is informed by adult learning theories. Goal-related theories can be seen to

apply to all coaching. Researchers of goal-related behaviour make the observation

that most individuals' behaviour is goal-directed and purposeful (Locke, 1978).

Coaching is fundamentally a process which facilitates individuals to better regulate

and focus both their intrapersonal and interpersonal resources towards attaining their

goals (Grant, 2006). Similarly, adult learning theories can be seen to apply to all

coaching, as a change in behaviour or cognitive development signifies that learning has taken place (Bachkirova, Cox, & Clutterbuck, 2010). This section outlines approaches derived from goal-related theories and adult learning theories. Empirical studies that have investigated these coaching approaches in coaching-specific studies exploring performance and development coaching in work, career, and personal domains are presented.

Goal-related approaches. Goal-related theories include self-regulation theories (e.g. Carver & Scheier, 1982), goal-setting theory (Locke & Latham, 1990, 2002), goal hierarchies (Chulef, Read, & Walsh, 2001), self-determination theory (Ryan & Deci, 2000), and theories of behaviour change (e.g. transtheoretical model of change; Prochaska & Velicer, 1997). The literature on goals and goal attainment is extensive and diverse, which has made it difficult to relate to the practice of coaching (Grant, 2012a). Nevertheless, goal-related theories offer valuable insights into how goals impact performance, which coaches can apply in their work.

Many coaching studies explore the impact of coaching on goal-related outcomes, but few use interventions designed using goal-related theories. Four studies have empirically tested goal-setting theory in coaching interventions (Dahling, Taylor, Chau, & Dwight, 2016; Scoular & Linley, 2006; Sue-Chan & Latham, 2004). Goal-setting theory focuses on the properties of effective goals, and the mechanisms of setting goals that enhance task performance (Locke & Latham, 2002). The theory proposes that goals affect performance through four processes: Goals are directive of the individuals attention; goals are energising; goals affect the persistence an individual exhibits towards an action; and goals activate knowledge and strategies relevant to a task (Locke & Latham, 2002). Scoular and Linley (2006) randomly allocated employees from eight UK organisations ($N = 117$) to either a goal-setting coaching intervention or a non-goal-setting coaching condition.

(Unfortunately, the authors do not publish how many participants were in each of the two conditions for analysis.) In the goal-setting condition, coaches were asked to use goal-setting techniques, and coaches in the non-goal-setting condition were asked not to use any goal-setting techniques. All coaching sessions were 30 minutes in duration. The study reports no difference in coaching outcome between the two conditions (however, the authors do not describe the evaluation measure, or provide statistics for their findings). Dahling et al. (2016) explored the impact of managers ($n = 136$) using coaching focused on feedback provision, behavioural modelling, and goal-setting with their employees ($n = 1,246$) in a US pharmaceuticals organisation. Over a 12-month period, managers coached employees during visits to the employee's customers which the manager accompanied the employee to. A within-subjects' analysis was used to show that managerial coaching skill (as rated by the manager's regional director at the start of the study) had a direct positive impact on the employee's sales goal attainment at 12-months.

In addition to these studies, two studies used goal-setting theory as the basis for a coaching intervention comparing the efficacy of external coaching, peer coaching and self-coaching (both reported in Sue-Chan & Latham, 2004). In the first study Canadian Master of Business Administration (MBA) students were randomly allocated to either external coaching ($n = 10$), peer coaching ($n = 10$), or self-coaching ($n = 10$). Results indicated higher team playing effectiveness in the external coaching condition than peer coaching. The second study randomly allocated Australian executive MBA students to either external coaching ($n = 8$), peer coaching ($n = 7$), or self-coaching ($n = 8$). Results indicated higher final MBA course grades for external coaching and self-coaching in comparison to peer coaching. Unfortunately, these studies did not report within-subjects effects following the coaching intervention, and reported averaged means across the two time points, so it

is not possible to ascertain the impact of the coaching intervention over time for any condition. Consequently, the support these studies can offer for the impact of a goal-focused intervention is limited.

In sum, goal-setting theory has contributed four quantitative studies to the coaching evidence base. All four research studies used goal-setting theory to inform the coaching intervention. Of the four studies, two used work-related samples (Dahling et al., 2016; Scoular & Linley, 2006), and two used student samples (Sue-Chan & Latham, 2004). However, the overall quality of this research is questionable. Of the four studies, three omitted relevant data from their analyses required to determine the impact of the intervention (Dahling et al., 2016; Sue-Chan & Latham, 2004), and the remaining study is a within-subjects analysis (Scoular & Linley, 2006); meaning there is no high quality between-subjects analysis of a goal-related approach to coaching.

In terms of theoretical contribution, goal-setting theory seems to be developed bottom-up from findings in goal-specific research; so the theory describes how goal-related factors relate without providing a cogent explanation of why the factors relate as they do. This limitation may be due to the diverse and extensive literature on goals and goal attainment. Furthermore, coaching-specific research using goal-setting theory seems to show inconsistent findings with non-coaching goal-related research (i.e. Scoular & Linley, 2006, found no difference between goal-setting and non-goal setting conditions). In conclusion, given the lack of a hypothesis generating model or cogent explanation underlying goal-focused approaches, at present goal-setting theory does not seem to offer a sound theoretical basis for a coaching approach or intervention. Goal-setting theory may be useful to inform practice across other coaching approaches, but it does not seem to be a suitable theory to inform a specific approach or intervention. Perhaps further development of coaching-specific goal-

related theories, and coaching-specific research testing those theories, will be beneficial to explore the scope of goal-related approaches and their efficacy in coaching contexts.

Adult learning approaches. Adult learning theories include andragogy (Knowles, 1970), transformative learning theory (Mezirow, 1991), intentional change theory (Boyatzis, 2006), reflective practice (Boud, 1994), experiential learning (e.g. Dewey, 1938), learning styles (Kolb & Kolb, 2005), lifecourse development (Levinson, 1978), values and motivation theories (e.g. Maslow, 1943), and social learning theory (Bandura, 1977, 1984, 1991). (See Cox, 2006, for a detailed discussion of adult learning theories in coaching.)

The most commonly used adult learning theory in coaching research is social learning theory (Bandura, 1977, 1984, 1991). Social learning theory states that behavioural change occurs as a result of increases in self-efficacy ensuing from successful performance (i.e. mastery experiences). Many coaching studies explore self-efficacy as an outcome in coaching (e.g. Baron & Morin, 2009), but two studies have tested coaching informed by social learning theory specifically (Ebner, Schulte, Soucek, & Kauffeld, 2017; Evers, Brouwers, & Tomic, 2006). Evers et al. (2006) identified managers ($n = 30$) in various governmental departments who were about to receive coaching, and compared increases in outcome expectancies and self-efficacy beliefs at 4-months with a matched control group of managers ($n = 30$). The results indicated higher outcome expectancies (to act in a balanced way) and higher self-efficacy beliefs (to set their own goals) in the coaching group. Ebner et al. (2017) compared increases in self-management, self-efficacy, and coping between students in a military university. Students in the experimental group received four sessions of group coaching, and were compared to students in a non-random matched control group that did not receive coaching ($N = 509$; authors do not report sample size for

each condition). The coaching focused on developing the self-belief of students, enhancing their self-efficacy, and developing self-management skills. Measures were taken pre- and post-intervention (8-10 weeks). Results indicated that coaching increased self-management and self-efficacy, and self-efficacy mediated a positive relationship between self-management and coping.

Intentional change theory (ICT; Boyatzis, 2006) has been tested as the basis for a coaching intervention (Mosteo, Batista-Foguet, Mckeever, & Serlavós, 2016). ICT is a theory of self-directed learning which describes and explains learning as a form of desired adaptation or evaluation (Boyatzis, 2006), e.g. through comparing the ideal self (i.e. values, aspirations) with the real self (i.e. the current reality). Greater positive emotional attractors (i.e. positive aspects of the coaching relationship) are hypothesised to moderate the impact of coaching on outcomes. This study explored the impact of a 90-minute ICT-informed coaching session on 76 MBA students. A within-subjects' analysis showed participants had higher personal vision, hope, and resilience immediately after the coaching session than before coaching. The findings also suggested the coaching connection moderated resilience and personal vision, and self-efficacy moderated resilience and personal vision.

In sum, adult learning theories have contributed three studies quantitative studies to the coaching evidence base. Of these studies, two used social learning theory, and one used ICT. Of the three studies, two used student samples (Ebner et al., 2017; Mosteo et al., 2016), and one used a working adult sample (Evers et al., 2006). The overall quality of this research is better than studies in the goal-related approach. However, one study omitted relevant information regarding the sample size for each condition (Ebner et al., 2017). In terms of analysis, Mosteo et al. (2016) used a within-subjects analysis of participants pre- and post-intervention to determine the impact of the coaching intervention. The two other studies made comparisons

between an intervention group and a non-random matched control (Ebner et al., 2017; Evers et al., 2006). At present, there is no high quality between-subjects study using a randomisation process with an adult learning approach to coaching.

In terms of theoretical contribution, social learning theory has informed coaching interventions tested in two quantitative studies. This theory provides a clear framework of relevant factors, and hypothesises self-efficacy as a process of change in the theory. One study also provided evidence of self-efficacy as a mediator of the study outcomes. ICT also provides a clear framework of relevant factors, and an explanation of the processes of change through the balance of positive and negative emotional attractors. Social learning theory and ICT have both informed coaching interventions that produced effects congruent with the theory when tested. In conclusion, adult learning theories seem to provide an opportunity to develop coaching-specific models and inform coaching approaches for performance and development coaching in work, career, and personal domains.

2.3 Approaches Derived from Psychotherapeutic Traditions

The approaches discussed in this section reflect the link between psychotherapeutic theories and coaching approaches. Coaching and psychotherapy have a close relationship, and the extent of distinction and overlap between the two fields is an ongoing debate (e.g. Hart, Blattner, & Leipsic, 2001; Price, 2009). There are many psychotherapy theories which have been adapted to the coaching context. The following discussion is not intended to outline the full range of psychotherapeutic theories that have been adapted to coaching, but instead to represent the established psychotherapeutic theories that have been adapted into coaching approaches and generated coaching research. This section outlines approaches derived from solution-focused therapy, psychodynamic psychotherapy, humanistic therapies, and CBT. It summarises empirical studies that have

investigated these coaching approaches in coaching-specific studies exploring performance and development coaching in work, career, and personal domains.

Solution-focused approaches. Solution-focused coaching (SFC) has been developed from solution-focused therapy. Solution-focused therapy has been shown to have modest but positive treatment effects (Kim, 2008; Schmit, Schmit, & Lenz, 2016). In solution-focused approaches, the assumption is that events and their meanings are constructed by how we talk about them rather than by the intrinsic qualities of an experience (Cavanagh & Grant, 2010). This assumption is important in SFC, as constructing a goal as a problem may constrain the coachees' frame of reference around how to achieve that goal. SFC focuses on how to identify solutions and ways forward instead of focusing on the problem or barriers between a coachee and their goal (O'Connell & Palmer, 2007).

SFC is designed as a brief intervention, with the intention to do only what is necessary to help the coachee meet their goal (Cavanagh & Grant, 2010). SFC uses self-regulation as the main process in coaching (Greene & Grant, 2003). The coachee sets a goal, then develops an action plan to achieve that goal, takes action towards the goal, and monitors and evaluates their progress towards the goal. If the goal is not achieved through the initial action plan, then the coachee can identify what is working and do more of it, or change what is not working. The key aim of the SFC approach is to change the way the coachee views a situation, switching the focus away from problems to positive events in their lives in order to elicit solutions and identify the behaviours that best facilitate goal attainment (O'Connell & Palmer, 2007). The role of the coach is to facilitate the coachee's self-regulation and keep the coachee focused on their goals (Cavanagh & Grant, 2010).

The impact of SFC questioning technique has been tested in three empirical studies (Braunstein & Grant, 2016; Grant, 2012b; Theeboom, Beersma, & Van

Vianen, 2016). Each study compared solution-focused (SF) questions to problem-focused (PF) questions. In Grant's (2012b) study students in an Australian university were asked to identify a goal, and were then randomly allocated to an online condition in which they were asked either SF questions ($n = 108$) or PF questions ($n = 117$). The results indicated both conditions increased perceived goal attainment. However, the SF condition resulted in greater increases in perceived goal attainment, and additionally, increases in self-efficacy, positive affect, and action steps toward the goal, and decreases in negative affect.

Theeboom et al. (2016) conducted two experiments replicating the findings of Grant's (2012b) study, that the SF questioning condition results in higher positive affect and lower negative affect than the PF condition. These experiments also hypothesised cognitive processes would be enhanced through SFC: Attentional control (advantageous in terms of self-regulation processes) in experiment one, and cognitive flexibility (advantageous in terms of solution generation) in experiment two. Both experiments were conducted with Dutch university students; with students randomly allocated to either a SF ($n = 31$ in experiment 1; $n = 28$ in experiment 2) or PF condition (($n = 30$ in experiment 1; $n = 26$ in experiment 2). Results indicated no differences in attentional control, but did show increased cognitive flexibility in the SF condition.

Braunstein and Grant (2016) replicated the findings from the previous two studies with a sample of Australian university students, where the SF questioning condition ($n = 72$) resulted in higher positive affect and lower negative affect than the PF condition ($n = 68$). This study also replicated findings from Grant (2012b) that the SF condition resulted in increased self-efficacy and perceived goal attainment. The unique aim of this study was to investigate the role of approach or avoidance goals in SFC, to determine if there was is interaction between the form of questioning and

type of goal. However, results showed no difference in the type of goal set, or any interaction between coaching type and goal type.

There have been two studies exploring the SFC approach with teams of staff in a Dutch service provider of care for adults and children with intellectual difficulties. Roeden, Maaskant, and Curfs (2012) first conducted a qualitative study with 54 employees in 13 teams to identify the strengths of SFC in the organisation. The study was conducted in two phases. In phase one 18 employees were divided into three groups, and nominal group technique was used to generate, clarify, and rank ideas. Phase two verified these ideas through a survey of 36 employees. The survey suggested employees agreed on the strengths of SFC (such as focusing on solutions), and recommendations for using SFC in the organisation (such as organising follow up meetings). However, interrater agreement across the group and survey outcomes was low, indicating disagreement on the priorities set. A subsequent quantitative study (Roeden, Maaskant, & Curfs, 2014) compared outcomes of 18 teams ($n = 59$) who received two sessions of SFC, with a non-random comparison group of 26 teams ($n = 59$) who received problem-focused coaching-as-usual (CAU). Measures were taken pre-, post- (9-weeks) and at follow up (15-weeks). Results show increased proactive thinking and quality of relationships with clients in the SFC condition in comparison to CAU. Only teams in the SFC condition formulated team goals (these goals formulated the ideal support situation for clients), so although the study showed the SFC team made progress towards those goals, no comparisons were made to the team receiving CAU.

An additional two quantitative studies used SFC (Mühlberger & Traut-Mattausch, 2015; Weinberg, 2016), though it is worth highlighting these studies were aiming to explore other theoretical aspects of coaching (i.e. the impact of coach leadership behaviours; and psychological health during organisational change). Only

the results relevant to the impact of the SFC intervention are reported here.

Mühlberger and Traut-Mattausch (2015) randomly allocated students at a university

in Austria to either a 60-minute one-to-one coaching session ($n = 41$), a 60-minute

group coaching session ($n = 33$), or a waitlist control condition ($n = 34$). Measures

were taken pre- and post-intervention (10-days). Results showed higher goal

commitment and goal-related self-efficacy in the one-to-one coaching condition than

the group coaching or control conditions, and higher goal reflection in the one-to-one

coaching condition than the control condition. All conditions showed increased goal

attainment, but both the one-to-one and group coaching conditions had significantly

higher goal attainment than the control group. The second study (Weinberg, 2016)

was conducted with university managers, and had three conditions: six 60-minute

SFC coaching sessions which managers volunteered for ($n = 14$), three 60-minute

SFC coaching sessions managers had been mandated to attend ($n = 32$), and a no-

coaching control ($n = 30$). Results from the study indicated lower psychological strain

in the voluntary coaching condition. Findings also suggested increased exposure to

coaching resulted in lower levels of strain.

     In sum, in the context of performance and development coaching in work,

career, and personal domains, solution focused theories have contributed one

qualitative and six quantitative research studies to the evidence base. The overall

quality of these studies is good. Of these studies, four used a student sample

(Braunstein & Grant, 2016; Grant, 2012b; Mühlberger & Traut-Mattausch, 2015;

Theeboom et al., 2016) and three used a work sample (Roeden et al., 2012, 2014;

Weinberg, 2016). Of the six quantitative studies, four randomly allocated participants

to conditions (Braunstein & Grant, 2016; Grant, 2012b; Mühlberger & Traut-

Mattausch, 2015; Theeboom et al., 2016). However, three of the studies that

randomly allocated participants used short, technique-focused interventions delivered

by computer to participants (Braunstein & Grant, 2016; Grant, 2012b; Theeboom et al., 2016). There is a question around how generalisable this intervention is, as it lacks external validity to real-world coaching scenarios. Therefore, at present, there is only one between-subjects study using a randomisation process for the solution focused approach to coaching (Mühlberger & Traut-Mattausch, 2015).

In terms of theoretical contribution, SFC provides a framework which is both comprehensive and parsimonious from which coaching interventions and research can be developed. The solution-focused approach has been successful in generating a number of research studies testing both SFC techniques and interventions. However, research evidence for the theoretically hypothesised processes of change seems uncertain, as demonstrated by the findings in Theeboom et al. (2016), so further work here would be beneficial. Nevertheless, it can be considered to meet the criteria for a sound theoretical basis for coaching interventions, though additional theoretical research into the processes of change in this approach would be advantageous.

Psychodynamic approaches. Psychodynamic approaches are generally derived from either drive theory (e.g. work by Freud, Lacan, etc.) or relational theory (e.g. work by Jung, Adler, etc.) (Leiper & Maltby, 2004). Psychodynamic approaches have been shown to be effective in psychotherapy (see Barber, Muran, McCarthy, & Keefe, 2013, for a detailed discussion of evidence of the efficacy of, and processes of change in, psychodynamic psychotherapies). The focus of the contemporary psychodynamic approach is how individuals regulate emotion (Lee, 2010). Psychodynamic approaches focus specifically on the role of unconscious motivation, and see behaviour as a product of the history of interactions between genetics and environment (Kilburg, 2004). The distinctive characteristic of this approach is the focus on helping the coachee to connect with unconscious strategies and processes that are driving their behaviour (Roberts & Brunning, 2008), thereby

developing insight into previously unknown strategies and processes. For example, dynamics that emerge in the coaching relationship can be seen as a mirror for the relational dynamics that might be evident in the coachee's other relationships (Day, 2010).

The empirical evidence for psychodynamic coaching in the context of performance and development coaching in work, career, and personal domains is qualitative at present. A research stream has used discourse analysis to investigate a systems psychodynamic coaching approach (Cilliers & Terblanche, 2010; Motsoaledi & Cilliers, 2012; Cilliers, 2012). In systems psychodynamic coaching, the focus is on providing the opportunity for the coachee to reflect and gain insight into how task and organisational performance are influenced by both conscious and unconscious behaviour (Cilliers & Terblanche, 2010). Cilliers and Terblanche (2010) found that psychodynamic coaching focused on learning opportunities for nursing managers, and coaching gave those managers the reflective space for developing leadership awareness.

Motsoaledi and Cilliers (2012) explored whether psychodynamic coaching could assist executives in working with conscious and unconscious organisational diversity dynamics. Findings indicated that coaching assisted executives in gaining insights into organisational diversity dynamics, and to take on their roles in the organisation more effectively. Cilliers (2012) looked at whether coaching with leaders who showed symptoms of alexithymia (an inability to feel) helped them to develop better connections with their employees. The study showed coaching did not provide leaders with sufficient opportunities for emotional reactivity and regulation to develop the desired emotional connections (Cilliers, 2012).

In sum, psychodynamic theories have contributed three qualitative studies to the coaching evidence base. All three studies used discourse analysis to analyse data

and were conducted using workplace samples. However, in terms of evaluating the effectiveness psychodynamic coaching approaches, the quality of this research is poor. Whilst the findings from these qualitative studies are insightful into the experience of systems psychodynamic coaching for individuals, they are not generalisable. Additional quantitative research needs to be conducted to investigate the efficacy of this approach.

In terms of theoretical contribution, the psychodynamic approach offers a comprehensive and parsimonious framework of variables, and hypothesised processes of change (e.g. increased insight). There are currently no quantitative studies of the effectiveness of psychodynamic coaching. This is unsurprising, as Barber et al. (2013) report a lack of high quality studies of psychodynamic psychotherapy. In addition, there are three theoretical criticisms of the psychodynamic approach that systems psychodynamic coaching may need to respond to; namely, the problem-centric approach, level of complexity, and potential for deep analysis to have a negative impact on some coachees (Kilburg, 2004; Lee, 2010). In conclusion, the systems psychodynamic approach can be seen to have a sound theoretical basis, but studies need to be conducted to explore the impact of the approach and it's appropriateness for coaching.

Humanistic approaches. The humanistic approach represents a diverse family of theories that includes person-centred, gestalt, emotion-focused, existential, psychodrama, focusing-oriented, expressive, and body-oriented sub-approaches (Elliott, Greenberg, Watson, Timulak, & Freire, 2013). The current research evidence on humanistic-experiential psychotherapies has shown the approach to be effective for behaviour change (see Elliott et al., 2013, for a detailed discussion of evidence for the efficacy of, and processes of change in, humanistic psychotherapies). Three main strands of humanistic psychology have been adapted to coaching: Person-centred

(Joseph & Bryant-Jefferies, 2008), Gestalt (Stevenson, 2016), and existential

therapies (Fusco, O'Riordan, & Palmer, 2015). However, to date only the person-

centred strand has generated research.

Person-centred approaches suggest that change happens when people are in

the right conditions to self-actualise, i.e. an environment where they feel understood,

valued, and accepted for who they are (Joseph & Bryant-Jefferies, 2008).

Motivational interviewing (MI; Miller & Rollnick, 1991, 2002), derived from a

person-centred humanistic stance, has generated empirical research in the context of

performance and development coaching in work, career, and personal domains.

Person-centred approaches propose that change takes place when people feel

understood, valued, and accepted. Therefore, MI takes the view that a confrontational

approach to behaviour change is unlikely to succeed, and may entrench undesirable

behaviour. Instead, it aims to increase intrinsic motivation, as this is most likely to

lead to meaningful and enduring change (Passmore & Whybrow, 2008). MI was

developed in a health context, but is considered a transdiagnostic method (Passmore

& Whybrow, 2008). Transdiagnostic methods are those where the same underlying

principles can be applied to different populations, as they are not specific to a

particular condition or diagnosis. MI has two phases (Passmore & Whybrow, 2008).

The first is an exploration of the coachee's ambivalence towards change (considered a

natural part of the change process), where the coach works with the client to build

their intrinsic motivation. This phase aims to increase the coachee's self-efficacy. The

second phase aims to strengthen the coachee's commitment to change, and

collaboratively agree a plan of action towards the coachee's goals (Passmore &

Whybrow, 2008).

A study by Gattellari et al. (2005) tested MI in the workplace. The aim of the

study was to determine if MI would enable general practitioners (GPs) to make better

informed decisions about screening for prostate cancer in their patients. A sample of Australian GPs were randomly allocated (clustered by practice) to either three sessions of telephone MI-informed peer coaching ($n = 136$), or a waitlist control condition ($n = 141$). Results showed that GPs in the coaching condition had greater screening knowledge, lower personal decision conflict, lower perception of medicolegal risk, and they were less likely to agree that patients should remain passive when making decisions about screening.

This study represents a between-subjects study using a randomisation process for the humanistic approach to coaching, and shows MI to be effective in work-related coaching. Nevertheless, overall the coaching-specific research for humanistic approaches in the context of performance and development coaching in work, career, and personal domains is limited. No studies applying Gestalt or existential coaching have been published, and there are no process studies for humanistic approaches to coaching as yet.

In terms of the theoretical contribution, humanistic approaches, and person-centred approaches specifically, offer a sound theoretical framework of factors, and potential processes of change (e.g. increased motivation to change and self-efficacy). However, more studies need to be conducted to determine the impact of the approach and test other humanistic approaches that have been adapted to coaching, namely Gestalt and existential approaches.

Cognitive behavioural approaches. The cognitive behavioural approach represents a conceptual and empirical development through three waves (Mansell & Taylor, 2012). The first wave began with the development of behaviour therapy, cognitive therapy, and rational therapy as distinct approaches (Mansell & Taylor, 2012). The second wave represents a fusion of these theories into CBT after increasing common ground across them (Mansell & Taylor, 2012). The third wave

represents an emerging focus in CBT on mindful states of awareness (Mansell & Taylor, 2012). The core principles of CBT common across a range of therapies are: (a) The collaborative relationship, as a necessary but not sufficient condition for change; (b) prioritising the present; (c) empiricism; and (d) rationalism (Mansell & Taylor, 2012). A demarcation in this discussion will be made between second wave CBT, as established approaches, which will be discussed here, and third wave CBT, as mindfulness- and acceptance-based emerging approaches, which will be discussed in the final section.

Cognitive behavioural coaching (CBC) incorporates behavioural coaching with cognitive models in a dual systems approach, whereby the coach uses the most parsimonious methods possible to help the coachee achieve their goals (Palmer & Szymanska, 2008). The key aim of CBC is to help individuals to develop their problem solving skills and become aware of the thoughts they have which inhibit progress towards their goals. Techniques include behavioural strategies (such as time management) to address practical issues in goal attainment, and cognitive strategies to identify thinking errors and challenge performance inhibiting thoughts. Cognitive behavioural coaches draw on behaviourally-based models (such as PRACTICE; Palmer, 2007) to address practical issues, and cognitive models (such as Ellis' ABCDE model from rational emotive behaviour therapy; Ellis, 1991) to help coachees work through psychological blocks.

To date, six studies have investigated the impact of CBC in the context of performance and development coaching in work, career, and personal domains. Bozer and Sarros (2012) compared outcomes of 72 executives with a non-random control group. Participants were recruited from the client-base of four Israeli executive coaching firms. A pre-post (9-month) analysis showed higher career satisfaction in the coaching group compared to the non-random control group. Gardiner, Kearns,

and Tiggemann (2013) compared rural GPs in Australia who received 9-hours of CBC ($n = 69$) with a non-random control group who did not received coaching ($n = 205$). The study was interested in whether CBC would reduce the psychological stress and intention to leave of rural GPs. Results showed lower stress and intention to leave in the coaching group. The study compared actual retention data at 3-years follow up, and found a greater number of GPs in the coaching group remained in practice than the overall remaining population of rural GPs ($n = 312$). Hultgren, Palmer, and O'Riordan (2016) piloted a CBC-informed virtual self-coaching programme with nine individuals recruited from a network of health and safety, and health care organisations. Results indicated increases in wellbeing and goal attainment following participation in the coaching intervention. The study was designed as a pilot for a larger study testing the same coaching methodology with a larger sample, however the results of the full study are yet to be published.

Three studies have used a CBC approach based on principles from Ellis' rational emotive behaviour therapy; referred to as rational coaching. David, Ionicioiu, Imbăruş, and Sava (2016) investigated the impact of rational coaching with 59 middle managers in an Italian multinational bank. Participants took part in a 5-hour workshop for managerial, coaching, and self-regulation skill development. Following that participants received one telephone CBC session. A pre-post (6-months) analysis showed decreased emotional distress and increased managerial soft skills. A mediational analysis indicated that reductions in emotional distress were mediated by increases in rational beliefs, and increases in managerial skill were mediated by reductions in irrational beliefs. Both these processes of change are consistent with CBC theory. Ratiu, David, and Baban (2017) tested rational coaching with 80 mid-level managers in a Romanian multinational electronics organisation. Participants took part in a 4-hour group coaching and training session, followed by individual

coaching sessions, with a final 90-minute group session at the close of the programme. A high dropout rate in the study meant data for only 11 participants was analysed. A pre-post (8-months) analysis indicated increases in managerial skills following the coaching intervention. However, with such a small sample it is wise to interpret these results conservatively. The final study by Ogbuanya et al., (2017) randomly allocated electronic workshop instructors in Nigerian technical colleges to either rational coaching ($n = 55$) or a waitlist control condition ($n = 53$). Measures were taken pre-, post- (12-weeks) and at 3-months follow up. Results showed reduced stress and irrational beliefs, and increased work ability in the coaching group compared to the control condition.

In sum, CBC has contributed six quantitative studies to the coaching evidence base. Of these, five used a work sample (Bozer & Sarros, 2012; David et al., 2016; Gardiner et al., 2013; Ogbuanya et al., 2017; Ratiu et al., 2017) and one used a general sample (Hultgren et al., 2016). Of these six studies, three used a within-subjects analysis (David et al., 2016; Hultgren et al., 2016; Ratiu et al., 2017); and two of these studies had small samples which impact the generalisability of their findings (Hultgren et al., 2016; Ratiu et al., 2017). Of the remaining three studies, two non-randomly allocated participants to study conditions (Bozer & Sarros, 2012; Gardiner et al., 2013). Therefore, at present, there is one between-subjects study using a randomisation process for CBC (Ogbuanya et al., 2017).

In terms of theoretical contribution, CBC represents a comprehensive and parsimonious framework, which also proposes clear and testable processes of change, such as increased irrational beliefs in rational coaching. CBC has generated a number of quantitative empirical studies providing evidence for the effectiveness of this approach. Studies have also begun to explore the hypothesised processes of change in CBC.

2.4 Approaches Derived from Developments in Psychology

In this section we discuss coaching approaches that are emerging from more recent developments in psychology. Two advances in psychological thinking impacting coaching are positive psychology, and mindfulness- and acceptance-based approaches. Positive psychology has been proposed as an alternative to traditional approaches in psychology. Positive psychologists argue psychology has focused on dysfunctional phenomena and pathology disproportionately to positive and functional aspects of human experience (e.g. Seligman & Csikszentmihalyi, 2000). Interest in positive psychology has grown over the last 20 years and research suggests that positive psychology offers viable interventions and theoretical frameworks. Similarly, interest in mindfulness- and acceptance-based approaches is growing as a result of the developing evidence base for these approaches in both clinical and non-clinical contexts. This section outlines coaching approaches derived from positive psychology, and mindfulness- and acceptance-based approaches; and summarises empirical studies that have investigated these coaching approaches in performance and development coaching in work, career, and personal domains.

Positive psychology approaches. Positive psychology focuses on the things that make individuals' lives worthwhile and meaningful. This aims to redress a prior negative bias in social science towards pathology and dysfunction (Seligman & Csikszentmihalyi, 2000). The three things that positive psychology is most interested in are positive emotion, engagement, and meaning; and it attempts to measure, classify, and build these three aspects (Seligman, 2007). Positive psychology takes an empirical approach to evidence, using traditional methodologies of psychometric measurement, and evaluation of the impact of interventions in longitudinal research and randomised controlled outcome studies (Seligman, 2007). In a meta-analytic

review, Bolier et al. (2013) investigated the impact of positive psychology interventions with the general public (though seven out of the 39 included studies targeted individuals with psychosocial issues, such as depression and anxiety). The analysis indicated that positive psychology interventions were effective overall, with a small effect size on subjective wellbeing and psychological wellbeing sustained at follow up points from three to six months in duration.

Seligman (2007) suggests that the theoretical and empirical strengths of positive psychology can offer rigour to coaching theory development and research. Some central theories from positive psychology that are influencing coaching, conceptually and in practice, are (a) psychological capital (Luthans, Youssef, & Avolio, 2007); (b) flow (Wesson & Boniwell, 2007); and (c) strengths-based approaches (e.g. Buckingham & Clifton, 2001). However, only psychological capital and strengths-based approaches have generated coaching research to date.

Psychological capital is a concept developed from positive organisational behaviour research. It relates to an individual's positive psychological state, and represents a higher order construct comprised of self-efficacy, optimism, hope, and resiliency (Luthans et al., 2007). Psychological capital has been shown to positively predict desirable employee attitudes, behaviours, and performance (Avey, Reichard, Luthans, & Mhatre, 2011). Strengths-based approaches use the concept of character strengths as individual differences that can be measured and compared (Park, Peterson, & Seligman, 2004). Character strengths are defined as positive traits such as zest, gratitude, love, and curiosity (Park et al., 2004). Strengths use has been shown to increase goal progress, vitality, and wellbeing in non-clinical samples (i.e. general population, and college students) (Govindji & Linley, 2007; Linley, Nielsen, Gillett, & Biswas-Diener, 2010; Wood, Linley, Maltby, Kashdan, & Hurling, 2011).

The majority of research using a positive psychology coaching intervention in the context of performance and development coaching in work, career, and personal domains has used a strengths-based approach. Elston and Boniwell (2011) used grounded theory to explore the experience of six individuals using strengths as part of a coaching intervention. Coachees reported taking value from using their strengths; and a virtuous circle of strengths use, where using strengths became easier and more rewarding as the coaching progressed. A second qualitative study by Zarecky (2014) used thematic analysis to explore the experience of six ex-military personnel receiving strengths-focused coaching whilst transitioning from military life to civilian life. Coachees found the strengths intervention prompted them to consider their identity, and heightened their awareness of individual identity compared to collective military identity. This clarity helped coachees identify what they might want from a future civilian career. Both of these studies suggest the experience of strengths-based coaching is valuable for coachees.

Strengths-based coaching has been quantitatively tested in two studies to date. McDowall and Butterworth (2014) randomly allocated UK university students to either a 45-minute group strengths coaching intervention ($n = 16$), or a waitlist control group ($n = 16$). Results indicated increased goal attainment and self-efficacy in the intervention group; however the comparison to the control group was non-significant. A second quantitative study by MacKie (2014) non-randomly assigned Australian senior managers in the not-for-profit sector to either six 90-minute sessions of strengths-based coaching over three months ($n = 14$), or a waitlist control group ($n = 17$). A pre-post (3-months) analysis indicated increased transformational leadership behaviours (as rated by others in a 360 multi-rater measure) in the coaching group compared to the control condition.

There are two studies that have explored concepts from psychological capital, namely hope and resilience, in coaching. Worgan (2013) explored the experience of two coaching clients of a coaching intervention based on the theory of hope using action research. Hope is defined as a positive motivational state of goal-directed thinking comprised of goal-directed energy (i.e. a state of being able to set challenging goals and reach for those goals with determination, energy and a sense of control) and pathways thinking (i.e. the capability to generate alternative paths to desired goals if original plans become blocked) (Luthans et al., 2007). Findings relating to the impact of the coaching were uncertain, though this could be due to a lack of clarity in the author's research question. Sherlock-Storey, Moss, and Timson (2013) investigated the impact of resilience coaching with 12 middle managers experiencing significant organisational change in a UK public sector organisation. The study aimed to determine if resilience coaching (developed partially from Luthans et al., 2007, principles for enhancing positive psychological capabilities) enhanced psychological capital and attitudes towards organisational change. Findings indicated increased resilience and attitudes to organisational change specifically, and increased hope and optimism as well.

In sum, positive psychology theories have contributed six studies to the coaching evidence base. Of these six studies, two studies used a workplace sample (MacKie, 2014; Sherlock-Storey et al., 2013), one used a student sample (McDowall & Butterworth, 2014), two used a general sample (Elston & Boniwell, 2011; Worgan, 2013), and one used an ex-military sample (Zarecky, 2014). Of the six studies, three were qualitative (Elston & Boniwell, 2011; Worgan, 2013; Zarecky, 2014). Of the three quantitative studies, one used a within-subjects analysis (Sherlock-Storey et al., 2013). Of the remaining two studies, one non-randomly allocated participants to study conditions (MacKie, 2014). Therefore, at present, there is one between-subjects

study using a randomisation process for positive psychology (McDowall &

Butterworth, 2014). However, this study used a short 45-minute coaching

intervention and a small sample, so replication with a more substantial intervention

and a larger sample would be beneficial.

In terms of theoretical contribution, positive psychology approaches seem to

offer a promising new avenue for coaching. Positive psychology theories, such as

psychological capital, and strengths-based approaches, offer frameworks of factors

that have generated investigations of the experience of coaching, and testable models

of coaching. However, investigation to determine if these interventions produce their

outcomes through the hypothesised processes of change (e.g. increased awareness of

strengths) would be beneficial. In spite of Seligman's (2007) claim that positive

psychology approaches can offer rigour to coaching research, this has not yet

translated into a strong evidence base. Further evidence is required to support these

approaches, and explore the hypothesised processes of change in positive psychology

approaches to coaching.

Mindfulness- and acceptance-based approaches. Mindfulness can be

defined as a particular state of consciousness in which the individual's attention is

focused on present-moment events (Sutcliffe, Vogus, & Dane, 2016, p.57).

Mindfulness-based approaches have only emerged in the last few decades. However,

the quantity of evidence produced in clinical RCT's has already facilitated meta-

analytic summaries of the effectiveness of these approaches in psychotherapy. These

analyses indicate mindfulness-based approaches offer an effective treatment for a

variety of psychological problems, and are particularly effective with anxiety,

depression, and stress-related issues (e.g., Khoury et al., 2013; Öst, 2008). There are

four main mindfulness-based approaches; mindfulness-based stress reduction

(MBSR), mindfulness-based cognitive therapy (MBCT), acceptance and commitment

therapy (ACT), and dialectical behaviour therapy (DBT) (Brown, Ryan, & Creswell, 2007).

Of these four mindfulness-based approaches, two are seen as particularly relevant to coaching: MBSR, and ACT (Virgili, 2013). These two mindfulness-based approaches have generated the most empirical support, and represent theoretically coherent and empirically supported change methodologies (Virgili, 2013). These clinical approaches are transdiagnostic, meaning they do not focus on any specific syndrome (Hayes, Villatte, Levin, & Hildebrandt, 2011), so the models are applicable beyond clinical contexts (Virgili, 2013). MBSR (Kabat-Zinn, 1982) has been shown to be effective with non-clinical populations addressing stress-related issues (Grossman, Niemann, Schmidt, S, & Walach, 2004). ACT (Hayes, Strosahl, & Wilson, 2012) also has an evidence base with non-clinical and occupational populations (e.g., Flaxman & Bond, 2010; Bond, Flaxman, & Bunce, 2008; Donaldson-Feilder & Bond, 2004). Psychological flexibility (the process of change in ACT) has been highlighted as a target for general public health; a recent study indicated that psychological flexibility moderates the relationship between health risk factors with physical health, psychological health, and wellbeing in the general population (Gloster, Meyer, & Lieb, 2017).

Despite this growing evidence base, mindfulness-based approaches have been under-researched in performance and development coaching contexts in work, career, and personal domains. A pilot study by Collard and Walsh (2008) empirically investigated the impact of eight 1-hour mindfulness-based coaching groups with 12 UK university employees. A pre-post (8-weeks) analysis indicated increased mindfulness and decreased stress following the coaching intervention.

Overall, the coaching-specific research for mindfulness- and acceptance-based approaches in the context of performance and development coaching in work, career,

and personal domains is very limited. The only empirical investigation of mindfulness- and acceptance-based approaches to coaching (Collard & Walsh, 2008), has a number of methodological issues, including a small sample, and insufficient detail of the measures used and analyses conducted for replication. There is no good quality between-subjects study using a randomisation process available for mindfulness- and acceptance-based approaches to coaching. It would be beneficial to conduct additional quantitative studies to explore the impact of mindfulness- and acceptance-based coaching approaches.

In terms of theoretical contribution, mindfulness-based approaches offer theoretically sound frameworks of factors and explanatory processes of change. MBSR and ACT have been identified as particularly suitable for coaching. Despite the growing evidence base for mindfulness-based interventions in both clinical and nonclinical populations, at present only one pilot study of mindfulness-based coaching has been published. Therefore, these approaches to coaching offer a promising and currently under-researched avenue for coaching researchers to explore.

2.5 Summary of the Theoretical Approaches to Coaching Research

This chapter has presented a review of the main psychological theories and approaches to coaching that have generated research into the impact and outcomes of theoretically underpinned coaching interventions. Theories were reviewed as three groups, namely approaches related to coaching processes, approaches derived from psychotherapy, and approaches derived from developments in psychology. Each of these approaches were presented, the research they have generated in the context of performance and development coaching in work, career, and personal domains was summarised, and each was evaluated against criteria proposed for sound theoretical development (Whetten, 1989).

Of these theoretical approaches, only the goal-related approach was considered to require greater theoretical development before being able to offer a sound theoretical basis for coaching research. This approach has not yet generated a testable model of goal-related coaching, or a cogent explanation of why the factors relate as they do. For this reason, studies of goal-related coaching will be excluded from further discussion in this thesis.

Solution-focused approaches, humanistic approaches, cognitive behavioural approaches, and positive psychology each had one published between-subjects study using a randomisation process to test the approach to coaching. The solution-focused, cognitive behavioural and positive psychology approaches were particularly well evidenced. The remaining approaches are under-researched despite representing sound theoretical foundations for coaching. Adult learning approaches need good quality between-subjects studies to test the impact of this approach. Psychodynamic approaches have only generated qualitative research studies, so would benefit from quantitative studies to determine the impact of this approach. Humanistic approaches would benefit from more research exploring the impact and outcomes of these approaches. Mindfulness- and acceptance-based approaches have only generated one empirical coaching study to date, despite offering a sound theoretical foundation for coaching, and good quality studies are needed to test this approach further. In conclusion, the coaching evidence base overall needs more good quality between-subjects studies using a randomisation process to test the impact of theoretically underpinned coaching interventions, especially in the under-researched areas of adult learning, psychodynamic, humanistic, and mindfulness- and acceptance-based approaches.

Chapter 3: Methodological Issues in Coaching Research

3.1 The Methodological Issues in Current Coaching Research

For coaching to be considered a valid practice, it needs to be anchored in empirical research (Lowman, 2005). The previous chapter reviewed theoretical approaches that offer a sound basis for coaching research; and the research these approaches have generated exploring the impact of theoretically underpinned coaching interventions. There were seven approaches identified that provide a firm theoretical foundation for coaching research. These are (1) adult learning theories, (2) solution focused approaches, (3) psychodynamic approaches (4) humanistic approaches, (5) cognitive behavioural approaches, (6) positive psychology approaches, and (7) mindfulness- and acceptance-based approaches. This chapter will focus on the empirical studies using theory-driven interventions that have been generated by these approaches, summarised in the previous chapter. Studies will be evaluated in relation to the methodological issues highlighted by coaching meta-research. The previous chapter presented both qualitative and quantitative studies: However, as has been highlighted in coaching research meta-reviews (Grover & Furnham, 2016; Lai & McDowall, 2014) and the summary of studies in Chapter 2, there is a need for good quality quantitative studies in particular. This chapter will focus on quantitative intervention studies specifically. The following discussion aims to evaluate studies against the required criteria for good quality intervention studies, and highlight how coaching research can be designed more rigorously in future studies.

Firstly, this chapter will discuss the lack of methodological rigour in coaching study design; and draw from best practice in intervention study design to suggest how coaching research studies could be designed more rigorously. Secondly, this chapter will discuss the rigour in outcomes measured in coaching research studies. The

discussion will draw on best practice in intervention studies for measuring change, and suggest opportunities for improving measurement of variables, and consistency of variables measured across coaching research. Finally, this chapter will discuss the limited explanation of processes of change in coaching interventions. The discussion will identify where researchers have hypothesised processes of change based on a specific theoretical approach; and an alternative theory that hypothesises common factors as processes of change across all theoretical approaches.

3.2 Methodological Issues in Coaching Research Design

A chief criticism regarding coaching research design relates to a lack of rigour in the design of coaching studies (e.g. De Meuse et al., 2009; Lai & McDowall, 2014; Grover & Furnham, 2016). Grant (2016) advises that coaching studies that are well designed, peer-reviewed, and use a methodology suitable to their research question, generate strong coaching-specific evidence. Methods from psychology can offer a template for best practice when assessing the effectiveness of coaching interventions (Lowman, 2005). Psychological research designs offer a variety of methodologies suited to investigating different phenomena (see Montero & León, 2007, for a conceptual system of research methods in psychology). Some suggested ways to increase the rigour of coaching impact and outcome research designs include using experimental designs (Jones et al., 2016), ensuring studies are replicable (Lai & McDowall, 2014), and measuring changes in outcomes over time (Theeboom et al., 2014; Sonesh, Coultas, Lacerenza, et al., 2015).

Smither (2011) recommends that coaching research be guided by the extensive literature concerning the efficacy of psychotherapy. Clinical research methods could facilitate coaching researchers studying questions such as: Is coaching effective, and how effective is it?; are some coaching approaches more effective than others, or more effective than other HR interventions?; and are the effects of coaching

interventions sustained over time? Clinical research uses experimental designs with control procedures taken from experimental science (Comer & Kendall, 2013). A process of randomisation balances extraneous variables that could be potential causal factors between groups of participants, thereby controlling for their effects (Montero & León, 2007). Random assignment enables baseline comparability between participants in different experimental conditions, and whilst this comparability is not guaranteed, large samples are more likely to be comparable at baseline (Comer & Kendall, 2013). The intervention condition is compared with a control condition of some type; this could be a no-treatment control, wait-list control, placebo control, or local standard treatment as a comparison condition, i.e. treatment-as-usual (Comer & Kendall, 2013). If participants are comparable at baseline, any subsequent changes in the intervention group that are not observed in the control group can be attributed to the intervention. Comparisons can be made between forms of active intervention as well in order to compare different coaching approaches (Comer & Kendall, 2013). Clinical research also evaluates participant responses over time (Comer & Kendall, 2013). This is important in order to detect non-linear response patterns, and establish if responses are maintained after the intervention finishes (Comer & Kendall, 2013).

In clinical research, careful consideration is given to procedural factors to ensure the integrity of a study. When evaluating interventions, a detailed definition of the intervention enhances internal validity and enables replication of a study (Comer & Kendall, 2013). To ensure intervention fidelity, practitioners conducting the intervention should have adequate training to competently deliver the intervention, and have access to supervision during the intervention (Comer & Kendall, 2013). The intervention can be checked for fidelity by recording sessions, which are then reviewed by experts in the intervention (Comer & Kendall, 2013). Finally, the study

sample and setting chosen should reflect the population and environment to which the study findings will be generalised (Comer & Kendall, 2013).

In summary, methodologically rigorous coaching studies looking at the impact of coaching interventions should have a randomisation process to allocate participants to one, or more, intervention conditions, and a control condition. Studies should evaluate participant responses over time, taking measures of participant groups at baseline, during the intervention, and ideally with some form of follow up measure. Studies should standardise interventions by defining the intervention in enough detail for replication of the study, and coaches conducting the intervention should have adequate training and supervision. Studies can also check the fidelity of the intervention through reviewing recordings of sessions. In order for findings to be generalisable, researchers should choose a sample and study setting that reflects the population and environment of interest.

However, even in the clinical literature, experimental methods have been criticised (see Chambless & Ollendick, 2001 for a summary of the controversy in this area). One criticism of clinical randomised controlled trials that is pertinent to coaching research is the tight control of experimental factors, which ensures internal validity, but forfeits external validity, as ordinary environments are less controlled (Castonguay, Barkham, Lutz, & McAleavey, 2013; Chambless & Ollendick, 2001; Comer & Kendall, 2013). This tension is described as a difference between evidence of intervention efficacy from studies with higher internal validity, and evidence of intervention effectiveness from studies with higher external validity (Chambless & Ollendick, 2001). Effectiveness studies tend to be more concerned with the generalisability, feasibility, and cost-effectiveness of an intervention (Comer & Kendall, 2013). Coaching research should be mindful of the cost of high internal

validity to the generalisability of study findings. However, there may be benefits in exploring both the efficacy and effectiveness of coaching interventions.

3.3 Evaluation of Coaching Research Studies Against Design Criteria

Grant (2016) suggests well-designed coaching-specific randomised controlled trials with relevant populations provide strong evidence for coaching. Using the recommendations for methodologically rigorous coaching studies outlined above, the existing literature can be evaluated against these criteria.

Random assignment. Of the 20 theory-driven quantitative studies summarised in the previous chapter, 14 used a between-subjects design (Bozer & Sarros, 2012; Braunstein & Grant, 2016; Ebner et al., 2017; Evers et al., 2006; Gardiner et al., 2013; Gattellari et al., 2005; Grant, 2012b; MacKie, 2014; McDowall & Butterworth, 2014; Mühlberger & Traut-Mattausch, 2015; Ogbuanya et al., 2017; Roeden et al., 2014; Theeboom et al., 2016; Weinberg, 2016). Of these, seven reported using random assignment (Braunstein & Grant, 2016; Gattellari et al., 2005; Grant, 2012b; Ogbuanya et al., 2017; McDowall & Butterworth, 2014; Mühlberger & Traut-Mattausch, 2015; Theeboom et al., 2016). However, five of these studies had sample sizes lower than recommended for adequate statistical power (64 participants for ANOVA with two groups, 52 participants for ANOVA with three groups, and 45 participants for ANOVA with four groups; values based on recommendations for ANOVA analysis for a medium effect size at significance value of .05, as outlined in Cohen, 1988) (Braunstein & Grant, 2016; Ogbuanya et al., 2017; McDowall & Butterworth, 2014; Mühlberger & Traut-Mattausch, 2015; Theeboom et al., 2016). Only two studies exceeded the sample size recommended by Cohen (1988) based on the study design (Gattellari et al., 2005; Grant, 2012b). This indicates that whilst coaching researchers are using random assignment, there is still a challenge in getting large enough samples in coaching studies.

Allocation to a control condition. Of the 20 theory-driven empirical studies, 11 used a control condition of some form: Four studies randomly allocated to a waitlist control condition (Gattellari et al., 2005; McDowall & Butterworth, 2014; Mühlberger & Traut-Mattausch, 2015; Ogbuanya et al., 2017); one non-randomly allocated to a waitlist condition (MacKie, 2014); two used a matched control (Ebner et al., 2017; Evers et al., 2006); three used baseline measures from individuals of the same population who did not receive the intervention (Bozer & Sarros, 2012; Gardiner et al., 2013; Weinberg, 2016); and one compared the intervention group to an existing form of coaching already used in the organisation (i.e. coaching-as-usual; Roeden et al., 2014). Of the remaining studies, three made comparisons between specific coaching conditions only (i.e. solution-focused vs. problem-focused questions; Braunstein & Grant, 2016; Grant, 2012b; Theeboom et al., 2016). The remaining six studies used a within-subjects design (Collard & Walsh, 2008; David et al., 2016; Hultgren et al., 2016; Mosteo et al., 2016; Ratiu et al., 2017; Sherlock-Storey et al., 2013). Ideally, future studies will continue to use a control condition of some type, as most of the current studies have.

Measurement of participant responses over time. Of the 20 theory-driven empirical studies, 16 measured responses pre- and post-intervention only (Bozer & Sarros, 2012; Braunstein & Grant, 2016; Collard & Walsh, 2008; David et al., 2016; Ebner et al., 2017; Evers et al., 2006; Gardiner et al., 2013; Gattellari et al., 2005; Hultgren et al., 2016; McDowall & Butterworth, 2014; Mosteo et al., 2016; Mühlberger & Traut-Mattausch, 2015; Ratiu et al., 2017; Sherlock-Storey et al., 2013; Theeboom et al., 2016; Weinberg, 2016). Of these studies, five used a short intervention and took post-intervention measures shortly after the coaching (Braunstein & Grant, 2016; McDowall & Butterworth, 2014; Mosteo et al., 2016; Mühlberger & Traut-Mattausch, 2015; Theeboom et al., 2016). The remaining 11

studies took post-intervention measures from between a few weeks following the intervention to up to nine months after coaching (Bozer & Sarros, 2012; Collard & Walsh, 2008; David et al., 2016; Ebner et al., 2017; Evers et al., 2006; Gardiner et al., 2013; Gattellari et al., 2005; Hultgren et al., 2016; Ratiu et al., 2017; Sherlock-Storey et al., 2013; Weinberg, 2016).

There were four studies that took measures at three time points. Of these, one used a short intervention and took measures pre-, during and post-intervention (Grant, 2012b). The remaining three took measures pre- and post-intervention, with an additional measure taken after the end of the coaching intervention at either 2-week (Ogbuanya et al., 2017), 7-week (Roeden et al., 2014), or 6-month (MacKie, 2014) follow up. Although MacKie (2014) used a waitlist control group, the measures taken at the follow up time point were not captured for the control group, so no comparison between the two groups can be made at this time point. Ideally, coaching researchers will make comparisons to baseline measures when using both within-subject and between-subject designs as a minimum. More research needs to evaluate participant responses at time points during the intervention to determine patterns of change, and ideally at follow up to ascertain if changes from the intervention are enduring.

Standardisation of the coaching intervention. Of the 20 theory-driven empirical studies, 16 sufficiently defined and standardised the intervention procedure. Of these, four studies used a computerised or online format for the coaching intervention (Braunstein & Grant, 2016; Grant, 2012b; Hultgren et al., 2016; Theeboom et al., 2016). Of the remaining 12, nine reported using a manual, protocol or set format for the coaching intervention (David et al., 2016; Ebner et al., 2017; MacKie, 2014; McDowall & Butterworth, 2014; Mühlberger & Traut-Mattausch, 2015; Ogbuanya et al., 2017; Ratiu et al., 2017; Roeden et al., 2014; Sherlock-Storey et al., 2013), and three reported using principles from the theoretical approach but

without reporting a clear protocol (Gattellari et al., 2005; Mosteo et al., 2016; Weinberg, 2016). Of the four studies that were considered to insufficiently define or standardise the intervention procedure, three studies were not standardised in terms of the techniques used by coaches during the intervention (Bozer & Sarros, 2012; Collard & Walsh, 2008; Evers et al., 2006), and one study reported a standardised structure for coaching workshops, but did not provide details on the follow up coaching session coachees participated in (Gardiner et al., 2013).

Of the 20 theory-driven empirical studies, nine studies reported providing training or supervision to coaches delivering the intervention; either by training coaches delivering the intervention or using experienced coaches to design and deliver the intervention. Of those nine, three studies reported providing both training and supervision (Ebner et al., 2017; Mühlberger & Traut-Mattausch, 2015; Sherlock-Storey et al., 2013). In the other six studies, four provided specific training for coaches (David et al., 2016; MacKie, 2014; Mosteo et al., 2016; Ratiu et al., 2017), and two reported using experienced coaches to design and deliver the intervention (Collard & Walsh , 2008; McDowall & Butterworth, 2014). Of the remaining 11 studies, four used a computerised or online coaching format so this criterion is not applicable, leaving seven studies that did not report training or supervising coaches delivering the intervention (Bozer & Sarros, 2012; Evers et al., 2006; Gardiner et al., 2013; Gattellari et al., 2005; Ogbuanya et al., 2017; Roeden et al., 2014; Weinberg, 2016). No studies reported recording coaching sessions for review by experts.

Ideally, coaching researchers will report the standardisation of the intervention in enough detail for replication, and ensure coaches have the required training in the intervention to be delivered. Best practice would be for coaches to receive both training and supervision whilst delivering the intervention. Overall, of the 20 studies reviewed only seven failed to meet the recommended criteria for

standardising the intervention in terms of training or supervision of coaches. This indicates that coaching researchers overall are aiming to standardise and ensure fidelity in the interventions delivered.

Generalisability. All studies included in this summary have been selected for their relevance to performance and development coaching in work, career, and personal coaching. It should be noted that, while it is not unusual for researchers in social science to use student samples in research, meta-analytical studies have shown some issues in generalising from student samples to general UK working adult populations (e.g. Peterson, 2001), so ideally studies should use a sample of UK working adults. Of the 20 theory-driven empirical studies, 13 studies used a sample in a work context (Bozer & Sarros, 2012; Collard & Walsh, 2008; David et al., 2016; Evers et al., 2006; Gardiner et al., 2013; Gattellari et al., 2005; Hultgren et al., 2016; MacKie, 2014; Ogbuanya et al., 2017; Ratiu et al., 2017; Roeden et al., 2014; Sherlock-Storey et al., 2013; Weinberg, 2016). The seven remaining studies used a student sample in a university setting (Braunstein & Grant, 2016; Ebner et al., 2017; Grant, 2012b; McDowall & Butterworth, 2014; Mosteo et al., 2016; Mühlberger & Traut-Mattausch, 2015; Theeboom et al., 2016).

To summarise the quality of coaching research against these criteria, one study meets all five of the criteria discussed above (Ogbuanya et al., 2017). There are three studies that meet four of the criteria (Gattellari et al., 2005; MacKie, 2014; Roeden et al., 2014), and two studies meet three of the criteria (McDowall & Butterworth, 2014; Mühlberger & Traut-Mattausch, 2015). Of the remaining 14 studies, 11 meet two criteria (Braunstein & Grant, 2016; David et al., 2016; Ebner et al., 2017; Evers et al., 2006; Gardiner et al., 2013; Grant, 2012b; Hultgren et al., 2016; Ratiu et al., 2017; Sherlock-Storey et al., 2013; Theeboom et al., 2016; Weinberg, 2016) and three meet only one of the criteria outlined above (Bozer &

Sarros, 2012; Collard & Walsh, 2008; Mosteo et al., 2016). Overall, evaluated against these methodological study design criteria, the quality of quantitative coaching studies exploring the impact of theoretically underpinned coaching interventions is poor, as 70% of the studies reviewed failed to meet more than two of the five criteria outlined.

3.4 Methodological Issues in Coaching Research Outcomes and Measures

The main criticism regarding coaching research outcomes and measures relates to the inconsistency with which outcomes are measured by different researchers, and how rigorously outcomes are measured. Many issues related to measuring change as a result of interventions have been discussed in the clinical literature (see Ogles, 2013, for a discussion of measuring change in psychotherapy research), and so best practice from the clinical field will be referred to when considering outcome and measurement issues in coaching research.

Criteria of assessment. In a discussion of the criterion problem in coaching, Smith, Borneman, Brummel, and Connelly (2009) suggest that the lack of common criteria for outcome measures across coaching studies is a block to developing a coherent research literature for coaching. However, the search for a core battery of outcome measures in the clinical literature to date has largely failed (Ogles, 2013). This may be due in part to researchers including theoretically specific constructs that are relevant to their particular approach, but do not generalise to other approaches (Ogles, 2013). This challenge may be applicable to coaching as well. Therefore, it may be of greater practical utility to identify a broad conceptual framework of coaching research outcomes that can help align categories of variables with more flexibility than a core battery of coaching criteria (e.g. Theeboom et al., 2014). (However, a similar endeavour has not been wholly successful in the clinical literature; Ogles, 2013).

In coaching meta-research, different conceptual frameworks of coaching outcomes have been proposed. Theeboom et al. (2014) assigned all study outcomes to one of the following categories: Performance and skills, wellbeing, coping, work attitudes, or goal-directed self-regulation. However, as Jones et al. (2016) point out, this categorisation lacks any theoretical justification. As an alternative, Jones et al. (2016) suggest using established criterion models from the literature on learning, training, and development to inform a criterion framework for coaching evaluation. The model they propose combines models by Kirkpatrick (1967) and Kraiger, Ford, and Salas (1993). Outcomes are categorised into affective outcomes (e.g. self-efficacy, wellbeing), cognitive outcomes (e.g. cognitive strategies such as problem-solving), skill-based outcomes (e.g. leadership skills, competencies), and results (e.g. performance).

Another model for coaching criteria proposed by Sonesh, Coultas, Lacerenza, et al. (2015) is based on Baldwin and Ford's (1988) model of training effectiveness and transfer. Coaching outcomes are grouped into two categories; relationship outcomes (working alliance and the general coach-coachee relationship), and goal-attainment coachee outcomes (behaviour change, attitude change, cognitive outcomes, satisfaction with coaching and relations with others). Three other reviews take a similar simple approach, by categorising coaching research outcomes into individual and organisational outcomes (Blackman et al., 2016; De Meuse et al., 2009; Grover & Furnham, 2016). Individual outcomes include skills, wellbeing, self-efficacy, satisfaction, and performance. Organisational outcomes include productivity, communication, supervisor ratings, peer ratings, and leadership behaviours. The conceptual framework offered by Blackman et al. (2016) suggests the addition of societal level outcomes to individual and organisational outcomes. Though no studies have investigated societal outcomes yet, future studies may want

to explore the impact of coaching at this level. To sum up, there is no established conceptual framework of coaching research outcomes yet, but there are a number of frameworks that offer a starting point for coaching researchers to generate greater consistency in the outcomes investigated.

Forms of assessment. Best practice from the clinical literature suggests forms of assessment used in coaching research need to be psychometrically sound and reproducible (Ogles, 2013). To ensure measures meet these criteria, researchers should use measures that are psychometrically reliable and validated. Published measures report data on their psychometric properties, and will have been evaluated for reliability and validity. When using published measures, researchers should report Cronbach's alpha to ensure internal reliability in their specific study sample, and inter-rater reliability where appropriate (Ogles, 2013).

Another consideration when choosing outcome measures is the utility of the measure, i.e. the brevity, ease of use, expense, and practicality of the measure. Measures used to assess the impact of an intervention should be sensitive to change, and theoretically likely to change (Ogles, 2013). Malleable and state-like psychological constructs, such as satisfaction, may be of greater use than stable, trait-like constructs, such as personality. In summary, researchers should ensure they use measures that are both valid and reliable, and are ideally available to other researchers so findings can be replicated. Measures should be sensitive to change, and offer utility in terms of efficiency and practicality.

The main forms of assessment used in randomised controlled trials are self-reports by participants (e.g. psychometric scales), independent ratings (e.g. behavioural ratings by observers), and objective measures (e.g. physiological data) (Ogles, 2013). Best practice suggests using multiple measures and multiple forms of assessment (Kendall et al., 2013). This avoids the criticism currently made of

coaching research that there is an over reliance on self-report measures (e.g.

Theeboom et al., 2014) and helps to avoid issues of common method bias

(Podsakoff, MacKenzie, & Podsakoff, 2012). However, self-reports are a staple of

psychotherapy and organisational behaviour research (Ogles, 2013; Spector, 1994).

Self-report measures are well suited to measuring people's feelings and perceptions

(e.g. work motivation, or wellbeing) but less suited to measuring the objective job

environment, so as part of a study design process researchers should consider what

the most appropriate measure for a particular variable is (Spector, 1994). Some

criticisms have been made of self-report measures, however these issues may be

based in measurement bias applicable to all forms of measurement (Spector, 1994).

Longitudinal designs offer greater robustness against measurement bias in

comparison to cross-sectional studies (Spector, 1994). Therefore, studies that take

repeated self-report measures over time can generalise findings with greater

confidence.

A consideration taken from the clinical literature that might be useful to

coaching research is whether to use measures that are individualised or standardised

(Ogles, 2013). Individualised measures are tailored to specific circumstances and

participants, so will collect richer and more complex data on individual responses to

the intervention. In coaching research, an example of an individualised measure is

goal attainment scaling (GAS), where the content of the measure is determined by the

coachee based on their individual goals for the coaching (see Spence, 2007, for a

discussion of GAS, and its use in coaching research and practice). However,

standardized measures allow researchers to make comparisons between a research

sample and other populations (Ogles, 2013). When designing a study, researchers

may decide to use a standardised measure that can be more easily aggregated and

compared to other populations, or an individualised measure that might be more sensitive to change, or to include one of each type (Ogles, 2013).

Ideally, coaching studies should use measures that are valid and reliable, with good utility and sensitivity to change. Repeated measures should be taken throughout the study, especially if the study uses self-report measures. Researchers should also measure multiple outcomes and, where possible, use more than one form of assessment. Finally, researchers should consider whether individualised or standardised measures are appropriate, or if it is possible to include both kinds in one study.

3.5 Evaluation of Coaching Research Studies Against Measurement Criteria

Using the recommendations for methodologically rigorous coaching research outcomes and measures outlined above, the existing literature can be evaluated against these criteria.

Criteria of assessment. None of the 20 theory-driven empirical studies reviewed used a conceptual framework of outcomes, which is unsurprising as there is no established framework as yet. For the purposes of this review, to give a sense of the types of criteria used in these studies, a summary of outcomes in three broad categories will be highlighted (1) individual outcomes, such as wellbeing, (2) relationship outcomes, such as quality of relationship, and (3) organisational level outcomes, such as performance. It should be noted that these categories do not represent a specific conceptual framework, but are designed to give the reader a sense of the range and types of outcomes used in coaching research to date. All studies reviewed looked at individual outcomes. Examples of individual level outcomes are self-efficacy (Braunstein & Grant, 2016; Ebner et al., 2017; Evers et al., 2006; Grant, 2012b; McDowall & Butterworth, 2014; Mosteo et al., 2016; Mühlberger & Traut-Mattausch, 2015), goal attainment or progress (Braunstein & Grant, 2016; Grant,

2012b; Hultgren et al., 2016; McDowall & Butterworth, 2014; Roeden et al., 2014; Mühlberger & Traut-Mattausch, 2015), and wellbeing (Collard & Walsh, 2008; David et al., 2016; Hultgren et al., 2016; Ogbuanya et al., 2017; Weinberg, 2016).

A smaller number of studies used measures of relationship outcomes and organisational outcomes in addition to individual outcomes. Relationship outcome measures were used in two studies: Mosteo et al. (2016) used a measure of the quality of coaching connection, and Roeden et al. (2014) measured the quality of relationship between staff and their clients. Organisational outcomes were measured in seven studies. The organisational level outcomes used were job performance (Bozer & Sarros, 2012; David et al., 2016), work ability (Ogbuanya et al., 2017), retention rates (Gardiner et al., 2013), ratings of leadership behaviours (MacKie, 2014), psycho-social aspects of work (Weinberg, 2016), and differences in actual work behaviours (number of PSA screenings ordered by GPs; Gattellari et al., 2005). So, most studies include individual level outcomes. Some also include relationship outcomes and organisational outcomes. The use of an established framework of outcomes would help to homogenise the outcome measures included across studies, and organise the categories of outcomes measured.

Forms of assessment. Of the 20 theory-driven empirical studies, 11 used validated, published measures for all outcomes (Bozer & Sarros, 2012; David et al., 2016; Ebner et al., 2017; Mosteo et al., 2016; Mühlberger & Traut-Mattausch, 2015; Ogbuanya et al., 2017; Ratiu et al., 2017; Roeden et al., 2014; Sherlock-Storey et al., 2013; Theeboom et al., 2016; Weinberg, 2016). Of the remaining nine studies, seven used a combination of validated measures and study specific measures. Outcomes for which study-specific measures were developed include self-efficacy (Braunstein & Grant, 2016; Grant, 2012b), goal attainment (Braunstein & Grant, 2016; Grant, 2012b; McDowall & Butterworth, 2014), stress (Collard & Walsh, 2008), intention to

leave (Gardiner et al., 2013), feedback on coaching (Hultgren et al., 2016), and coaches' adherence to protocol (MacKie, 2014). Only two studies used measures that were developed for the study exclusively (Evers et al., 2006; Gattellari et al., 2005). Both of these studies were published over 10 years ago, so this may be partly explained by how early in the evolution of quantitative coaching research these studies were.

As has been outlined previously, of the 20 theory-driven empirical studies, all studies took measures at multiple time points: 16 took measures at two time points (i.e. pre- and post-intervention); and four took measures at three time points. However, of the 20 studies, four did not take repeated measures of all outcomes at all time points. In two studies, this related to a goal outcome. Grant (2012b) took an extra measure of goal approach at a follow up time point (i.e. neither positive affect, negative affect, or self-efficacy were measured at this time point). Braunstein and Grant (2016) took a baseline measure of goal progress at a different time to the other baseline measures. However, there may be some theoretical justification for measuring goal-related factors at different times point to other outcomes, e.g. if goal-setting is part of the coaching process (e.g. Braunstein & Grant, 2016). In the two remaining studies, Mosteo et al. (2016) took measures of coaching quality and self-efficacy at the post-intervention time point only, and McDowall and Butterworth (2014) took a measure of strengths knowledge at the post-intervention time point alone. Unless there is a clear theoretical reason why measures should be taken at different time points, repeated measures of outcomes should be taken at all time points in the study.

Of the 20 theory-driven empirical studies, 16 used only self-report measures (Bozer & Sarros, 2012; Braunstein & Grant, 2016; Collard & Walsh, 2008; Ebner et al., 2017; Evers et al., 2006; Grant, 2012b; Hultgren et al., 2016; MacKie, 2014;

McDowall & Butterworth, 2014; Mosteo et al., 2016; Mühlberger & Traut-Mattausch, 2015; Ogbuanya et al., 2017; Ratiu et al., 2017; Roeden et al., 2014; Sherlock-Storey et al., 2013; Weinberg, 2016). Of the remaining four studies, three used a mix of self-report and objective measures for outcomes: Outcomes measured objectively were attentional control and cognitive flexibility (Theeboom et al., 2016), change in work behaviours (Gattellari et al., 2005), and turnover rate (Gardiner et al., 2013). The final study used self-reports and an independent rating of performance (David et al., 2016).

In summary, no coaching researchers have yet designed a study aligned with a specific conceptual framework of outcomes. Coaching researchers designing studies should be aware of the frameworks of coaching outcomes that have been proposed. Though no framework has become established as yet, the utility of competing frameworks could be determined by how well they generate consistency in the outcomes studied across the coaching evidence base. In terms of the form of outcome measures, 11 studies reviewed used all validated measures, 16 consistently took measures at all time points, and four used a mix of self-report with either objective measures or independent ratings of coachees. Future studies should use validated measures of outcomes where possible, with the inclusion of individualised measures where beneficial to the research. Unless there is a theoretical justification for taking measures at different time points, repeated measures of all variables should be taken consistently in the study. Finally, studies should aim to include other forms of measures beyond self-report measures where appropriate.

3.6 Methodological Issues in Coaching Processes of Change

The third methodological criticism of coaching research that will be discussed is the lack of research studies evaluating processes of change in coaching (De Meuse et al., 2009; Grover & Furnham, 2016; Sonesh, Coultas, Lacerenza, et al., 2015).

Reviewers of coaching research recommended coaching research studies explore the processes of change in coaching interventions. These are moderators (i.e. a variable that influences to whom and in what circumstances an intervention is effective; Kendall et al., 2013) and mediators (i.e. a variable that explains how and why an intervention takes effect; Kendall et al., 2013). Identifying mediators is an important step towards showing causal relationships, i.e. mechanisms of change in an intervention (Kazdin, 2007). A mechanism of change is a mediator that can be shown to be the basis for an interventions effect, i.e. the process that is responsible for change following an intervention, or how change came about (Kazdin, 2007). A mediator can provide a guide to possible mechanisms, but mediators are not necessarily mechanisms (Kazdin, 2007). In this thesis we focus on mediators, and take the first steps in exploring the mechanisms of change in ACT-informed coaching interventions.

Kazdin (2007) outlines the criteria required to establish a variable as a mediator or mechanism of change. Firstly, there should be a strong association between the intervention and the mediator, and the mediator and the outcome. Secondly, there should be specificity in the association between the intervention, proposed mediator, and outcome. If there are many plausible variables, then demonstrating that only the proposed mediator accounts for change strengthens the argument for that mediator. Thirdly, there should be consistency in the mediator across studies. Consistency across studies provides strong evidence for a mediator being involved in an intervention. Fourthly, being able to demonstrate the mediation effect through experimental manipulation provides strong evidence that the mediator is responsible for the change in outcome. The fifth requirement is to establish a timeline from which causal relations can be inferred, i.e. causes should precede effects. The sixth requirement is a gradient of change that reflects lower to higher

dose or activation of the mediator. Finally, the mediator should be a plausible and coherent explanation of change in the context of wider knowledge and research findings. Mediators that are underpinned by theoretically based explanations of change are likely to be coherent and plausible.

Based on meeting these requirements Kazdin (2007) makes seven recommendations for research looking at processes of change: (1) use theory as a guide to identify potential mediators in an intervention; (2) include measures of potential mediators in studies; (3) establish a timeline of the proposed mediator and outcome by taking measures over time, (4) assess more than one mediator in a study, to assess if one makes a greater contribution to the outcome, (5) use study designs that can assess mediators, i.e. RCT designs with measures taken at repeated time points to assess the course of change in mediator and outcome variables, (6) examine the consistency and convergence of findings across different types of studies (e.g. qualitative studies laboratory studies, or naturalistic studies) to determine if the proposed process is plausible, and (7) intervene to change the proposed mediator in the study.

In order for future studies to adhere to the requirements for establishing mediators and mechanisms of change, design considerations should be made a priori to meet the criteria required to establish mediators as mechanisms of change (Kraemer, Wilson, Fairburn, & Agras, 2002). Specifically, they should use theory to identify potential mediators, and include measures of more than one mediator in the study. Ideally, studies should use an RCT design, as RCT's are the most suitable method for demonstrating causal relationships between interventions and change in outcomes. Studies should take repeated measures to establish a timeline of change for proposed mediators and outcomes, and manipulate the potential mediator of interest.

Finally, results should be compared to findings across other studies to support the plausibility of the mediator as a mechanism of change.

For a mediator to be inferred as a mechanism of change, a number of studies meeting the different criteria outlined by Kazdin (2007) are required. For example, replication is required to meet the criterion of consistency across studies (Kazdin, 2007). As the coaching literature develops, consistencies across different types of studies can be examined. Unfortunately, to date very few coaching studies have explored mediators.

3.7 Evaluation of Coaching Research Studies Against Processes of Change Criteria

Of the 20 empirical studies of theoretically underpinned coaching interventions reviewed in Chapter 2, five studies represent the initial stages of research into processes of change in coaching. Of these five studies, one included a moderation analysis (Mosteo et al., 2016), and four included some form of mediation analysis (David et al., 2016; Ebner et al., 2017; Mühlberger & Traut-Mattausch, 2015; Theeboom et al., 2016). The moderation analysis by Mosteo et al. (2016) found evidence that the quality of the coaching connection and coachee's self-efficacy both moderated increases in resilience and personal vision as a result of the coaching intervention. This hypothesis is plausible and coherent with the adult learning theory-informed coaching intervention used in the study. However, this study was a within-subjects analysis of MBA students with no control condition, and no follow up measures, so the results should be interpreted with caution. Future studies could further explore and attempt to replicate these findings to determine if they are robust.

Of the four studies that ran a mediation analysis, three studies explored theoretically derived variables as potential mediators. Theeboom et al. (2016) hypothesised that increases in positive affect would mediate increases in cognitive

flexibility resulting from solution-focused questions. This hypothesis is coherent with the SFC intervention used in the study; however the analysis did not indicate mediation, meaning the hypothesis was not supported.

David et al. (2016) hypothesised that increases in rational beliefs and decreases in irrational beliefs would mediate decreases in depressed mood, and increases in managerial skills. This hypothesis is coherent within the CBC intervention used in the study. Results indicate reductions in depressed mood were mediated by increases in rational beliefs, and increases in managerial soft skills were mediated by reduced fairness demandingness (an irrational belief). However, this was a within-subjects analysis, so results should be interpreted with caution and replication in a more rigorous study is required to determine the robustness of these findings.

Ebner et al. (2017) hypothesised that self-efficacy would mediate the relationship between self-management and coping (i.e. situation control, social support, rumination, and avoidance). This hypothesis is coherent with the social learning theory-based coaching intervention used in the study. The analysis indicated that increases in self-efficacy mediated improvements in individual coping (i.e. greater situation control, greater social support, and lower avoidance) resulting from improved self-management skills. Whilst this study provides evidence of self-efficacy as a mediator, the study used a student sample, and a non-random matched control group, so again it would be necessary to replicate these findings to establish their robustness.

Mühlberger and Traut-Mattausch (2015) ran a mediation analysis exploring the impact of coaches' transformational leadership behaviours on coaching outcomes. The analysis showed that intellectual stimulation and contingent reward mediated higher goal commitment in the dyadic coaching condition than the group coaching

condition; and individualised consideration, intellectual stimulation and contingent reward mediated higher goal reflection and goal motivation in the dyadic coaching condition than the group coaching condition. However, the intervention used in this study was informed by SFC, and there is no theoretical justification for using this approach as the coaching intervention if the study is hypothesising transformational leadership behaviours as processes of change. Therefore, the mediation model seems theoretically incongruent with the theory underpinning the intervention used. This makes it difficult to establish why the intervention was effective, as two different theoretical explanations are represented in the study.

In terms of evaluating these studies against the recommendations for research into mediators and mechanisms of change, none of the four studies included repeated measures taken throughout the intervention to establish a timeline of change. Of the two studies that allocated participants to conditions randomly, one showed no evidence of mediation, and the other was theoretically incongruent with the coaching approach employed in the study.

Overall, these studies represent a weak evidence base for processes of change in coaching. However, a critical approach in clinical psychology, the common-factors perspective, has gained traction with coaching researchers (e.g. De Haan & Duckworth, 2012; McKenna & Davis, 2009; Stober & Grant, 2006a), and offers an alternative explanation of change.

3.8 Common Factors as Processes of Change in Coaching

The common factors (CF) perspective suggests that common factors in therapy (e.g. the therapeutic relationship) are more important processes of change than the specific techniques used in a therapeutic approach (e.g. exposure in behavioural treatments for anxiety, or insight in psychodynamic psychotherapy). (See Crits-Christoph et al., 2013, for a summary of the process-outcome research for major

theories of psychotherapy and common factors). This perspective draws on recent critical analyses of psychotherapy RCT and meta-analytic data, which suggests there is little evidence of treatment specificity across different psychotherapy approaches (Wampold & Imel, 2015). Wampold and Imel (2015) argue that, whilst psychotherapy researchers have tried to establish the importance of specific effects hypothesised by different psychotherapy approaches, no compelling evidence has yet satisfactorily shown that the theory-specific actions of a particular psychotherapy generate the benefits of that psychotherapy. The CF perspective suggests that specificity is an unnecessary condition for change in psychotherapy if all treatments are equally efficacious (see Wampold & Imel, 2015, for a detailed discussion of the CF perspective and a summary of evidence). The CF perspective regards psychotherapy as a socially situated healing practice, where specific treatments and protocols are less important than the therapist providing an acceptable and coherent explanation to the client of the difficulties they are facing, and engaging the client in healthy behaviours (Laska, Gurman, & Wampold, 2014; Wampold & Imel, 2015).

However, a criticism levied at the common factors perspective is a lack of theoretical underpinning; to address this, the Contextual Model conveys the theoretical basis for the CF perspective (Wampold, 2015; Wampold & Budge, 2012; Wampold & Imel, 2015). The first component of the model is the initial bond between the therapist and client. This initial bond builds trust between the therapist and client, establishes the credibility of the therapist, and provides a context for the client's issues (Wampold, 2015). Next, the model proposes three pathways of change (Wampold & Budge, 2012). The relationship between a therapist and client is integral in all three pathways. The first pathway is the therapeutic relationship itself. This is described as a relationship that offers the client a human connection with an empathic and caring individual (Wampold, 2015). The second pathway is the client's

expectations of therapy. If there is a strong relationship between the therapist and client, the client is likely to accept treatment and work with the therapist, generating an expectation that the treatment will work (Wampold, 2015). The third pathway is the specified actions of the therapeutic approach, i.e. the specific ingredients of the treatment. The specific ingredients in a particular therapeutic approach create an expectation of change and generate action in the client toward healthy activities and behaviours (Wampold, 2015). Again, a strong relationship between the therapist and client is required, as clients will not take action without collaboration and agreement on tasks (Wampold, 2015).

Importantly, this model is not necessarily positioned in opposition to models with theoretically specific factors; rather it aims to offer an opportunity to integrate common factors and theory-specific factors (Laska et al., 2014; Wampold & Budge, 2012). In the Contextual Model, specific ingredients of treatment are important, but change in psychotherapy is not attributed to specific ingredients. Rather, specific ingredients generate action in the client towards health promoting activities or behaviours (Wampold & Imel, 2015). The current literature in psychotherapy process-outcome research reflects the view that the therapeutic relationship is an important factor in therapy. Relationship factors (commonly referred to as alliance) have been shown to be an important and consistent predictor of psychotherapy outcomes across a range of psychotherapies (e.g. a meta-analytic review by Martin, Garske, & Davis, 2000, showed an overall weighted alliance-outcome correlation of .22) (See Crits-Christoph et al., 2013, p.301-308, for a detailed summary of process-outcome research relating to relationship factors). However, there is a lack of evidence of mediation and mechanisms of change in general, and few studies include non-treatment specific mediators, such as alliance (Wampold & Imel, 2015). Despite meta-analytic data indicating alliance correlates with outcome, there is limited data

establishing alliance as a mechanism of change (Barber, Khalsa, & Sharpless, 2010), so more research is required to establish the Contextual Model as a meaningful alternative model of change.

In summary, in the Contextual Model the first pathway of change is the relationship between a therapist and client (Laska et al., 2014; Wampold, 2015). The other two pathways of change are the client's expectations that treatment is going to work, and the specific ingredients in an approach that generate action towards healthy activities and behaviours in the client. However, a strong relationship between the client and therapist is required for all three pathways of change. Therefore, the relationship is the key common factor. Current research evidence in psychotherapy process-outcome studies suggests the relationship between a therapist and client is important across a range of psychotherapy treatments. However, further research into the processes of change in psychotherapy is required to establish if the hypothesised pathways of change in the Contextual Model are supported by evidence, and if they can be shown to be mechanisms of change in psychotherapy interventions.

3.9 Evaluation of Common Factors as Processes of Change in Coaching

Some coaching researchers have argued that the CF approach is useful for moving forward an understanding of the processes of change in coaching (e.g. De Haan & Duckworth, 2012; McKenna & Davis, 2009; Stober & Grant, 2006a). Not all coaching research into common factors has used the Contextual Model explicitly: However, to remain theory-driven, subsequent discussion in this chapter will focus on research that has tested the three pathways of change in the Contextual Model, (1) the coaching relationship (2) coachee's expectations of coaching, and (3) theory-specific actions of the coaching approach. The key methodological considerations are the design of the study, the quality of the measures used, and whether the study meets the recommendations for research into processes of change.

To date, five studies have investigated the coaching relationship as a mediator in coaching interventions (Baron & Morin, 2009; Boyce, Jackson, & Neal, 2010; De Haan, Duckworth, Birch, & Jones, 2013; De Haan, Grant, Burger, & Eriksson, 2016; Sonesh, Coultas, Marlow, et al., 2015). Four studies used the Working Alliance Inventory (WAI; Horvath & Greenberg, 1989) to measure the coaching relationship (Baron & Morin, 2009; De Haan et al., 2013; De Haan et al., 2016; Sonesh, Coultas, Marlow, et al., 2015).

Baron & Morin (2009) tested the mediation effects of working alliance for increases in coachee self-efficacy using a pre-post (8-months) design with a sample of 73 managers in a North American manufacturing company. A within-subjects hierarchical regression analysis indicated that working alliance mediates the increase in coachees' self-efficacy resulting from a greater number of coaching sessions received. De Haan et al. (2013) conducted mediated regressions on cross-sectional data from a convenience sample of 156 executive coaching coach-coachee pairs. The analysis showed working alliance mediated higher coachee self-efficacy associated with their perception of coaching effectiveness, and partially mediated greater range of coach technique associated with higher perceived coaching effectiveness.

Sonesh, Coultas, Marlow, et al. (2015) conducted mediated regressions on cross-sectional data from two samples: 44 MBA students in a US university, and a convenience sample of 89 leadership coaching coach-coachee pairs. Results from the student sample showed stronger working alliance partially mediated higher coachee insight associated with the coach engaging in more regulating motivation behaviours (e.g. giving coachees homework between sessions); and stronger working alliance partially mediated higher coachee insight associated with higher coachee motivation. No significant mediation effects were shown in the leadership coaching pairs sample. De Haan et al. (2016) conducted mediated regressions on cross-sectional data from a

convenience sample of 1,895 executive coaching coach-coachee pairs, and again found that working alliance mediated higher coachee self-efficacy associated with sponsor-rated coaching effectiveness.

In terms of a methodological evaluation of these four studies, none used random allocation or a control condition. One study took measures over time (pre- and post; Baron & Morin, 2009), but took only one measure of working alliance at the post-intervention time point. There was limited standardisation of the coaching intervention in one study (Baron & Morin, 2009), and no standardisation of coaching in the other three studies (De Haan et al., 2013; De Haan et al., 2016; Sonesh, Coultas, Marlow, et al., 2015). The methodological issues in these studies mean results should be generalised with care. In terms of the recommendations for research into mediators and mechanisms of change, these studies did not establish a timeline of change in the mediator and outcome variables, or use an appropriate design to determine causal relationships. Nor did they attempt to manipulate the proposed mediator. Therefore, these studies offer weak support for working alliance as a mediator of coaching outcomes despite large sample sizes in two studies (De Haan et al., 2013; De Haan et al., 2016).

The fourth study investigating the coaching relationship as a mediator in coaching interventions used a different measure of the coaching relationship to the WAI (Boyce et al., 2010). This study tested whether the coaching relationship influences the impact of coach and coachee match criteria (i.e. commonality, compatibility, and credibility) and coaching outcomes (i.e. coachee satisfaction with the coaching, leadership performance, and programme outcomes). In this study the coaching relationship was measured as three relationship processes: Trust, rapport and commitment. Senior leaders on a leadership development programme coached 74 undergraduate cadets in a US military academy. Within-subjects mediated regression

analysis showed that trust, rapport, and commitment mediated the relationship between coach-client compatibility and coachee rating of coaching satisfaction, and the relationships between coach credibility and coaching outcomes (i.e. coaching satisfaction, leadership performance, and coachee rating of the programme). However, this study had a number of methodological issues. The study randomly allocated participants to be either matched or non-matched with coaches, but no other control conditions were used. No validated measures were used in the study. The analysis used measures of variables taken post-intervention, so no timeline of change can be established, and no standardisation of the intervention is reported in the study.

The two other pathways in the Contextual Model have had little exploration in the coaching literature to date. In relation to the second pathway, no studies in the existing coaching research literature have investigated the coachee's expectations of coaching as a mediator of coaching outcomes, and no placebo studies have been conducted. In relation to the third pathway, where studies have looked at theoretically derived mediators in coaching, no research has compared whether some theory-specific actions are more effective than others, or whether theory-specific actions are related to the coaching relationship as predicted by the Contextual Model. Indeed, Wampold and Imel (2015) discuss the ongoing challenges of how these pathways can be best explored within the psychotherapy literature, which is of a greater level of sophistication to the coaching literature at present.

In summary, there is currently little evidence supporting either theory-specific or common factors explanations of change in coaching interventions. Best practice from clinical research methods can be used to develop the literature of processes of change in coaching. Establishing mediators and mechanisms in coaching would be a particularly valuable area for future research to focus on. By investigating mediators in coaching interventions, researchers can establish how coaching works, and why it

is effective. Ideally, studies should include more than one potential mediator variable to be able to compare the effects of different plausible mediators. This allows research to explore different explanations of the processes through which coaching generates change, i.e. are processes of change theory-specific or are they generalisable across coaching approaches.

Chapter 4: An ACT-Informed Approach to Coaching

4.1 The Case for an ACT-Informed Approach to Coaching

Having examined the four main limitations in the current coaching evidence base, this thesis argues that an investigation of ACT-informed coaching, an under-researched acceptance- and mindfulness-based coaching approach, offers an opportunity to address those limitations. This chapter outlines the theoretical and methodological strengths of research into ACT-informed coaching. Firstly, this chapter presents the main principles from ACT theory which inform ACT-based coaching. Secondly, this chapter summarises the research literature relevant to ACT-informed coaching. To date, there are no coaching-specific research studies investigating ACT-informed coaching. However, Grant (2016) suggests that rigorous coaching-related research (i.e. well-designed research that is not specific to coaching but can be used to inform coaching practice) can provide evidence for coaching, albeit in a weaker form to coaching-specific research. This chapter provides a summary of coaching-related ACT-informed intervention studies (i.e. studies exploring the impact of ACT-informed interventions on performance and development in work, career, and personal contexts), and examines the methodological rigour of this research against the methodological criteria outlined in Chapter 3.

4.2 The Theoretical Strengths of ACT-informed Coaching Research

The ACT approach is focused on activating behaviour in line with the values that an individual holds (Flaxman, Bond, & Livheim, 2013). This approach differs from traditional CBT approaches, in that the aim of ACT is not to change the occurrence or frequency of thoughts the individual finds difficult and challenging, but to change the way the individual relates to those thoughts (Flaxman et al., 2013). ACT is underpinned by a theory of human language and cognition called Relational

Frame Theory (RFT; Hayes, Barnes-Holmes, & Roche, 2001). (For a summary of RFT, refer to Hughes & Barnes-Holmes, 2016.) RFT suggests that human verbal and cognitive processes (e.g. being able to attribute qualities to an object not based on its physical characteristics) that facilitate cognitive outcomes such as problem solving (e.g. bank notes that have a representative financial value) can also mean individuals become desensitised to the direct consequences of their actions (e.g. an individual focusing on the accumulation of personal wealth despite a negative impact on their personal life).

ACT targets verbal and cognitive processes where the individual has become entangled in, or has a rigid focus on, thoughts or feelings (Hayes et al., 2011). ACT also targets verbal and cognitive processes where the individual is avoidant of certain experiences, especially when those experiences relate to something that brings meaning and purpose to the individual (Hayes et al., 2011). For example, an individual may experience self-doubt and fear of failure in relation to a goal that has great meaning or worth to them, such as gaining a promotion at work, and this doubt or fear can prevent the individual from performing at their best. ACT interventions employ experiential exercises, mindfulness exercises, and metaphors, specifically to avoid a verbal problem solving mode of thinking that might be generating psychological inflexibility in the individual's approach (Hayes et al., 2011).

Psychological flexibility is the core psychological process in ACT (Flaxman, et al., 2013). Psychological flexibility is defined as "… contacting the present moment as a conscious human being, fully and without needless defence … and persisting with or changing a behaviour in the service of chosen values" (Hayes et al., 2012, p.96-97). The ACT Model (shown in Figure 1) represents six inter-related processes that combine as psychological flexibility: Values, committed action,

present moment awareness, self-as-context, defusion, and acceptance (Hayes et al., 2012).

Present moment awareness
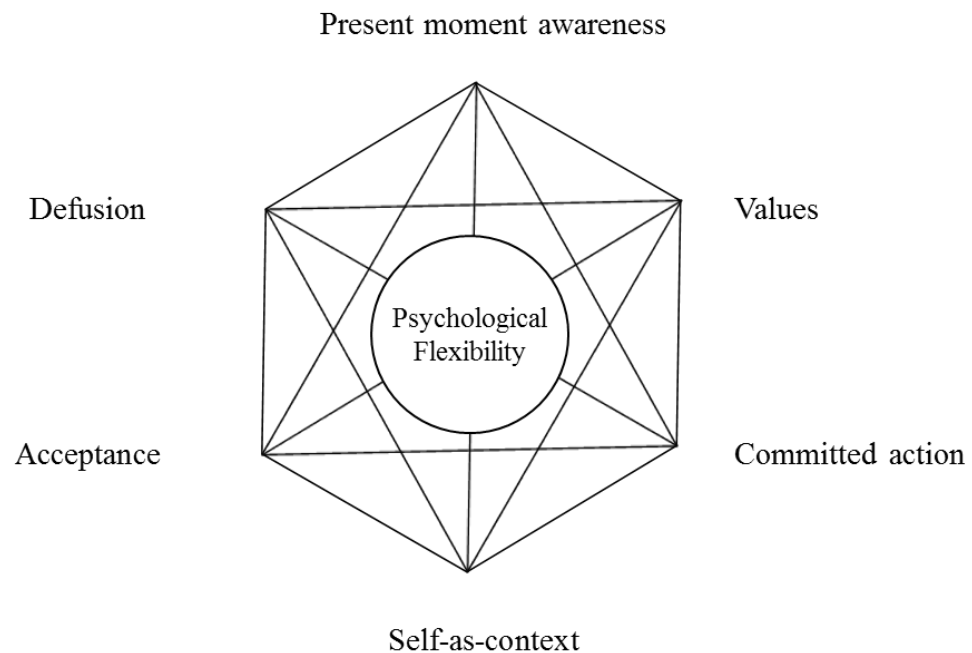
Figure 1 *The ACT Model*

Values are the connection individuals' make to deeply meaningful life actions (Hayes et al., 2012). By clarifying and connecting with values, individuals' can assess if their current behaviour is helpful in achieving outcomes that are meaningful to them. ACT has a strong focus on values, as they are motivational, and help individuals clarify what creates personal meaning and purpose for them (Hayes et al., 2012). To be motivational, values need to be freely chosen by the individual, rather than imposed by social norms (i.e. determined by what others think the individual should do). ACT interventions help individuals to clarify and construct their values, and determine directions in their life that will bring them meaning and purpose.

Committed action refers to "… a values-based action designed to create a pattern of action that is itself values based" (Hayes et al., 2012, p.95). Committed

action represents a continuing process of self-regulating behaviour to develop patterns of flexible and effective values-based action (Hayes et al., 2012). Committed action is the extension of values into action through setting values-based goals, and focusing on changing behaviour to be more values aligned (Hayes et al., 2012). ACT interventions help individuals to identify the values-aligned committed actions and goals they want to work towards.

Present moment awareness involves attending to what is present in the here and now, in a voluntary, focused, and flexible way (Hayes et al., 2012). Being able to pay attention to what is happening now can be important in order to remain flexible and focus most effectively on the best course of action in a given moment (Hayes et al., 2012). Being able to consciously move to a state of present moment awareness generates greater flexibility in an individual's ability to respond to events happening around them (Hayes et al., 2012). ACT interventions encourage individuals to practice noticing and redirecting their attention as a way of strengthening present moment awareness.

Often, our life experiences lead us to develop stories about who we are and the type of person we are, such as 'I am kind'. These narratives are referred to in ACT as self-as-story, or the conceptualised self. The conceptualised self can be problematic if individuals become strongly attached to these narratives, as this can lead to a distortion of events in order to fit the self-story, or a limited response to events happening around us (Hayes et al., 2012). The self-as-context perspective is where we notice the narrative we have about ourselves, and are able to observe our thoughts, feelings, and experiences (Hayes et al., 2012). Taking the self-as-context perspective allows individuals to identify unhelpful narratives that might be narrowing their responses to events around them; and increase their choice of response to those events. ACT interventions aim to help individuals to reduce their

attachment to the conceptualised self, and increase their self-as-context perspective so they have greater flexibility in responding.

Defusion processes aim to reduce the rigid attachment an individual might have to particular narratives, thoughts, or feelings (Hayes et al., 2012). Defusion processes alter how an individual relates to the thoughts they have (not the content of those thoughts) by helping individuals to notice how they are relating to the world and their experiences of it (Hayes et al., 2012). ACT interventions help individuals to defuse from difficult or challenging thoughts and feelings to increase their flexibility of responding to the events around them (Hayes et al., 2012).

Acceptance refers to an individual's willingness to experience the difficult or challenging thoughts or feelings they experience; especially when those thoughts or feelings are the result of taking committed action towards a valued goal (Hayes et al., 2012). ACT interventions aim to increase individuals' willingness to take action towards their valued goals in an open and flexible way, remaining in contact with the present moment, despite experiencing difficult or unpleasant thoughts, feelings, or sensations (Hayes et al., 2012).

The six processes of the ACT Model can be grouped into two sets of processes (1) commitment and behavioural activation processes, and (2) mindfulness and acceptance processes (Flaxman et al., 2013; Hayes et al., 2012). The commitment and behavioural activation processes include values, committed action, present moment awareness, and self-as-context. These processes are focused on encouraging individuals to engage in values-based action, and to notice their experiences when they do (Flaxman et al., 2013). Activities include defining values, mindfully engaging in values-based actions, and using values to guide behaviour. The mindfulness and acceptance processes are acceptance, defusion, present moment awareness, and self-as-context. Mindfulness processes have benefits in the workplace, such as facilitating

more effective use of personal and organisational resources, and enhancing safety culture, conflict resolution, creativity, and decision-making (Marianetti, Passmore, Linley, Harrington, & Garcea, 2010). Activities include training present moment awareness, noticing and untangling from internal barriers, and strengthening the self-as-context perspective (Flaxman et al., 2013).

In ACT, behavioural effectiveness and wellbeing are seen to be influenced by how individuals' relate to their thoughts and feelings (Flaxman, et al., 2013), and the extent to which their behaviours are values-led, i.e. how psychologically flexible individuals' are. A number of studies have investigated psychological flexibility as a predictor of performance and wellbeing outcomes in performance and development contexts. Bond and Bunce (2003) investigated whether psychological flexibility predicts psychological wellbeing, job satisfaction, and performance in a sample of UK call centre workers (N = 412). Results indicated that higher psychological flexibility predicted higher psychological wellbeing and performance one year on. These findings were replicated in two similar studies: In a cross-sectional study, Donaldson-Feilder and Bond (2004) found higher psychological flexibility predicted higher psychological and physical wellbeing in a sample of 290 UK workers; and Bond and Flaxman (2006) found that higher psychological flexibility predicted better learning of a new work skill after four weeks, and better job performance and higher psychological wellbeing after three months in a sample of UK call centre workers. McCracken and Yang (2008) conducted a cross-sectional analysis investigating the association between acceptance, mindfulness, and values-based action with stress, burnout, and wellbeing factors for 98 rehabilitation workers. Results indicated that higher acceptance, mindfulness, and values-based action predicted lower stress, and better health and wellbeing. Overall, the results from these studies indicate a positive

relationship between psychological flexibility, and wellbeing and performance

outcomes.

4.3 Coaching-related ACT Research

There are no published coaching-specific studies of ACT-informed coaching,

so we briefly summarise below the coaching-related evidence from ACT-informed

intervention studies that offer indirect support for an ACT-informed coaching

approach. This thesis is specifically interested in performance and development

coaching, where the coaching focuses on improving the coachee's performance and

developing the coachee's capacity for personal growth, in work, career, and personal

domains. Therefore, this discussion presents ACT-informed research conducted in the

context of performance and development in work, career, personal domains

specifically. In order to be consistent with the coaching-specific studies presented in

Chapter 2, we apply the same inclusion and exclusion criteria to ACT research, with

the aim of maximising the generalisability of the coaching-related research to

performance and development coaching. The discussion includes studies

investigating ACT in performance and development related outcomes, conducted in

work, career, and personal contexts. It excludes studies conducted in health-specific

contexts (e.g. Dahl, Wilson, & Nilsson, 2004) sport-specific contexts (e.g. Gardner &

Moore, 2004), and education-specific contexts. Studies at the skill development level

are also excluded (e.g. musical performance and competitive chess performance;

Juncos & Markman, 2016; Ruiz & Luciano, 2012).

After applying this inclusion criteria to the ACT evidence base, 14 ACT-

informed intervention studies have been identified as relevant to performance and

development coaching in work, career, and personal domains (Bethay, Wilson,

Schnetzer, Nassar, & Bordieri, 2013; Biglan, Layton, Jones, Hankins, & Rusby, 2013;

Bond & Bunce, 2000; Brinkborg, Michanek, Hesser, & Berglund, 2011; Burton,

Pakenham, & Brown, 2010; Hayes et al., 2004; Jeffcoat & Hayes, 2012; Lloyd, Bond,

& Flaxman, 2013, 2017; Luoma et al., 2007; Noone & Hastings, 2009, 2010;

Stafford-Brown & Pakenham, 2012; Varra, Hayes, Roget, & Fisher, 2008). A brief

summary of each study is provided below.

Bond and Bunce (2000) randomly allocated professionals in a UK media

organisation to an ACT group intervention (n = 30), an innovation promotion group

intervention (n = 30), or a waitlist control condition (n = 30). The ACT and

innovation promotion interventions were delivered as three 3-hour sessions over three

months. Findings indicated increased psychological wellbeing and propensity to

innovate in both intervention groups, with no change in the control group. There were

no changes in work motivation or satisfaction in any group in the study. Mediation

analyses showed changes in the ACT group were mediated by psychological

flexibility, and changes in the innovation promotion group were mediated by

modification of work methods, processes, and environment.

Hayes et al. (2004) randomly allocated certified drug and alcohol counsellors

to either an ACT group training intervention (n = 30), a multicultural training

intervention (n = 34), or an educational control condition (n = 29). All conditions

were delivered as a 1-day (6-hour) session. Findings indicated decreased stigmatising

attitudes towards clients, burnout, and believability of stigmatising attitudes in both

intervention groups, with no change in the control group. There were no changes in

personal accomplishment in the intervention groups, but a decrease in

accomplishment in the control group post-intervention. Mediation analyses showed

changes in the ACT group were mediated by the believability of stigmatising

attitudes, but not in the multicultural training group.

Luoma et al. (2007) randomly allocated drug addiction counsellors who were

learning a new approach to group drug counselling to either the training alone (n =

13) or training with eight 90-minute ACT-informed consultation sessions (n = 14). The ACT-informed intervention encouraged counsellors to focus on overcoming the psychological barriers to implementing the new group drug counselling approach. Results indicated that individuals in the ACT consultation group had significantly higher adoption of the new approach, and a higher sense of personal accomplishment than those who received no ACT intervention.

Varra et al. (2008) randomly assigned drug and alcohol counsellors to either a 1-day ACT workshop (n = 30) or an educational control workshop (n = 29) to support counsellors use of evidence-based pharmacotherapy for substance abuse. Results indicated the ACT group reported higher willingness to refer to pharmacotherapy, higher actual referral rates, reduced believability of barriers to referral, and higher psychological flexibility. Mediation analysis showed higher psychological flexibility and lower believability of barriers mediated the change in willingness to refer and actual referral rates.

Noone and Hastings (2009, 2010) explored the impact of an ACT intervention focused on the promotion of acceptance with carers and teachers. An initial within-subjects study delivered a 1-day intervention and follow-up half-day session to 14 support staff for individuals with intellectual disability. Results indicated an increase in wellbeing, but no significant change in participants' perceptions of work-related stress. Findings from this initial study were replicated with an additional 20 support staff for individuals with intellectual disability in the same organisation, resulting in a final analysis of 34 participants across the two studies.

Burton et al. (2010) investigated whether an ACT intervention would help increase psychosocial wellbeing in 16 administrative staff at an Australian University. The intervention consisted of 11 sessions of 2-hour group training over 13 weeks. A within-subjects pre- and post-intervention analysis indicated increased mastery,

positive emotions, personal growth, mindfulness, acceptance, self-acceptance, valued living autonomy, and cholesterol, and decreased stress.

Brinkborg et al. (2011) used baseline measures of perceived stress to divide Swedish social workers into higher-stress and lower-stress groups, then randomly allocated then to either an ACT group intervention (n = 70), or a waitlist control condition (n = 36). The ACT intervention was delivered as four 3-hour sessions over eight weeks, with measures taken pre- and post-intervention. Findings indicated the ACT group had higher psychological wellbeing, and lower perceived stress and burnout, post-intervention than the control group. There were no changes in performance-based self-esteem, perceived demands, perceived control, or psychological flexibility following the intervention. Greater effects were observed for the higher-stress participant group.

Jeffcoat and Hayes (2012) randomly allocated US school district staff to either an ACT bibliotherapy intervention (n = 121), or a waitlist control condition (n = 115). Participants were given eight weeks to read an ACT workbook, and asked to complete six online quizzes to encourage their engagement with the intervention. Results showed increased psychological wellbeing, psychological flexibility and mindfulness, and reduced depression, anxiety and stress following the intervention. Psychological flexibility was shown to predict changes in psychological wellbeing.

Stafford-Brown and Pakenham (2012) non-randomly allocated clinical psychology trainees to either four 3-hour ACT-informed group intervention sessions (*n* = 28) or a waitlist control condition (*n* = 28). Results indicated that the ACT group reported lower professional doubt and psychological distress, higher self-efficacy and self-compassion, and a stronger bond with clients than the control group. The study also found the ACT group reported higher psychological flexibility, higher mindfulness, greater valued living, and lower thought suppression than the control

group. Mediation analyses indicated that mindfulness mediated decreases in psychological distress, psychological flexibility mediated increases in self-compassion, and both mindfulness and psychological flexibility mediated increases in self-efficacy.

Bethay et al. (2013) randomly allocated staff in a US state-funded residential facility for individuals with intellectual disabilities to either an ACT group intervention with applied behavioural analysis (ABA) (n = 20) or ABA alone (n = 18). The ACT+ABA and ABA interventions were both delivered as three weekly 3-hour sessions. Findings indicated no significant change in general mental health or burnout in either group over time or between the groups. However subsequent exploratory analyses indicated participants who reported consistently using techniques reported significantly increased general mental health relative to the control group. Additionally, participants with high baseline psychological distress showed greater improvements in general mental health and the believability of burnout thoughts.

Biglan et al. (2013) randomly allocated early childhood special education staff to either two 3.5-hour ACT-informed group intervention sessions ($n = 23$) or a waitlist control condition ($n = 19$). Findings indicated that the ACT intervention resulted in reduced stress, increased teaching self-efficacy, and increased mindfulness. Qualitative data indicated that the ACT intervention facilitated a supportive environment, working cooperatively, giving and receiving feedback, and embracing innovation.

Lloyd et al. (2013) randomly allocated customer-facing employees of a large UK governmental department to an ACT group intervention (n = 43) or a waitlist control condition (n = 57). The ACT intervention was delivered as three 3-hour sessions; the first two sessions on consecutive weeks, and the final session two

months later. Findings indicated increased psychological flexibility and psychological wellbeing, and decreased emotional exhaustion and depersonalisation in the ACT group compared to the control group. Mediation analyses showed that increases in psychological flexibility mediated decreases in emotional exhaustion, and decreases in emotional exhaustion buffered participants in the ACT group against increases in depersonalisation. The findings from this study were included in a subsequent analysis (Lloyd et al., 2017) which replicated these findings with additional participants from another RCT study. The aim of this subsequent study was to demonstrate the moderation effects of work-related self-efficacy and intrinsic work motivation. Results indicated that the greatest gains were made by participants with low work-related self-efficacy and high intrinsic work motivation at baseline.

Taken together, the findings from this research show the effectiveness of ACT-informed interventions in generating change in coaching-related outcomes. Findings across these studies indicate that participation in an ACT intervention increases performance-related outcomes such as propensity to innovate, adoption of new work practices, and mastery. Findings in wellbeing-related outcomes across these studies include increases in positive emotion, and personal growth, and decreases in depression, anxiety, stress, burnout, and cholesterol levels. Findings across these studies indicate participation in ACT interventions increases individuals' ability to cope with the demands and stressors they experience. This includes increased self-efficacy, mindfulness, self-compassion, acceptance, valued living, and psychological flexibility, and decreased thought suppression and believability of unhelpful thoughts. Findings across these studies indicate that ACT interventions can improve participants attitudes, for example by increasing personal accomplishment, decreasing professional doubt, and improving counsellors attitudes towards their clients.

4.4 Methodological Evaluation of Coaching-related ACT-informed Intervention Studies

ACT has a research tradition that focuses on methodologically sound intervention studies conducted with a variety of populations, including both clinical and non-clinical samples (in 2011, over 50 ACT research studies had been conducted, and around 30 of these were RCTs; Hayes et al., 2011). (See A-Tjak et al., 2015, for a summary of ACT intervention studies investigating clinically relevant mental and physical health outcomes). Having provided a summary of the current coaching-related ACT-informed intervention studies, we now consider the methodological quality of these studies in relation to the recommended criteria for methodically rigorous coaching-specific studies, specifically (a) the methodological rigour in research design, (b) the methodological rigour in outcomes and measures used in research studies, and (c) an investigation of processes of change in study interventions.

Methodological rigour in research design. The five recommended criteria for methodological rigour in research design in coaching intervention studies are (1) randomised allocation of participants to conditions, (2) allocation to a control condition, or an alternative intervention condition, (3) evaluation of participant responses over time, (4) standardisation of the intervention, and (5) use of a sample generalisable to the population and environment of interest. In the inclusion criteria applied to the ACT-informed evidence, we have already selected studies that are generalisable to performance and development coaching contexts in work, career, and personal domains. We now present a summary of the coaching-related ACT-informed research studies in relation to the other four methodological criteria.

Of the 14 ACT-informed intervention studies, 10 are randomised controlled trials (Bethay et al., 2013; Biglan et al., 2013; Bond & Bunce, 2000; Brinkborg et al.,

2011; Hayes et al., 2004; Jeffcoat & Hayes, 2012; Luoma et al., 2007; Lloyd et al., 2013, 2017; Varra et al., 2008). Of the remaining studies, one allocated participants non-randomly (Stafford-Brown & Pakenham, 2012), and three used a within-subjects design (Noone & Hastings, 2009, 2010; Burton et al., 2010). Of the between-subjects studies, Jeffcoat and Hayes (2012) and Lloyd et al. (2017) had samples sizes greater than the recommended size for adequate statistical power (64 participants for ANOVA with two groups; 52 participants for ANOVA with three groups; and 45 participants for ANOVA with four groups; as outlined in Cohen, 1988). This indicates that the majority of coaching-relevant ACT intervention studies used random assignment. However, as with coaching studies, overall there seems to be a challenge in getting large enough samples to meet the criteria outlined by Cohen (1988).

Of the 11 ACT-informed intervention studies that used a between-subjects design, six compared the ACT intervention group to a waitlist control condition (Biglan et al., 2013; Brinkborg et al., 2011; Jeffcoat & Hayes, 2012; Lloyd et al., 2013, 2017; Stafford-Brown & Pakenham, 2012). Of the remaining five, one used an educational control condition as a control (Varra et al., 2008), and two omitted ACT from a combined intervention (training alone in Luoma et al., 2007; ABA alone in Bethay et al., 2013). The remaining two studies included three conditions: An ACT intervention condition, a waitlist control condition, and a comparable non-ACT condition (innovation promotion in Bond & Bunce, 2000; multicultural training in Hayes et al., 2004).

Of the 14 coaching-relevant ACT-informed intervention studies, four collected data pre- and post-intervention (Brinkborg et al., 2011; Burton et al., 2010; Noone & Hastings, 2009, 2010), and five collected data pre-, post-, and at a follow up point (Bethay et al., 2013; Hayes et al., 2004; Luoma et al., 2007; Stafford-Brown &

Pakenham, 2012; Varra et al., 2008). The remaining five studies measured participant responses at four time points. Bond and Bunce (2000) took measures before each of the three ACT sessions and then 3 months after the final workshop. Lloyd et al. (2013, 2017) took measures before each of the three ACT sessions and then six months after the final workshop. Biglan et al. (2013) took measures at four time points, however the control condition received the intervention after Time 2, meaning only two time points compared the intervention group to the waitlist control. This is a less robust design, but does allow some conclusions to be drawn from the patterns of change in study variables. Jeffcoat and Hayes (2012) took measures pre- and post-intervention, and at 10-weeks follow up for both groups. They then administered the intervention to the control group and assessed the control group post-intervention at a final time point. This allowed the researchers to replicate the findings from the main analysis with the control group. In sum, all coaching-related ACT-informed intervention studies measured participant responses over time, with the majority taking measures at three time points or more.

Of the 14 ACT-informed coaching-relevant research studies, 13 studies reported using a standardised intervention and provided details of the components of the intervention, or references to protocols used (Bethay et al., 2013; Biglan et al., 2013; Bond & Bunce, 2000; Brinkborg et al., 2011; Burton et al., 2010; Hayes et al., 2004; Jeffcoat & Hayes, 2012; Lloyd et al., 2013, 2017; Noone & Hastings, 2009, 2010; Stafford-Brown & Pakenham, 2012; Varra et al., 2008). However, one study reported using a standardised intervention, but did not provide sufficient detail on the content of the intervention for replication (Luoma et al., 2007).

In summary, the quality of coaching-related ACT-informed intervention studies in relation to the study design criteria recommended for coaching-specific research was good, and generally higher than the coaching-specific research studies

reviewed in Chapter 3. Of the 14 ACT-informed studies, 10 met all five of the criteria (Bethay et al., 2013; Biglan et al., 2013; Bond & Bunce, 2000; Brinkborg et al., 2011; Hayes et al., 2004; Jeffcoat & Hayes, 2012; Lloyd et al., 2013, 2017; Luoma et al., 2007; Varra et al., 2008), one met four of the criteria (Stafford-Brown & Pakenham, 2012), and three met three of the criteria (Burton et al., 2010; Noone & Hastings, 2009, 2010).

Consistency and rigour in outcomes measured in research studies.

Coaching-related ACT-informed intervention studies will now be evaluated against the recommended criteria for rigorous measurement of outcomes in coaching studies. The two criteria are (1) consistency in the criteria of assessment, and (2) rigour in the form of assessment used. Turning first to the criteria of assessment, ACT-informed research commonly includes psychological flexibility (the core outcome and process of change variable in ACT interventions) as a variable in research studies. Of the 14 ACT-informed coaching-related studies, nine included psychological flexibility as a study variable (Biglan et al., 2013; Bond & Bunce, 2000; Brinkborg et al., 2011; Burton et al., 2010; Jeffcoat & Hayes, 2012; Lloyd et al., 2013, 2017; Stafford-Brown & Pakenham, 2012; Varra et al., 2008). All nine studies that included psychological flexibility used validated versions of the Acceptance and Action Questionnaire (e.g. Bond et al., 2011; Bond, Lloyd, & Guenole, 2013) to measure psychological flexibility. The AAQ is designed to measure the extent to which an individual exhibits psychological flexibility, and is considered appropriate for a range of contexts, including work contexts (Ciarrochi, Bilich, & Godsell, 2010). A short-form of the AAQ offers brevity and ease of use to researchers (AAQ-II; Bond et al., 2011), and a work-specific adaptation of the AAQ can be used for studies in work-related contexts (WAAQ; Bond et al., 2013).

Other commonly measured ACT-related outcomes in the coaching-related ACT intervention studies are mindfulness (Biglan et al., 2013; Burton et al., 2010; Jeffcoat & Hayes, 2012; Stafford-Brown & Pakenham, 2012), values-related outcomes (Biglan et al., 2013; Burton et al., 2010; Stafford-Brown & Pakenham, 2012), and thought suppression (Stafford-Brown & Pakenham, 2012) or the believability of thoughts (Bethay et al., 2013; Hayes et al., 2004; Varra et al., 2008). There are two other measures used consistently in the coaching-related ACT-informed intervention studies that are of note. Both are measures of wellbeing. The first is the General Health Questionnaire (GHQ-12; Goldberg, 1992). This measure was used in eight of the 14 studies (Bethay et al., 2013; Bond & Bunce, 2000; Brinkborg et al., 2011; Jeffcoat & Hayes, 2012; Lloyd et al., 2013, 2017; Noone & Hastings, 2009, 2010). The second is the Maslach Burnout Inventory (MBI; Maslach, Jackson, & Leiter, 1996). This was used in seven of the 14 studies (Bethay et al., 2013; Biglan et al., 2013; Brinkborg et al., 2011; Hayes et al., 2004; Lloyd et al., 2013, 2017; Luoma et al., 2007).

Overall, there is greater consistency in the outcomes measured in the coaching-related ACT intervention studies than in the current coaching evidence base. Most studies include a measure of psychological flexibility, and many include other ACT-related outcomes, such as mindfulness. These studies also commonly include two particular wellbeing measures that are not specific to ACT; the GHQ and the MBI.

Turning next to the form of assessments used, of the 14 coaching-related ACT-informed intervention studies, 11 used validated, published measures for all study outcomes (Bethay et al., 2013; Biglan et al., 2013; Bond & Bunce, 2000; Brinkborg et al., 2011; Burton et al., 2010; Jeffcoat & Hayes, 2012; Lloyd et al., 2013, 2017; Noone & Hastings, 2009, 2010; Stafford-Brown & Pakenham, 2012).The

remaining three studies used a mix of validated and non-validated measures: Hayes et al. (2004) constructed a measure of the believability of stigmatising attitudes for the study, as no existing measure was available; Luoma et al. (2007) developed a study-specific self-report measure of the adoption of a new work practice (group drug counselling) by counsellors as a result of the ACT intervention; Varra et al., (2008) used a non-validated measure of the believability of barriers to adopting new treatments.

Of the 14 coaching-related ACT-informed intervention studies, 13 used self-report measures only (Bethay et al., 2013; Biglan et al., 2013; Bond & Bunce, 2000; Brinkborg et al., 2011; Hayes et al., 2004; Jeffcoat & Hayes, 2012; Lloyd et al., 2013, 2017; Luoma et al., 2007; Noone & Hastings, 2009, 2010; Stafford-Brown & Pakenham, 2012; Varra et al., 2008). One of these studies combined quantitative self-report measures and a qualitative investigation of the intervention's impact (Biglan et al., 2013), and the rest used all quantitative self-report measures. One study used a combination of self-report measures and object measures (measuring physical activity, body mass index, and haematological data; Burton et al., 2010).

In summary, the quality of coaching-related ACT-informed intervention studies in relation to the outcome measurement criteria recommended for coaching-specific research was good. Of the 14 ACT-informed studies, nine studies used a validated measure of psychological flexibility. There was greater consistency overall in the outcomes and measures used in the coaching-related ACT-informed intervention studies than in the current coaching-specific evidence base. Of the 14 ACT-informed studies, 11 used validated measures for all study outcomes, and three used a combination of validated and study-specific measures. As discussed above, all studies took repeated measures of all study variables at different time points allowing researchers to determine changes in these variables over time. However, a possible

weakness across these studies is that most used only self-report measures. Only one study used a combination of self-report measures and objective data, and no studies used independent ratings of employees.

Processes of change in ACT. The ACT research tradition has not only focused on the effectiveness of interventions, but has also stressed the importance of understanding processes of change that account for empirically significant outcomes. This is because the aim of ACT research is not just to understand if ACT interventions work, but also to explore functionally relevant pathways of behaviour change (Hayes et al., 2012). The core process of change in ACT interventions is psychological flexibility. (See Ciarrochi et al., 2010, for a summary of evidence for psychological flexibility as a mediator of ACT outcomes.)

The moderating effects of psychological flexibility in performance and development contexts has been shown in two studies. Biron and van Veldhoven (2012) found higher psychological flexibility predicted lower emotional exhaustion in a sample of 170 UK not-for-profit service workers. Results also indicated that higher psychological flexibility moderated the negative impact of emotional job demands on emotional exhaustion. These findings were replicated and extended by Onwezen, van Veldhoven, & Biron (2014), who found that higher psychological flexibility predicted lower emotional exhaustion and higher performance in a sample of 116 not-for-profit service workers. These findings indicated higher psychological flexibility buffered the impact of emotional job demands on emotional exhaustion and performance (though this effect disappears if emotional job demands are excessive). The results from these studies suggest increasing psychological flexibility could have a positive effect on emotional exhaustion and performance in jobs with high (but not excessive) emotional job demands.

Of the 14 coaching-related ACT-informed intervention studies, five included a mediation analysis (Bond & Bunce, 2000; Hayes et al., 2004; Lloyd, et al., 2013; Stafford-Brown & Pakenham, 2012; Varra et al., 2008); and of these, four investigated psychological flexibility as a mediator (Bond & Bunce, 2000; Lloyd, et al., 2013; Stafford-Brown & Pakenham, 2012; Varra et al., 2008). Bond and Bunce (2000) found that psychological flexibility mediated the positive impact of an ACT-informed stress management intervention on mental health outcomes. The same study found the positive impact of a non-ACT-informed intervention (an Innovation Promotion Programme) on mental health outcomes was mediated through a different process (work change). Varra et al. (2008) found that increased psychological flexibility and reduced believability of psychological barriers both mediated the positive impact of an ACT-informed intervention on counsellors' willingness to refer, and actual referral rates, of clients to a pharmacotherapy treatment.

Stafford-Brown and Pakenham (2012) found that psychological flexibility and mindfulness mediated the positive impact of an ACT-informed stress management intervention on study outcomes: Mindfulness mediated the decrease in psychological distress; psychological flexibility mediated the increase in self-compassion; and both mindfulness and psychological flexibility mediated the increase in self-efficacy. Lloyd et al. (2013) found that psychological flexibility mediated reductions in emotional exhaustion, which had a subsequent buffering effect on increases in depersonalisation observed in the control group.

The only study that included a mediation analysis but did not explore psychological flexibility as a mediator, looked instead at the role of the believability of unhelpful thoughts in changes resulting from an ACT intervention. Hayes et al. (2004) found that reduced believability of stigmatising attitudes mediated reduced

stigmatising attitudes and burnout in the ACT group, but not in the multicultural training group.

The ACT-informed coaching-related literature will now be evaluated against the six recommended criteria for investigating processes of change in coaching studies. The criteria are (1) to use theory to identify potential mediators, (2) include measures for more than one mediator in the study, (3) use an RCT design, (4) take repeated measures to establish a timeline of change for proposed mediators and outcomes, (5) manipulate the potential mediator of interest, (6) comparability of results across studies to support the plausibility of the mediator as a process of change.

Of the five coaching-related ACT-informed intervention studies that included a mediation analysis, all used theory-derived mediator variables, and three included more than one mediator variable (Lloyd, et al., 2013; Stafford-Brown & Pakenham, 2012; Varra et al., 2008). Of the five studies, four used an RCT design (Bond & Bunce, 2000; Hayes et al., 2004; Lloyd, et al., 2013; Varra et al., 2008). All five studies took repeated measures of study variables over time, and used interventions designed to manipulate the mediator variable of interest. In sum, in relation to the first five criteria two studies met all five (Lloyd, et al., 2013; Varra et al., 2008), and the remaining three met four (Bond & Bunce, 2000; Hayes et al., 2004; Stafford-Brown & Pakenham, 2012). As these studies consistently used psychological flexibility as a mediator, and used a consistent validated measure of psychological flexibility, the results are comparable, meaning overall they meet the sixth criterion. This provides good evidence for the plausibility of psychological flexibility as a process of change in ACT-informed interventions.

4.5 Testing an ACT-informed Approach to Coaching

The current project aims to test an ACT-informed approach to coaching. Acceptance- and commitment-based coaching approaches are under-researched, and ACT-informed coaching offers both theoretical and methodological strengths. ACT has a strong theoretical underpinning and the research evidence suggests ACT interventions are effective in increasing performance-related and wellbeing outcomes, as well as other beneficial outcomes such as improving individuals' coping skills and attitudinal outcomes. A coaching intervention informed by ACT theory is likely to generate change in these outcomes. ACT-informed coaching interventions will aim to increase coachees' psychological flexibility using the six processes in the ACT model. Firstly, by helping coachees identify their values and take committed action towards those values. Secondly, by using mindfulness exercises that will help coachees to enhance present moment awareness, and experience their self-as-context perspective. Finally, by helping coachees learn how to defuse from unhelpful thoughts, feelings and sensations. This will increase their acceptance of, and willingness to experience, the unhelpful experiences that may result from taking committed action.

ACT has a strong empirical research tradition. The methodologically rigorous coaching-related ACT intervention studies provide replicable research designs which coaching research can benefit from. The current project aims to conduct a randomised controlled trial of ACT-informed performance and development coaching, taking into account the framework of methodological considerations outlined for future coaching research. Design considerations include using random allocation, adequate sample sizes based on study design, and taking measures at multiple time points throughout the study. The coaching intervention will be standardised and reported in sufficient detail for replication of the study. Measurement considerations include using a

framework of coaching outcomes to determine the outcomes included in the study, and measuring psychological flexibility to determine if ACT-informed coaching increases psychological flexibility, in line with ACT theory. The study will use a combination of valid, replicable self-report measures, and independent ratings of individuals.

ACT theory provides a clear explanation of the process of change in ACT interventions, namely psychological flexibility as a mediator of the impact of ACT interventions. The methodologically rigorous coaching-related ACT intervention studies that include a mediation analysis provide sound evidence of psychological flexibility as a mediator in coaching-related outcomes. The current project aims to explore psychological flexibility as a theoretically derived mediator in ACT-informed coaching. Additionally, this project aims to compare psychological flexibility with another plausible mediator derived from the contextual model (i.e. the alliance).

Each of the studies in this project will hypothesise that ACT-informed coaching will lead to significant increases in study outcomes such as performance, mental health, self-efficacy, satisfaction, motivation, goal-directed thinking, and goal attainment. Studies will also hypothesise that ACT-informed coaching will lead to significant increases in psychological flexibility, and that increases in psychological flexibility that result from the ACT-informed coaching will account for, or mediate, the increases in outcomes such as performance, mental health, self-efficacy, satisfaction, motivation, goal-directed thinking, and goal attainment.

Chapter 5: Testing the Impact of an ACT-Informed Coaching Intervention:

A Preliminary Study

Abstract

Recent coaching meta-research has identified the need for more coaching impact and outcome studies to use theoretically underpinned interventions. ACT is an emerging acceptance- and mindfulness-based CBT that is currently under-researched as a theory-driven approach in coaching. This within-subjects repeated measures study tested the impact of a brief ACT-informed coaching intervention on coachee general mental health, generalised self-efficacy, life satisfaction, situational intrinsic motivation, goal-directed thinking, goal attainment, and psychological flexibility. A convenience sample of UK adults ($N = 53$) took part in a brief ACT-informed coaching session. Data were collected at baseline (Time 1), immediately after the coaching session (Time 2), one week after the coaching session (Time 3), and one month after the coaching session (Time 4). Analyses indicated significant increases in general mental health between T1 to T4; significant increases in life satisfaction between T1 to T2, and T1 to T4; significant increases in goal-directed thinking between T1 to T2, and T1 to T4; and significant increases in goal attainment between T2 to T3, T2 to T4, and T3 to T4. There was an significant main effect for generalised self-efficacy, but no significant increases were shown at any specific time intervals. There were initial increases in situational intrinsic motivation, but these were not enduring. Further research is required to replicate these findings using a robust randomised controlled trial design with a more substantial coaching intervention. Future studies should also test theoretically derived processes of change in ACT-informed coaching.

Introduction

Researchers have argued for the importance of coaching taking an evidence-based approach to practice and research (e.g. Briner, 2012; Grant & Cavanagh, 2007). The coaching evidence base has gone through a number of broad phases of development; from conceptual papers and case studies, to qualitative research, and quantitative studies exploring the impact of coaching interventions (Passmore & Theeboom, 2015). The most recent phase of development relates to the publication of meta-research summarising the state of the current coaching evidence base. A key issue identified by coaching meta-research is a lack of theoretical underpinning in coaching research approaches and interventions (Blackman, et al., 2016; Jones et al., 2016; Sonesh, Coultas, Lacerenza, et al., 2015; Theeboom et al., 2014).

The theoretical underpinning of coaching approaches used in coaching research is important; theory provides the explanation for characteristics and relationships observed in the data (Whetten, 1989). There are two main benefits to theory-driven research. Firstly, theoretically derived interventions can be targeted at specific behavioural determinants (i.e. factors a theory suggests are processes of change; Michie et al., 2008). Secondly, a theory can be tested and developed by evaluating the intervention, resulting in a better understanding of what works and why (Michie et al., 2008). In short, the theory underpinning coaching interventions identifies the behaviours to target and how best to target them, and facilitates the evaluation of the effectiveness of a coaching intervention.

An ACT-Informed Coaching Approach

ACT is an emerging acceptance- and mindfulness-based CBT that offers a theoretically informed approach to coaching, based on the six processes in the ACT Model (Hayes et al., 2012). ACT is currently under-researched in coaching, with no studies of ACT-informed coaching interventions published to date. Findings from

coaching-related (i.e. research that is not specific to coaching but can be used to inform coaching practice; Grant, 2016) ACT-informed studies suggest an ACT-informed coaching intervention could be effective in performance and development contexts in work, career, and personal domains. However, stronger, coaching-specific research is required to establish the effectiveness of an ACT-informed coaching approach.

ACT-informed coaching interventions are theoretically underpinned by the ACT Model. The ACT Model consists of six processes: Values, committed action, present moment awareness, self-as-context, defusion, and acceptance (Hayes et al., 2012). Although these processes are conceptually independent, they are deeply interlinked, and unify in the concept of psychological flexibility. Psychological flexibility is defined as "… contacting the present moment as a conscious human being, fully and without needless defence … and persisting with or changing a behaviour in the service of chosen values" (Hayes et al., 2012, p.96-97). ACT aims to increase individuals' psychological flexibility, to increase the range of their behavioural responses to life events, and connect them with values that bring them meaning and purpose (Hayes et al., 2012).

This study aims to act as a preliminary investigation into the effectiveness of ACT-informed coaching interventions. This study uses a brief coaching intervention informed by the ACT Model which is designed to increase coachees' psychological flexibility by increasing commitment and behavioural activation processes, and mindfulness and acceptance processes (Flaxman et al., 2013; Hayes et al., 2012). The commitment and behavioural activation processes include values, committed action, present moment awareness, and self-as-context (Flaxman et al., 2013). These processes are focused on encouraging individuals to engage in values-based action, and to notice their experiences when they do. Activities include defining values,

mindfully engaging in values-based actions, and using values to guide behaviour. The mindfulness and acceptance processes are acceptance, defusion, present moment awareness, and self-as-context (Flaxman et al., 2013). These processes are focused on encouraging individuals to defuse from difficult or unhelpful thoughts and feelings, and increase their willingness to experience challenging thoughts and feelings as they take values-based action. Activities include training present moment awareness, noticing and untangling from internal barriers, and strengthening the self-as-context perspective (Flaxman et al., 2013).

ACT-Informed Coaching and Coaching Research Outcomes

Recent meta-research identifies a diverse range of outcomes that have been used to evaluate the efficacy of coaching interventions in coaching research. The lack of common criteria for outcomes across coaching studies is a block to the development of a coherent coaching research literature (Smith et al., 2009). In order to homogenise the outcomes coaching researchers investigate, it has been suggested that coaching research use a broad conceptual framework of outcomes to identify study variables. At the time this study was conducted, Theeboom et al. (2014) had proposed the first framework of coaching outcomes. This framework is workplace coaching specific, and assigns all study outcomes to one of the following categories: Performance and skills, wellbeing, coping, work attitudes, or goal-directed self-regulation.

The performance and skills category is defined as "… measures that either directly reflect performance (e.g. number of sales, supervisory rated job performance) or reflect the demonstration of behaviours needed for an organisation to be effective (e.g. transformational leadership behaviours)" (Theeboom et al., 2014, p.4). This preliminary study evaluates an ACT-informed coaching intervention across work, career, and personal domains, rather than focusing on a work-specific context. The

performance and skills outcome category as defined here seems not to generalise to career and personal domains, as outcomes focus on work performance specifically and no indication of what this category relates to in general career or personal performance and development contexts is provided.

The other outcome categories in this framework also have work-specific definitions, but the studies included for these categories in the meta-analysis used general measures as well as work-specific ones. Therefore, we can generalise these categories across career and personal domains. As an illustration, the criteria of work attitude outcomes are defined as "cognitive, affective, and behavioural responses toward work and career, such as job satisfaction" (Theeboom et al., 2014, p.8), and two of the studies summarised in the meta-analysis used measures of life satisfaction (Green, Grant, & Rynsaardt, 2007; Spence, Cavanagh, & Grant, 2008). Consequently, in the current study, measures that generalise across work, career, and personal domains have been included to represent the wellbeing, coping, attitudes, and goal-directed self-regulation categories (e.g. life satisfaction rather than job satisfaction), but we exclude the performance and skills category.

ACT-informed coaching and wellbeing. In the framework of coaching outcomes, the criteria of wellbeing outcomes are defined as "…peoples' wellbeing, health, need fulfilment, and affective responses" (Theeboom et al., 2014, p.4). Coaching-specific meta-analytic findings from Theeboom et al. (2014) indicate that coaching interventions have an overall significant positive effect on wellbeing ($k = 10$, $N = 564$, $g = 0.46$, $p < .001$[2]), which was measured via improvements in outcomes such as stress, burnout, and general mental health. Findings from theoretically underpinned coaching-specific intervention studies relevant to performance and development coaching in work, career, and personal domains (see Chapter 2 for a

---

[2] Note: k = number of studies; N = overall number of participants; g = standardised effect size.

summary of these studies) suggest coaching has a positive impact on wellbeing: Coaching interventions have been shown to improve personal wellbeing (Hultgren et al., 2016; Weinberg, 2016), reduce emotional distress (David et al., 2016), and reduce stress (Collard & Walsh, 2008; Ogbuanya et al., 2017).

Increases in psychological flexibility have been associated with higher general mental health (Bond & Bunce, 2000, 2003; Donaldson-Feilder & Bond, 2004), and a lack of psychological flexibility has been associated with certain variations of psychopathy (Kashdan, 2010). The ACT Model predicts that ACT-informed coaching will enhance wellbeing, as greater psychological flexibility allows individuals to more effectively switch between different life domains, and across different time perspectives, creating a balance in the various important elements of an individual's identity and values (Kashdan, 2010). Increases in commitment and behavioural activation processes help to clarify the individual's values and generate mindful awareness of what balance the individual wants to achieve. Also increases mindfulness and acceptance processes can help to focus the individual's energy towards meaningful interests and higher quality experiences (Brown, 2015), and help them untangle from difficult or unhelpful thoughts and feelings (Flaxman et al., 2013).

Given the aims of ACT interventions to increase psychological flexibility, it follows that wellbeing outcomes would increase as a result of ACT coaching. Findings from coaching-related ACT-informed intervention studies relevant to performance and development coaching in work, career, and personal domains (see Chapter 4 for a summary of these studies) show a positive impact of ACT interventions on wellbeing outcomes: This includes improved general mental health (Bond & Bunce, 2000; Jeffcoat & Hayes, 2012; Lloyd et al., 2013, 2017; Noone & Hastings, 2009, 2010; Stafford-Brown & Pakenham, 2012), reduced burnout (i.e.

emotional exhaustion and depersonalisation (Brinkborg et al., 2011; Hayes et al., 2004; Lloyd et al., 2013, 2017), reduced depression (Bond & Bunce, 2000; Jeffcoat & Hayes, 2012), reduced anxiety (Jeffcoat & Hayes, 2012), reduced stress (Biglan et al., 2013; Brinkborg et al., 2011; Burton et al., 2010; Jeffcoat & Hayes, 2012), reduced cholesterol (Burton et al., 2010), and increased personal growth (Burton et al., 2010).

In the present study, the specific wellbeing outcome being measured is general mental health. General mental health can be defined as the absence of mental illness (Banks et al., 1980). Based on ACT theory, and evidence from coaching-specific intervention studies and ACT-informed intervention studies, it is expected that general mental health will improve following a brief ACT-informed coaching intervention.

ACT-informed coaching and coping. In the framework of coaching outcomes, the criteria of coping outcomes are defined as "… related to the ability to deal with present and future job demands and stressors" (Theeboom et al., 2014, p.4). The meta-analytic findings from Theeboom et al. (2014) indicate coaching interventions have an overall significant positive effect on coping ($k = 10$, $N = 1703$, $g = 0.43$, $p < .001$), which was measured via improvements in outcomes such as self-efficacy and mindfulness. Findings from theoretically underpinned coaching-specific intervention studies suggest coaching has a positive impact on coachee coping outcomes: Coaching interventions have been shown to increase self-efficacy (Braunstein & Grant, 2016; Ebner et al., 2017; Evers et al., 2006; Grant, 2012b; McDowall & Butterworth, 2014; Mosteo et al., 2016; Mühlberger & Traut-Mattausch, 2015), self-reflection (Mühlberger & Traut-Mattausch, 2015), and mindfulness (Collard & Walsh, 2008).

The ACT Model predicts that ACT-informed coaching will enhance coping outcomes as increases in psychological flexibility increase mindful self-regulation,

and reduce experiential avoidance through increased acceptance processes. For example, increases in mindful self-regulation have been shown to increase individuals' use of approach rather than avoidance coping strategies (Weinstein, Brown, & Ryan, 2009), resulting in a more adaptive coping strategy. ACT interventions also teach individuals to untangle from difficult or unhelpful thoughts and feelings, and to observe thoughts moment to moment. Both these skills may help individuals develop more adaptive coping, through reduced thought suppression and reduced believability of difficult or unhelpful thoughts.

Given the aims of ACT interventions to enhance acceptance and mindfulness processes, it would follow that coping outcomes would increase as a result of ACT coaching. Findings from coaching-related ACT-informed intervention studies have shown positive effects on coping: This includes increased self-efficacy (Biglan et al., 2013; Stafford-Brown & Pakenham, 2012), increased mindfulness (Biglan et al., 2013; Burton et al., 2010; Jeffcoat & Hayes, 2012; Stafford-Brown & Pakenham, 2012), increased self-compassion (Stafford-Brown & Pakenham, 2012), increased self-acceptance (Burton et al., 2010), increased valued living (Burton et al., 2010; Stafford-Brown & Pakenham, 2012), reduced thought suppression (Stafford-Brown & Pakenham, 2012), and reduced believability of unhelpful thoughts (Hayes et al., 2004; Varra et al., 2008).

In the present study, the specific coping outcome measured is generalised self-efficacy. This is defined as "people's beliefs about their capabilities to exercise control over their own level of functioning and over events that affect their lives" (Bandura, 1991, p. 257). Based on ACT theory, and evidence from coaching-specific intervention studies and ACT-informed intervention studies, it is expected that generalised self-efficacy will increase following a brief ACT-informed coaching intervention.

ACT-informed coaching and attitudes. In the framework of coaching outcomes, the criteria of work attitude outcomes are defined as "cognitive, affective, and behavioural responses toward work and career, such as job satisfaction" (Theeboom et al., 2014, p.8). The meta-analytic findings from Theeboom et al. (2014) indicate coaching interventions have an overall significant positive effect on work attitudes ($k = 7$, $N = 507$, $g = 0.54$, $p < .001$), which was measured via improvements in outcomes such as job satisfaction, organisational commitment, and career satisfaction. Findings from theoretically underpinned coaching-specific intervention studies suggest coaching has a positive impact on coachee attitudes: Coaching interventions have been shown to increase career satisfaction (Bozer & Sarros, 2012), goal motivation (Mühlberger & Traut-Mattausch, 2015), goal commitment (Mühlberger & Traut-Mattausch, 2015), increase job commitment (Bozer & Sarros, 2012), enhance attitudes to organisational change (Sherlock-Storey et al., 2013), increase positive affect (Braunstein & Grant, 2016; Grant, 2012b; Theeboom et al., 2016), and decrease negative affect (Braunstein & Grant, 2016; Grant, 2012b; Theeboom et al., 2016).

The ACT Model predicts that ACT-informed coaching will improve attitudinal outcomes, as increases in psychological flexibility, and especially commitment and behavioural activation processes, increase valued action, which is likely to increase satisfaction and motivation. Values are in themselves motivational, so if the individual is taking values-led committed action, motivation outcomes are likely to increase. If the individual is increasing the quantity of values-led actions in their life or work, then it is likely their satisfaction will increase as a result.

Given that ACT interventions aim to increase psychological flexibility and commitment and behavioural activation processes specifically, it would follow that attitudinal outcomes would improve as a result of ACT. Findings from coaching-

related ACT-informed intervention studies have shown positive effects on participant attitudes: This includes improved attitudes towards clients (Hayes et al., 2004), increased personal accomplishment (Brinkborg et al., 2011; Hayes et al., 2004; Luoma et al., 2007), increased willingness to use new work practices (i.e. pharmacotherapy; Varra et al., 2008), increased autonomy (Burton et al., 2010), and reduced professional doubt (Stafford-Brown & Pakenham, 2012).

In the present study, the specific attitudinal outcomes measured are life satisfaction and situational intrinsic motivation. Life satisfaction can be defined as a cognitive judgement on an individual's overall subjective wellbeing (Diener, Emmons, Larsen, & Griffin, 1985). Situational intrinsic motivation refers to the state of intrinsic motivation (behaviours engaged in for their own sake, or for the pleasure and satisfaction derived from performing them; Deci, 1971) related to a particular situation or activity (Guay, Vallerand, & Blanchard, 2000). Situational motivation towards an activity is likely to indicate a general motivation towards activity in that context, e.g. coaching (Guay et al., 2000). Based on ACT theory, and evidence from coaching-specific intervention studies and ACT-informed intervention studies, it is expected life satisfaction and situational intrinsic motivation will increase following a brief ACT-informed coaching intervention.

ACT-informed coaching and goal-directed self-regulation. In the framework of coaching outcomes, the criteria of goal-directed self-regulation outcomes are defined as "… outcome measures related to goal-setting, goal-attainment, and goal-evaluation" (Theeboom et al., 2014, p.8). The meta-analytic findings from Theeboom et al. (2014) indicate coaching interventions have an overall significant positive effect on goal-directed self-regulation ($k = 11$, $N = 789$, $g = 0.74$, $p < .001$), which was measured via improvements in outcomes such as goal attainment, goal commitment, and goal striving. These statistics suggest the impact of

coaching interventions on goal-directed self-regulation is considerable. Findings from theoretically underpinned coaching-specific intervention studies suggest coaching has a positive impact on coachee goal-directed self-regulation: Coaching interventions have been shown to increase goal-directed thinking (Mosteo et al., 2016; Sherlock-Storey et al., 2013), increase goal-attainment (Grant, 2012b; Hultgren et al., 2016; McDowall & Butterworth, 2014; Mühlberger & Traut-Mattausch, 2015; Roeden et al., 2014), and increase perceived goal progress (Braunstein & Grant, 2016).

The ACT Model predicts that ACT-informed coaching will improve goal-directed self-regulation outcomes, as increases in psychological flexibility, and specifically commitment and behavioural activation processes, are likely to lead to increases in goal attainment. ACT is an approach that is focused on activating behaviour in line with the values that an individual holds (Flaxman et al., 2013). Research has shown that when individuals pursue goals that they are intrinsically motivated to achieve, and are autonomous rather than being pursued for controlled reasons, they have greater wellbeing (Sheldon, Ryan, Deci, & Kasser, 2004).

Given the aims of ACT interventions to increase commitment and behavioural activation processes, it follows that goal-related outcomes will increase as a result of ACT coaching. To date, no ACT-informed intervention studies (with any population or in any context) have included measures of goal-related outcomes to our knowledge. However, two ACT research studies have explored committed action. Gagnon, Dionne, and Pychyl (2016) showed that committed action was a negative predictor of academic procrastination, and Castro, Rehfeldt, and Root (2016) found that following a values and committed action workshop, direct care staff increased their engagements with challenging clients with severe developmental disorders. Therefore, despite a lack of evidence from coaching-relevant ACT-informed intervention studies, the ACT theory and evidence from studies into committed action

suggest that ACT-informed coaching will increase goal-directed outcomes as a result of increased committed action and behavioural activation.

In the present study, the specific goal-directed self-regulation outcomes measured are goal-directed thinking and goal attainment. Goal directed thinking refers to an individual's perceived agency to initiate and undertake actions required to achieve their goals, and the perceived ability to find pathways to achieving their goals (Snyder et al., 1996). Goal attainment refers to the extent to which an individual has attained their goals (Kiresuk & Sherman, 1968). Based on ACT theory, and evidence from coaching-specific intervention studies and ACT studies into committed action, it is expected that goal-directed thinking and goal attainment will increase following a brief ACT-informed coaching intervention.

ACT-Informed Coaching and Psychological Flexibility

The brief ACT-informed coaching intervention has been designed to incorporate the main elements of the ACT intervention model, which aim to increase psychological flexibility (e.g. values clarification, mindfulness, and defusion techniques). Psychological flexibility has shown links with a range of beneficial psychological factors, such as wellbeing and performance, in a range of contexts (Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Ruiz, 2010). However, to date, no coaching-specific studies have investigated psychological flexibility as an outcome.

Findings from coaching-related ACT-informed intervention studies have been shown to increase psychological flexibility (Burton et al., 2010; Jeffcoat & Hayes, 2012; Lloyd et al., 2013, 2017; Stafford-Brown & Pakenham, 2012; Varra et al., 2008). Additionally, in ACT-informed intervention studies psychological flexibility has been shown to have a mediating effect on the positive outcomes of ACT-informed interventions (Bond & Bunce, 2000; Lloyd et al., 2013; Stafford-Brown & Pakenham, 2012; Varra et al., 2008). Given that the core aim of ACT interventions is

to enhance psychological flexibility it follows that psychological flexibility will increase as a result of ACT coaching. Based on coaching-related ACT-informed evidence, it is expected that ACT-informed coaching will increase psychological flexibility. Consequently, based on ACT theory and the ACT-informed coaching-related research, it is expected that psychological flexibility will increase following a brief ACT-informed coaching intervention.

The Present Study

As a preliminary investigation into the efficacy of an ACT-informed coaching approach, the present study aims to investigate the impact of a brief ACT-informed coaching intervention in a general performance and development context. The study will explore a number of coaching outcomes, identified using categories of outcomes from a framework of outcomes in the coaching literature (Theeboom et al., 2014): Wellbeing, coping, attitudes, and goal-directed self-regulation. Outcomes from these categories have been discussed in the coaching-specific evidence base, and all except goal-directed self-regulation have been explored in the ACT-informed coaching-related research literature. The impact of the intervention on wellbeing will be determined by changes in participant's general mental health. It is expected that general mental health will increase as a result of increased psychological flexibility, especially as a result of individuals clarifying and constructing their values, and developing greater mindful awareness of the balance of things that are important in their life. The impact of the intervention on coping will be determined by changes in participant's generalised self-efficacy. It is expected that generalised self-efficacy will increase as a result of increased psychological flexibility, especially through increases in mindfulness and awareness processes that enhance mindful self-regulation and reduced experiential avoidance.

The impact of the intervention on attitudes will be determined by changes in participant's life satisfaction and situational intrinsic motivation (i.e. motivation towards a particular activity, e.g. coaching). It is expected that life satisfaction will increase as a result of increases in psychological flexibility, especially through increases in commitment and behavioural activation processes that encourage engagement in values-led action. Similarly, increases in situational intrinsic motivation are expected, as values are motivational and increases in values-led action is likely to increase intrinsic motivation related to that action. The impact of the intervention on goal-related self-regulation will be determined by changes in participant's goal-directed thinking and goal-attainment. It is expected that goal-directed thinking and goal attainment will increase as a result of increased psychological flexibility, especially increases in commitment and behavioural activation processes that encourage values-led action.

The present study will also investigate the impact of a brief ACT-informed coaching intervention on psychological flexibility; the outcome proposed by ACT theory to explain how and why ACT-informed interventions work. There are no coaching-specific studies that have investigated psychological flexibility as a coaching outcome. However, ACT theory and coaching-related ACT-informed research evidence suggests that following an ACT-informed coaching intervention participant's psychological flexibility will increase. Taken together, the current evidence leads us to propose the following hypothesis:

> *Hypothesis 1:* ACT-informed coaching will lead to significant increases in general mental health, generalised self-efficacy, life satisfaction, situational intrinsic motivation, goal-directed thinking, and goal attainment.

> *Hypothesis 2:* ACT-informed coaching will lead to significant increases in psychological flexibility.

Hypothesis 3: Increases in psychological flexibility that result from the ACT-informed coaching will account for, or mediate, the increases in general mental health, generalised self-efficacy, life satisfaction, situational intrinsic motivation, goal-directed thinking, and goal attainment.

Method

Design

This study uses a within-subject, repeated measures design. Data were collected from a convenience sample of UK adults who received a brief ACT-informed coaching intervention during an experimental period from April to October 2014. Data were collected nonconcurrently (i.e. the coaching intervention was implemented at different times for the different participants over the experimental period, meaning baseline measures were nonconcurrent). Although baseline measures were taken at different times for different participants, the timings between baseline and subsequent measures were consistent for all study participants. Online surveys were distributed one week before the first coaching session (baseline; Time 1), immediately after the coaching session (post intervention; Time 2), one week after the coaching session (1-week follow-up; Time 3), and one month after the coaching session (4-week follow-up; Time 4). This design allowed collection of data from a range of participants across different general performance and development situations and contexts.

Participants

The sample for the study was a convenience sample of UK adults recruited from the researcher's network (including personal contacts, social media contacts, work contacts, and recommendations from other study participants). As this study was interested in performance and development in general work, career, and personal domains, the inclusion criteria were broad. Participants were included in this study if

they represented a general working adult population and were able to meet for face-to-face coaching. Postgraduate students were included as it was felt these individuals are representative of a general working adult population. Participants were excluded from this study if they reported being unemployed or retired.

There was a low attrition rate in the study. Of an overall 55 participants who received coaching, one participant did not complete all the required questionnaires, and one reported being currently out of work. These two participants have been excluded from the analysis. This resulted in a total of 53 participants in the analysis. Included participants were either in full-time employment ($n = 27$), part-time employment ($n = 6$), self-employment ($n = 4$), full-time higher education ($n = 14$), or some other representation of employment, such as part-time education and part-time employment ($n = 2$). Of the 53 participants in the sample, 36 (70%) were female, ages ranged from 21 to 56 years old (mean age of 32), and 38 participants (72%) described their ethnicity as white. Of the 53 participants, 6 (11%) described their job title as administrative or support staff, 30 (57%) described their job title as a professional, 8 (15%) as a manager, 6 (11%) as a director or senior vice president, and 3 (6%) as a student. Of the 53 participants, 1 (2%) was educated to GSCE level or equivalent, 1 (2%) was educated to A level or equivalent, 17 (32%) were educated to undergraduate degree level, 32 (60%) were educated to postgraduate degree level, and 2 (4%) reported being educated to another level not represented in these categories.

Measures

General mental health. This was measured using the General Health Questionnaire (GHQ-12; Goldberg, 1992). The GHQ-12 is a measure of current general mental health. Specifically, the inability to carry out normal functions, and the appearance of new and distressing experiences. It consists of 12 items. An

example item from this scale is "have you recently been able to enjoy your normal day-to-day activities?" Items are scored 0 (more so than usual) to 3 (much less than usual). In the scale, higher scores signal poor mental health: For the purposes of this study, items have been reverse coded, meaning higher scores indicate better general mental health. The internal consistency reliability coefficient of this scale in the current sample was good (Cronbach's alphas: .85 at Time 1, .83 at Time 2, .89 at Time 3, and .88 at Time 4).

Generalised self-efficacy. This was measured using the Generalised Self-Efficacy Scale (GSE; Schwarzer & Jerusalem, 1995). The GSE is a measure of a general sense of perceived self-efficacy which relates to the belief that one can perform novel or difficult tasks, and adapt after stressful life events. It consists of 10 items. An example item from this scale is "I can always manage to solve difficult problems if I try hard enough". Items are scored 1 (not true at all) to 4 (exactly true). Higher scores indicate higher generalised self-efficacy. The internal consistency reliability coefficient of this scale in the current sample was acceptable at Time 1, and good at subsequent time points (Cronbach's alphas: .73 at Time 1, .81 at Time 2, .85 at Time 3, and .90 at Time 4).

Life satisfaction. This was measured using the Satisfaction with Life Scale (SWLS; Diener et al., 1985). The SWLS is a measure of life satisfaction as a cognitive and judgemental process. It consists of five items. An example item from this scale is "in most ways my life is close to my ideal". Items are scored 1 (strongly disagree) to 7 (strongly agree). Higher scores indicate higher satisfaction with life. The internal consistency reliability coefficient of this scale in the current sample was good (Cronbach's alphas: .84 at Time 1, .90 at Time 2, .88 at Time 3, and .92 at Time 4).

Situational intrinsic motivation. This was measured using the intrinsic motivation subscale of the Situational Motivation Scale (SIMS; Guay et al., 2000). The intrinsic motivation sub-scale of the SIMS is a measure of the present state of situational intrinsic motivation, where behaviour is driven by intrinsic factors such as enjoyment. The situational intrinsic motivation sub-scale consists of four items in response to the question "why are you currently engaged in this activity?" and an example item is "because I think this activity is interesting". Items are scored 1 (corresponds not at all) to 7 (corresponds exactly). Higher scores indicate higher levels of situational intrinsic motivation. The internal consistency reliability coefficient of this sub-scale in the current sample was good (Cronbach's alphas: .87 at Time 1, .80 at Time 2, .87 at Time 3, and .92 at Time 4). Although the reliability of this scale was good, there was some confusion reported by participants when completing this scale around the activity being referred to. When asked, the researcher clarified that the activity referred to was the coaching.

Goal-directed thinking. This was measured using the State Hope Scale (SHS; Snyder et al., 1996). The SHS is a measure of current goal-directed thinking. It consists of six items. An example item from this scale is "at the present time, I am energetically pursuing my goals". Items are scored 1 (definitely false) to 8 (definitely true). Higher scores indicate higher current goal-directed thinking. The internal consistency reliability coefficient of this scale in the current sample was good (Cronbach's alphas: .81 at Time 1, .87 at Time 2, .88 at Time 3, and .91 at Time 4).

Goal attainment. This was measured using a self-report measure of goal attainment (as outlined in Spence, 2007). Participants were asked to rate their progress for each of their goals (i.e. "In terms of your goal, how would you describe your progress?"). Responses range from "I have lost ground" (scored 0) to "I did even better than expected" (scored 4) to give an indication of the individual's perceived

progress toward their goals. Scores for the two goals are averaged at each time point to give a mean score for goal attainment. A higher score indicates greater attainment. As goals were constructed as part of the coaching session, no measure of goal attainment could be taken at baseline (Time 1). Therefore, data for this measure were collected at Time 2, Time 3, and Time 4 only.

Psychological flexibility. This was measured using the Work Acceptance and Action Questionnaire (WAAQ; Bond et al., 2013). This is a measure of the extent to which people can take goal-directed actions towards their work in the presence of difficult internal experiences. This scale consists of seven items. An example item from this scale is "Worries do not get in the way of my success". Items are scored 1 (never true) to 7 (always true). A higher score indicates higher psychological flexibility. The internal consistency reliability coefficient of this scale in the current sample was good (Cronbach's alphas: .84 at Time 1, .90 at Time 2, .92 at Time 3, and .93 at Time 4).

Intervention

A brief one-hour ACT-informed coaching intervention was designed and delivered face-to-face by the researcher. Coaching sessions lasted for 60-minutes. The researcher had undertaken coaching-specific, and ACT-specific training in advance of designing and delivering the intervention. Throughout the experimental period, two practitioners experienced in both ACT and coaching provided supervision. A protocol for the coaching intervention was designed in line with an ACT-informed coaching-specific text (Blonna, 2011). (See Appendix A for the coaching intervention protocol for this study.) Particular attention was paid to ensuring the intervention was entirely consistent with the ACT model. For example, the interventions used metaphors and mindfulness in the coaching session; and used values in the goal setting process. A

practitioner experienced in both ACT and coaching reviewed the protocol to ensure the fidelity of the intervention.

After completing the first survey, participants were asked to complete and return a values clarification exercise prior to the coaching session. (See Appendix B for the values exercise for this study.) This exercise was designed to facilitate participant's reflection on, and clarification of, their values in advance of the face-to-face coaching session. The coaching session had three main components. First, a short explanation of ACT-informed coaching, and the strategies the ACT approach uses. At this point, participants were invited to take part in a short mindfulness exercise. Second, participants were asked to identify and develop two performance goals aligned with their values. Participants were advised that these goals could be from a range of domains (such as life, work, or education) but that goals should relate to their own performance and development. For each goal, participants were asked to develop three measurable objectives using SMART principles (i.e. to make the objective specific, measurable, achievable, realistic, and time-bound). Once participants were satisfied with the goals and objectives that had been developed, the final component focused on the link between mindfulness and committed action. The unhelpful thoughts or feelings that the participant may experience as they progress towards their goals were discussed using a defusion metaphor.

Procedure

The study was given ethical approval by the Institute of Management Studies internal ethical standards review process. Participants were recruited through the researcher's personal and professional network, using online media (i.e. social media) and word-of-mouth recommendations. Individuals who expressed an interest in taking part were emailed information about the study, explaining the aims of the study and next steps if they wanted to take part. (See Appendix C for recruitment

materials for this study.) Participants were asked to respond to arrange a date and location for the coaching session. Surveys were administered online (via SurveyGizmo) and each survey took approximately 10-15 minutes to complete. As part of Survey 1, participants were briefed on the research interests of the study, and were asked to confirm their consent to be part of the study on the welcome page. (See Appendix D for Survey 1 for this study.) Survey 1 and the values clarification exercise were emailed to participants one week before the coaching session was scheduled to take place. Coaching sessions were conducted face-to-face. Of the 53 sessions, 32 (60%) took place on the Goldsmiths' campus, 15 (28%) took place at the coachee's home, 4 (8%) took place at the coachee's work location, and 2 (4%) took place at an alternative location of the participant's choosing (i.e. a café). Survey 2 was administered immediately after the coaching session. Survey 3 was sent to participants by email one week after the coaching session, and Survey 4 was emailed to participants four weeks after the coaching session. Participants were sent daily reminders if surveys were not completed on the day they were initially sent. Participants were debriefed for the study on the final page of Survey 4. After participants had completed Survey 4, they were emailed two additional exercises as a thank you for taking part. Both of these exercises were designed to help participants increase their willingness to experience difficult or unhelpful thoughts as they work towards their valued goals.

All responses were kept anonymous and confidential; participants were asked to provide an anonymity number in Survey 1 that could be used to identify their data should they wish to withdraw at any point. The anonymity number provided by participants in Survey 1 was used to match data across the subsequent three surveys. It was explained in the study briefing that all participant information would be kept confidentially, and participants had the right to withdraw at any point in the study.

Participants were reminded of confidentiality and their right to withdraw at any point in the study debrief. No participants requested their data be withdrawn from the study.

Results

Data were analysed using the IBM SPSS Statistics program (version 22). Data were cleaned and screened in advance of analysis. Data screening was undertaken in accordance with recommendations by Tabachnick and Fidell (2001). Prior to analysis, each variable was examined to ensure accuracy of data, to identify any missing values and to prepare data for analysis. This included recoding variables, reverse scoring negatively coded scale items, and ensuring the reliability of each scale was satisfactory. There were a small number of missing values and after investigation it was established that the data were missing completely at random (MCAR; $p = 1.00$), so values were replaced using an EM estimation.

No variables had out-of-range values and the variables were checked for normality in the distribution of the data by ensuring skewness was less than an absolute value of 2 and kurtosis less than an absolute value of 7 (Curran, West, & Finch, 1996). The means and standard deviations for the study variables at all time points are presented in Table 1. Participant's level of education was dummy coded for analysis to reflect the non-directional nature of the variable. The first education variable compares GSCE or equivalent education level to postgraduate degree education level. The education dummy variable compares A level or equivalent education level to postgraduate degree education level. The education dummy variable compares a bachelor's degree education level to postgraduate degree education level. The fourth education variable compares education levels not represented in the other cateories (referred to as 'other') to postgraduate degree education level.

Table 1 *Preliminary Study Means and Standard Deviations for Study and Biographical Variables*

Variable	M	SD
General mental health		
Time 1	1.99	0.45
Time 2	2.11	0.41
Time 3	2.17	0.46
Time 4	2.22	0.45
Generalised self-efficacy		
Time 1	3.13	0.31
Time 2	3.19	0.35
Time 3	3.16	0.34
Time 4	3.25	0.40
Life satisfaction		
Time 1	4.83	1.15
Time 2	5.06	1.19
Time 3	5.06	1.11
Time 4	5.17	1.19
Situational intrinsic motivation		
Time 1	4.49	1.35
Time 2	5.10	1.06
Time 3	4.67	1.17
Time 4	4.80	1.45
Goal-directed thinking		
Time 1	5.83	1.00
Time 2	6.18	1.00
Time 3	6.08	1.03
Time 4	6.27	1.09
Goal attainment		
Time 2	1.25	0.36
Time 3	1.48	0.54
Time 4	1.73	0.67
Psychological flexibility		
Time 1	4.65	0.83
Time 2	4.64	0.89
Time 3	4.81	0.88
Time 4	4.95	0.94
Age (years)	32.26	7.91

Note: M = mean; SD = standard deviation. No measure of goal attainment could be taken at baseline (Time 1), as goals were constructed in the coaching session.

Bivariate Correlations

Table 2 shows bivariate correlations of all study variables at Time 1.

Table 2 *Preliminary Study Zero-Order Correlations for Study and Biographical Variables at Time 1*

	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	General mental health	-															
2	Generalised self-efficacy	.47**	-														
3	Life satisfaction	.46**	.30*	-													
4	Situational intrinsic motivation	.08	.28*	.21	-												
5	Goal-directed thinking	.52**	.51**	.48**	.11	-											
6	Goal attainment (Time 2)	.18	.12	.10	.08	-.22	-										
7	Psychological flexibility	.39**	.39**	.13	.04	.41**	.13	-									
8	Age	.13	.14	.09	-.16	.02	.06	.17	-								
9	Gender	-.22	-.03	-.21	-.03	.00	.09	-.10	-.06	-							
10	Ethnicity	.05	-.12	.02	-.24	.15	-.05	-.16	.01	.05	-						
11	Employment status	.03	-.03	.15	.21	.26	.16	-.10	-.03	-.05	.04	-					
12	Job role	.06	.12	.20	.23	.04	.21	.05	.11	-.00	-.16	.09	-				
13	Job title	-.07	-.60	-.06	-.03	.04	-.18	-.13	-.36**	.01	.20	.11	-.01	-			
14	Education 1	.11	.03	-.15	-.26	.23	-.07	-.10	.03	.20	-.05	-.11	-.12	.16	-		
15	Education 2	.13	-.01	.05	-.10	-.12	-.15	.10	-.02	.20	-.02	-.11	-.10	-.11	-.02	-	
16	Education 3	.01	.09	.05	.10	-.01	.04	-.13	-.11	-.04	-.28*	-.17	.05	-.18	-.10	-.10	-
17	Education 4	.14	.43**	.01	.04	.33*	-.06	.00	.11	-.14	-.01	-.04	.10	.04	-.03	-.03	-.14

*Note: * p < .05, ** p < .01. For goal attainment, Time 2 data is presented because no baseline (Time 1) measure of goal attainment could be taken as goals were constructed in the coaching session. Education coding: 1 = GSCE or equivalent vs. postgraduate degree; 2 = A level or equivalent vs. postgraduate degree; 3 = Bachelor's degree vs. postgraduate degree; 4 = Other vs. postgraduate degree.

Intervention Analysis

A repeated measures multivariate analysis of variance (MANOVA) was carried out to test whether ACT-based coaching would lead to significant changes in general mental health, generalised self-efficacy, life satisfaction, situational intrinsic motivation, goal-directed thinking, goal attainment, and psychological flexibility. It should be noted that the number of participants in this preliminary study ($N = 53$) was below the sample size recommended by Cohen (1988) for sufficient power to detect a medium effect (i.e. 64 participants to detect a P value of .05). In this analysis, the within-subjects factor was time, specifically Time 1 vs. Time 2 vs. Time 3 vs. Time 4. As there was no Time 1 measure for goal attainment, this variable was excluded from the overall analysis. This analysis showed a significant main effect of time for the brief coaching intervention (F (3, 50) = 10.08, $p = <.001$, $\eta^2 = .38$). As the overall MANOVA was significant, repeated measures MANOVA's were conducted to isolate specific main effects of the brief ACT-informed coaching intervention for each variable. For general mental health, generalised self-efficacy, life satisfaction, situational intrinsic motivation, goal-directed thinking, and psychological flexibility, the within-subjects factor of time used Time 1 vs. Time 2 vs. Time 3 vs. Time 4. Where significant main effects were found, within-groups simple contrasts were conducted to identify the time intervals where significant change occurred. Analyses were carried out for six time intervals, specifically Time 1 to Time 2, Time 1 to Time 3, Time 1 to Time 4, Time 2 to Time 3, Time 2 to Time 4, and Time 3 to Time 4. A Bonferroni corrected p value of .008 was applied for these simple contrasts.

A repeated measures MANOVA was conducted for goal attainment using Time 2 vs. Time 3 vs. Time 4. Analyses for goal attainment were carried out for three time intervals, specifically Time 2 to Time 3, Time 2 to Time 4, and Time 3 to Time

4. A Bonferroni corrected *p* value of .017 was applied for simple contrasts for goal attainment.

General mental health. The analysis for mental health indicated significant changes over time (F (3, 50) = 4.66, p = .006, η^2 = .22). Within-groups simple contrasts indicated a significant increase in general mental health between T1 to T4 (F (1, 52) = 12.49, p = .001, η^2 = .19).

Generalised self-efficacy. The analysis for generalised self-efficacy (with the fourth education variable entered as a control) indicated significant changes over time (F (3, 49) = 3.05, p = .037, η^2 = .16). Within-groups simple contrasts did not indicate a significant increase in generalised self-efficacy, though the time interval between T1 to T4 was only marginally below the more stringent significance level applied to these analyses (F (1, 51) = 7.39, p = .009, η^2 = .13).

Life satisfaction. The analysis for life satisfaction indicated significant changes over time (F (3, 50) = 4.71, p = .006, η^2 = .22). Within-groups simple contrasts indicated a significant increase in life satisfaction between T1 to T2 (F (1, 52) = 7.93, p = .007, η^2 = .13), and T1 to T4 (F (1, 52) = 13.48, p = .001, η^2 = .21).

Situational intrinsic motivation. The analysis for situational intrinsic motivation indicated significant changes over time (F (3, 50) = 10.78, p < .001, η^2 = .39). Within-groups simple contrasts indicated a significant increase in situational intrinsic motivation between T1 to T2 (F (1, 52) = 24.29, p < .001, η^2 = .32), and significant decrease in situational intrinsic motivation between T2 to T3 (F (1, 52) = 16.91, p < .001, η^2 = .25).

Goal-directed thinking. The analysis for goal-directed thinking (with the fourth education variable entered as a control) indicated significant changes over time (F (3, 49) = 7.76, p < .001, η^2 = .32). Within-groups simple contrasts indicated a

significant increase in goal-directed thinking between T1 to T2 (F (1, 51) = 16.06, $p <$ .001, η^2 = .24), and T1 to T4 (F (1, 51) = 16.28, $p < .001$, η^2 = .24).

Goal attainment. The analysis for goal attainment indicated significant changes over time (Time 2 vs. Time 3 vs. Time 4) (F (2,51) = 14.82, $p < .001$, η^2 = .37). Within-groups simple contrasts indicated a significant increase in goal attainment between T2 to T3 (F (1, 52) = 7.84, $p = .007$, η^2 = .13), T2 to T4 (F (1, 52) = 30.17, $p < .001$, η^2 = .37), and T3 to T4 (F (1, 52) = 8.49, $p = .005$, η^2 = .14).

Psychological flexibility. The analysis for psychological flexibility (with job title entered as a control) indicated no significant changes over time (F (3, 49) = 2.76, $p = .052$, η^2 = .14). No further analyses were conducted on this variable.

Summary of Findings

To summarise, the findings in this study partially supported Hypothesis 1. Results indicated: Significant increases in general mental health between T1 to T4; significant increases in life satisfaction between T1 to T2, and T1 to T4; significant increases in goal-directed thinking between T1 to T2 and T1 to T4; and significant increases in goal attainment between T2 to T3, T2 to T4, and T3 to T4. There was a significant main effect for generalised self-efficacy, but no individual time intervals reached the required significance value. There was a significant main effect for situational intrinsic motivation; however, the simple effects analysis showed a significant increase between T1 to T2, followed by a significant decrease between T2 to T3, resulting in the mean level of situational intrinsic motivation reverting to the pre-intervention level. This indicates that any increase in situational intrinsic motivation at T2 as a result of the coaching session was not enduring. Hypothesis 2 was not supported as there were no significant changes in psychological flexibility, and therefore hypothesis 3 could not be tested.

Discussion

This preliminary investigation into the efficacy of an ACT-informed coaching approach hypothesised that a brief ACT-informed coaching intervention would lead to significant increases in general mental health, generalised self-efficacy, life satisfaction, situational intrinsic motivation, goal-directed thinking, goal attainment, and psychological flexibility. This was supported by a significant overall effect of the intervention over time. However, it was not possible to model changes in all study variables over all time points in this analysis, as there was no Time 1 measure for goal attainment.

The analysis of the data indicated that the coaching intervention improved general mental health from T1 to T4. These findings are consistent with evidence from both coaching-specific research (Collard & Walsh, 2008; David et al., 2016; Hultgren et al., 2016; Ogbuanya et al., 2017; Weinberg, 2016) and ACT-informed coaching-related research (Bond & Bunce, 2000; Biglan et al., 2013; Brinkborg et al., 2011; Burton et al., 2010; Hayes et al., 2004; Jeffcoat & Hayes, 2012; Lloyd et al., 2013, 2017; Noone & Hastings, 2009, 2010; Stafford-Brown & Pakenham, 2012) that have shown improvements in wellbeing outcomes. According to ACT theory, general mental health is likely to increase as a result of clarifying and constructing values, and through developing greater mindful awareness of the desired balance individuals have across things that are meaningful and important to them. The values clarification and goal-setting aspects of the coaching intervention in particular may have led to increases in wellbeing over time.

The analysis of the data indicated that the coaching intervention improved generalised self-efficacy. However, no time intervals reached the required level of significance. The overall finding is consistent with findings in coaching-specific research (Braunstein & Grant, 2016; Ebner et al., 2017; Evers et al., 2006; Grant,

2012b; McDowall & Butterworth, 2014; Mosteo et al., 2016; Mühlberger & Traut-Mattausch, 2015) and ACT-informed coaching-related studies (Biglan et al., 2013; Stafford-Brown & Pakenham, 2012) that have shown increases in self-efficacy. According to ACT theory, self-efficacy increases as a result of increases in mindfulness and awareness processes that enhance mindful self-regulation and reduced experiential avoidance. By activating these processes to increase mindful self-awarenessand reduced experiential avoidance, the ACT coaching may have led to increases in generalised self-efficacy. It is possible that no time intervals reached significance due to the study being underpowered.

The analysis of the data supports our hypothesis that an ACT-informed coaching intervention would improve coachees' life satisfaction. Findings indicated an increase in life satisfaction between T1 to T2, and T1 to T4. These findings are in line with evidence from coaching-specific research (Bozer & Sarros, 2012; Braunstein & Grant, 2016; Grant, 2012b; Mühlberger & Traut-Mattausch, 2015; Sherlock-Storey et al., 2013; Theeboom et al., 2016) and ACT-informed coaching-related studies (Brinkborg et al., 2011; Burton et al., 2010; Hayes et al., 2004; Luoma et al., 2007; Stafford-Brown & Pakenham, 2012; Varra et al., 2008) that have shown improvements in participants attitudinal outcomes. According to ACT theory, life satisfaction increases as a result of increases in commitment and behavioural activation processes that encourage engagement in values-led action. The coaching session aimed to increase coachees' understanding of their values, and facilitated committed action towards those values. The increased awareness of values and progress towards committed action may have resulted in increased life satisfaction.

According to ACT theory, increases in situational intrinsic motivation are expected to occur as a result of greater values clarity, as values are motivational, and increases in values-led action are likely to increase intrinsic motivation related to that

action. However, findings from this study showing the impact of the coaching intervention on situational intrinsic motivation is not consistent with expectations based on ACT theory, or the overall coaching-specific or ACT-informed coaching-related evidence base. Findings in the present study indicate an initial increase in situational intrinsic motivation between Time 1 to Time 2; however, a significant decrease between Time 2 to Time 3 results in this outcome reverting to pre-coaching levels. This suggests the increase in situation intrinsic motivation following ACT-informed coaching is not enduring. It is possible that the ambiguity around which activity the situational intrinsic motivation scale was referring to impacted the measurement of this outcome. However, this is unlikely as the scale reliabilities were good for all time points. An alternative explanation is that using the coaching as the activity referred to in the scale meant that once the brief coaching session was finished participants no longer had situational intrinsic motivation for the coaching. This scale was used by researchers in another coaching intervention study by Mühlberger and Traut-Mattausch (2015) where scale wording was adapted to focus specifically on situational intrinsic motivation towards the participant's goals. Future coaching researchers using this scale may benefit from rewording the scale to more specifically and explicitly identify the activity being referred to (e.g. coaching vs. goal achievement) than the original scale wording allows. This way, researchers can be clear which activity best represents the form of situational intrinsic motivation that is of interest in the study.

The findings from this study support the hypothesis that an ACT-informed coaching intervention would increase goal-directed thinking and goal attainment. Findings indicated an increase in goal-directed thinking between T1 to T2, T1 to T3, T1 to T4, and T3 to T4, and an increase in goal attainment between T2 to T3, T2 to T4, and T3 to T4. These findings are in line with evidence from coaching-specific

research showing improvements in goal-related outcomes (Braunstein & Grant, 2016; Grant, 2012b; Hultgren et al., 2016; McDowall & Butterworth, 2014; Mühlberger & Traut-Mattausch, 2015; Roeden et al., 2014; Mosteo et al., 2016; Sherlock-Storey et al., 2013), and ACT-informed research into committed action (Castro et al., 2016; Gagnon et al., 2016). According to ACT theory, goal-directed thinking and goal attainment are likely to increase as a result of increases in commitment and behavioural activation processes that encourage values-led action. A strong focus of the brief coaching session was to develop values-aligned goals and encourage coachees' to take action towards those goals. These activities relate directly to increasing the coachees thinking about goals and their attainment of their goals, and so are likely to account for increases in goal-related outcomes.

The study hypothesised that ACT-informed coaching would lead to significant increases in psychological flexibility. Unexpectedly, this study showed no significant change in psychological flexibility as a result of the coaching intervention. According to ACT theory, it was expected that the changes in other study outcomes would result from increases in psychological flexibility, but these results do not support this. However, it is possible that with a smaller sample size than that recommended by Cohen (1988) for a study of this type, this study was not sufficiently powered to result in detectable increases in psychological flexibility overall. As there were no significant changes in psychological flexibility, it was not possible to test whether the increases in other study variables were accounted for, or mediated by, increases in psychological flexibility.

Theoretical Implications

Overall, this study showed positive effects for coaching outcomes from all of the four categories proposed by Theeboom et al. (2014) investigated in this study: Wellbeing, coping, attitudes, and goal-directed self-regulation. Taken as a whole, the

results of this preliminary study exploring the impact of ACT-informed coaching suggest ACT-informed coaching interventions offer an effective approach to coaching, and provide encouragement that further research investigating the impact of ACT-informed coaching is a valuable enterprise. This study also makes a novel contribution to ACT research as the first study that has explored the impact of an ACT-informed intervention on goal-directed thinking and goal attainment.

An unexpected finding in this study is the lack of direct impact that the ACT coaching intervention had on psychological flexibility. The lack of significant change in psychological flexibility may be due to insufficient power in the analysis due to the small sample size. Further exploration of this variables using a larger sample size, and more substantial ACT-informed coaching intervention, would be beneficial to gain greater clarity on psychological flexibility as an outcome in ACT-informed coaching.

Limitations

There are two limitations in the present study, namely (a) the study design, (b) low attrition rates, (c) small sample size, and (d) lack of a more substantial coaching intervention. Firstly, the study design means there are limitations to the generalisability of the results. A within-subjects study design was employed, and this design has weaknesses that mean results cannot be confidently attributed to the coaching intervention. Namely, there is no randomisation process to control for confounding variables, and no control condition to compare effects observed in the experimental condition to. Baseline measures in the study were taken non-concurrently. Study designs that use non-concurrent baselines offer great flexibility to the researcher; however there may be issues of validity due to a lack of control for confounding variables (Harvey, May, & Kennedy, 2004). The findings found in this study need to be tested to determine if they replicate in a more robust study design

(i.e. a RCT). If they do, it is possible to more confidently generalise the efficacy of ACT-informed coaching.

Secondly, there was unusally low attrition in the study. This may have been due to the nature of the intervention, as indiviuals who took part in the study may have been highly motivated to engage in coaching in order to achieve their goals. Low attrition in the study may also have resulted due to some characteristics of the participant group. Participants in the study were high in generalised self-efficacy at baseline, and had high education levels (92% of participants were educated to degree level or above). High functioning individuals may be less likely to leave a study than studies using clinical samples. It may also be the case that the psychological contract is stronger between a participant and the researcher due to engaging in a coaching intervention. If coaching is something valued by the participant, and again result in less participants not completing study surveys.

Thirdly, the sample size in this study is smaller than the recommended sample size for studies of this type, as outlined in Cohen (1988). If the analyses are underpowered then it is possible that they would not detect possible signifianct results. This may be the case with the overall analysis of psychological flexibility in this study. It may also account for why generalised self-efficacy showed a significant main effect, but no significanct increases at any specific time intervals. Additional research with a more substantial sample is required to determine whether this is likely to be the case.

Finally, the study used a brief coaching intervention of only one 60-minute coaching session. This is because the study was designed as a preliminary investigation of the efficacy of ACT-informed coaching. However, the briefness of the intervention may have resulted in inconclusive results on some outcomes in the study because there may not have been sufficient activation of all ACT processes to

generate detectable changes in some outcomes. This may be another explanatory factor for why psychological flexibility did not show a significant main effect.

Directions for Future Research

Recommendations for future research to address issues in the present study are (a) to conduct a study with a stronger research design, (b) to test the impact of ACT-informed coaching on performance outcomes, (c) to test a more substantial coaching intervention with an adequately sized sample, and (d) to investigate the processes of change in ACT-informed coaching. Firstly, future research should use a stronger research design (ideally a randomised controlled trial) to test the impact of ACT-informed coaching on coaching outcomes. The use of a randomisation process and control group will allow stronger conclusions to be drawn from the evidence relating to the causal link between the ACT-informed coaching intervention and improvements in coaching outcomes following the intervention. The RCT design addresses issues arising from the non-concurrent baseline measures in the present study. Secondly, this study excluded the Performance and skills outcome category in the framework of coaching outcome categories used in the design of this study. Future research using a work-specific sample would allow the inclusion of measures related to the Performance and skills outcome category.

Thirdly, it is possible that some of the outcomes in this study did not change as a result of the intervention because a brief coaching intervention tested on a smaller than recommened sample is unlikely to detect effect change in some outcomes. A more substantial coaching intervention conducted on an adequately sized sample would address this issue. Future research should use a longer coaching programme, with coaching sessions delivered over a period of time. Finally, future research should explore processes of change in ACT-informed coaching. Psychological flexibility is hypothesised by ACT theory as the factor that underpins

behaviour change in ACT-informed interventions (Hayes et al., 2012). Statistical

mediation techniques conducted on RCT data allow for empirical exploration of

mediators and mechanisms of change. These statistical techniques could be used to

investigate the processes of change in ACT-informed coaching; specifically the role

of psychological flexibility as a mediator in ACT-informed coaching. Using

experimental data for mediation analyses eliminates issues such as endogeneity (i.e.

confounding variables that cause changes in outcomes are not modelled in the

analysis; Antonakis, Bendahan, Jacquart, & Lalive, 2014) that would be present in

analyses conducted on data from the present study where confounds have not been

controlled for.

In conclusion, the results of this preliminary study provide early support for

ACT-informed coaching as an effective intervention for improving general mental

health, generalised self-efficacy, life satisfaction, goal-directed thinking, and goal

achievement. Findings suggest ACT-informed coaching increases intrinsic

motivation, but that this effect is not enduring. The results provide no evidence of

ACT-informed coaching increasing psychological flexibility. Further research is

required to determine if these results replicate in other samples, and to gain clarity

around the unexpected findings from this study (i.e. no change in psychological

flexibility). Future research should use a robust research design and test a more

substantial coaching intervention with a larger sample to avoid the limitations of the

present study. Future studies should include performance-related outcomes. Finally,

future studies should aim to test a theoretically derived hypothesis of the process of

change in ACT-informed coaching.

Chapter 6: Testing the Impact of a Workplace ACT-Informed Coaching Intervention: A Randomised Controlled Trial

Abstract

Recent coaching meta-research has identified the need for more rigorous testing of coaching interventions in research, and exploration of processes of change in coaching interventions. This randomised controlled trial of ACT-informed coaching tested whether coachee work performance, general mental health, generalised self-efficacy, job satisfaction, intrinsic job motivation, goal-directed thinking, goal attainment, and psychological flexibility would increase following an ACT-informed coaching intervention compared to a control group. Senior managers in the UK Civil Service were randomly allocated to either three 90-minute sessions of ACT coaching ($n = 65$), or a waitlist control condition ($n = 61$). Intervention analyses showed increases in the ACT group for general mental health (T1 to T3, T1 to T4, and T2 to T4), generalised self-efficacy (T1 to T4, and T2 to T4), goal-directed thinking (T1 to T2, and T1 to T4), and psychological flexibility (T1 to T3, T1 to T4, T2 to T3, and T 2 to T4). The ACT group maintained performance compared to a decrease in performance in the control group. Both the ACT group and control group showed increases in goal attainment over time. Mediation analyses indicated increases in psychological flexibility mediated increases in general mental health (T1 to T3, T1 to T4 and T2 to T4), generalised self-efficacy (T1 to T4 and T2 to T4), goal-directed thinking (T1 to T4 and T2 to T4), and goal attainment (T1 to T3, T1 to T4 and T2 to T4). Contributions and limitations of this study are discussed. Future studies should test the mediation effect of psychological flexibility in parallel with another plausible theoretically derived mediator in ACT-informed coaching.

Introduction

Reviews of coaching research have recommended that more rigorous, well-conducted studies are required to constitute a true evidence base for coaching (Blackman et al., 2016; De Meuse et al., 2009; Grover & Furnham, 2016; Jones et al., 2016; Lai & McDowall, 2014; Sonesh, Coultas, Lacerenza, et al., 2015; Theeboom et al., 2014). Over 70% of published coaching studies are qualitative (Lai & McDowall, 2014); therefore, reviewers have recommended replicable randomised controlled trials (RCTs) in particular are conducted (Grover & Furnham, 2016; Lai & McDowall, 2014). Factors that aid methodological rigour in the design of RCT studies are random allocation to control for confounds, measuring outcomes over time to determine longitudinal impacts, and adequate sample sizes to detect effects (De Meuse et al., 2009; Grover & Furnham, 2016; Sonesh, Coultas, Lacerenza, et al., 2015; Theeboom et al., 2014).

This study aims to respond to these recommendations by testing a theoretically underpinned ACT-informed approach to coaching in a methodologically rigorous RCT. In this study, participants will be randomly allocated to either an ACT-informed coaching intervention or a waitlist control group, and the study will take into account sample size recommendations for the design used (i.e. over 64 participants per condition; based on recommendations for ANOVA analysis for a medium effect size at significance value of .05, as outlined in Cohen, 1988). The coaching intervention will be standardised and reported in sufficient detail for replication of the study. Participant responses will be measured at multiple time points throughout the study, and repeated measures of all variables will be taken during the study. Outcomes will be measured using valid, replicable self-report measures, and independent ratings of coachee behaviour (i.e. supervisor ratings of coachee performance).

There has been limited exploration of processes of change in coaching interventions (De Meuse et al., 2009; Grover & Furnham, 2016; Jones et al., 2016; Sonesh, Coultas, Lacerenza, et al., 2015; Theeboom et al., 2014). Processes of change relate to two things, (a) the conditions under which an intervention may be less or more effective (i.e. moderators), and (b) the processes through which an intervention generates change (i.e. mediators) (Kendall et al., 2013). This study will investigate the role of a theoretically derived mediator in ACT-informed coaching.

ACT-Informed Coaching

ACT-informed coaching is an acceptance- and mindfulness-based approach to coaching using the ACT Model (Hayes et al., 2012) to theoretically underpin coaching interventions. The ACT Model consists of six processes: Values, committed action, present moment awareness, self-as-context, defusion, and acceptance (Hayes et al., 2012). These processes combine as the concept of psychological flexibility. Psychological flexibility is defined as "… contacting the present moment as a conscious human being, fully and without needless defence … and persisting with or changing a behaviour in the service of chosen values" (Hayes et al., 2012, p.96-97). ACT aims to increase individuals' psychological flexibility, to increase the range of their behavioural responses to life events, and connect them with values that bring them meaning and purpose (Hayes et al., 2012). In ACT theory, psychological flexibility is the psychological factor that underpins behaviour change in ACT-informed interventions (Hayes et al., 2012).

The six processes of the ACT Model can be grouped into two sets of processes (1) commitment and behavioural activation processes, and (2) mindfulness and acceptance processes (Flaxman et al., 2013; Hayes et al., 2012). The commitment and behavioural activation processes include values, committed action, present moment awareness, and self-as-context (Flaxman et al., 2013). These processes are

focused on encouraging individuals to engage in values-based action, and to notice their experiences when they do. Activities include defining values, mindfully engaging in values-based actions, and using values to guide behaviour. The mindfulness and acceptance processes are acceptance, defusion, present moment awareness, and self-as-context (Flaxman et al., 2013). These processes are focused on encouraging individuals to defuse from difficult or unhelpful thoughts and feelings, and increase their willingness to experience challenging thoughts and feelings as they take values-based action. Activities include training present moment awareness, noticing and untangling from internal barriers, and strengthening the self-as-context perspective (Flaxman et al., 2013).

This study uses a coaching intervention informed by the ACT Model which is designed to increase coachees' psychological flexibility by increasing commitment and behavioural activation processes, and mindfulness and acceptance processes (Flaxman et al., 2013; Hayes et al., 2012). ACT-informed coaching aims to increase coachees awareness of their values, and encourage them to take committed action towards their values. ACT-informed coaching aims to enhance coachees present moment awareness, and develop a flexible self-perspective in coachees. Finally, ACT-informed coaching aims to equip coachees with the skills to untangle (i.e. defuse) from unhelpful thoughts and feelings, and increase their acceptance of, and willingness to experience difficult or unpleasant thoughts and feelings as they take action towards their values.

Despite offering a theoretically underpinned coaching approach, ACT-informed coaching is under-researched, with no published studies of ACT-informed coaching to date. The findings from a preliminary study of a brief ACT-informed coaching intervention offer support for the effectiveness of ACT-informed coaching in a general performance and development context (see Chapter 5 for a full report of

these findings). Findings from coaching-related ACT-informed studies (i.e. well-designed research that is not specific to coaching but can be used to inform coaching practice; Grant, 2016) suggest ACT-informed coaching interventions will be effective in work-related performance and development contexts. However, coaching-specific research is required to rigorously test the effectiveness of an ACT-informed coaching approach in a work-related performance and development context.

ACT-Informed Coaching and Work-Related Coaching Outcomes

It has been recommended that coaching research use a broad conceptual framework of outcomes to identify study variables and homogenise the outcomes being investigated (Smith et al., 2009). At the time the present study was conducted, Theeboom et al. (2014) had proposed the first framework of coaching outcomes. This framework is workplace coaching specific, and assigns outcomes to one of the following categories: Performance and skills, wellbeing, coping, work attitudes, or goal-directed self-regulation.

ACT-informed coaching and performance. The performance and skills outcome category is defined as "… both subjective and objective outcome measures that either directly reflect job performance (e.g. number of sales, supervisory rated job performance) or reflect the demonstration of behaviours needed for an organisation to be effective (e.g. transformational leadership behaviours)" (Theeboom et al., 2014, p.4). Coaching-specific meta-analytic findings from Theeboom et al. (2014) indicate coaching interventions have an overall significant positive effect on performance ($k = 6$, $N = 2007$, $g = 0.60$, $p = .036$[3]). The preliminary study of ACT-informed coaching did not investigate performance, as it was conducted in a general performance and development context. Findings from theoretically underpinned coaching-specific intervention studies of performance and development coaching in

---

[3] Note: k = number of studies; N = overall number of participants; g = standardised effect size.

work, career, and personal domains (see Chapter 2 for a summary of these studies) suggest coaching has a positive impact on performance: Coaching interventions have been shown to improve managerial skill (David et al., 2016; Ratiu et al., 2017), increase transformational leadership behaviours (MacKie, 2014), and improve work ability (Ogbuanya et al., 2017).

Increases in psychological flexibility have been associated with improved job performance (Bond & Bunce, 2003; Bond & Flaxman, 2006). The ACT Model predicts that ACT-informed coaching will enhance performance, as greater psychological flexibility allows individuals to untangle from difficult or unhelpful thoughts or emotions (e.g. fear of failure; anxiety over public speaking) and more effectively take values-led action. Additionally, if individuals can better focus on the present moment they are more likely to be able to notice and respond to goal-related opportunities (Bond, Lloyd, Flaxman, & Archer, 2016). ACT interventions aim to help individuals untangle from difficult or unhelpful thoughts and feelings, and encourage individuals to take values-led action, which is likely to result in enhanced performance.

Given the aims of ACT interventions to increase psychological flexibility, it would follow that performance outcomes would increase as a result of ACT coaching. Findings from coaching-related ACT-informed intervention studies relevant to performance and development coaching in work, career, and personal domains (see Chapter 4 for a summary of these studies) have shown a positive impact on performance outcomes, including increased innovation (Bond & Bunce, 2000), increased mastery (Burton et al., 2010), and the adoption of effective work practices (Luoma et al., 2007; Varra et al., 2008).

In the present study, the specific performance and skills outcome being measured is individual performance. Individual performance can be defined as

behaviour that contributes to individual effectiveness (Griffin, Neal, & Parker, 2007). Based on ACT theory, coaching-specific evidence and ACT-informed coaching-related evidence, it is expected that individual performance will increase following an ACT-informed coaching intervention.

ACT-informed coaching and wellbeing. The wellbeing outcome category is defined as "… subjective and objective outcome measures that are a direct representation of peoples' wellbeing, health, need fulfilment, and affective responses" (Theeboom et al., 2014, p.4). Meta-analytic findings from Theeboom et al. (2014) showed an overall significant positive effect of coaching interventions on wellbeing ($k = 10$, $N = 564$, $g = 0.46$, $p < .001$). The preliminary study of ACT-informed coaching showed a significant increase in general mental health following a brief ACT-informed coaching. Findings from theoretically underpinned coaching-specific intervention studies suggest coaching has a positive impact on personal wellbeing (Hultgren et al., 2016), and can reduce emotional distress and stress (Collard & Walsh, 2008; David et al., 2016; Ogbuanya et al., 2017).

The ACT Model predicts that ACT-informed coaching will enhance wellbeing, as greater psychological flexibility allows individuals to more effectively switch between different life domains, and across different time perspectives, creating a balance in the various important elements of an individual's identity and values (Kashdan, 2010). Increases in commitment and behavioural activation processes help to clarify the individual's values and generate mindful awareness of what balance the individual wants to achieve. Also increases mindfulness and acceptance processes can help to focus the individual's energy towards meaningful interests and higher quality experiences (Brown, 2015), and help them untangle from difficult or unhelpful thoughts and feelings (Flaxman et al., 2013).

Given the aims of ACT interventions to increase psychological flexibility, it would follow that wellbeing outcomes would increase as a result of ACT coaching. Findings from coaching-related ACT-informed intervention studies have shown a positive impact on wellbeing outcomes: This includes improved general mental health (Bond & Bunce, 2000; Jeffcoat & Hayes, 2012; Lloyd et al., 2013, 2017; Noone & Hastings, 2009, 2010; Stafford-Brown & Pakenham, 2012), reduced burnout (i.e. emotional exhaustion and depersonalisation; Brinkborg et al., 2011; Hayes et al., 2004; Lloyd et al., 2013, 2017), reduced depression (Bond & Bunce, 2000; Jeffcoat & Hayes, 2012), reduced anxiety (Jeffcoat & Hayes, 2012), reduced stress (Biglan et al., 2013; Brinkborg et al., 2011; Burton et al., 2010; Jeffcoat & Hayes, 2012), reduced cholesterol (Burton et al., 2010), and increased personal growth (Burton et al., 2010).

In the present study, the specific wellbeing outcome measured is general mental health. General mental health can be defined as the absence of mental illness (Banks et al., 1980). Based on ACT theory, coaching-specific evidence and ACT-informed coaching-related evidence it is expected that general mental health will improve following an ACT-informed coaching intervention.

ACT-informed coaching and coping skills. The coping outcome category is defined as outcomes "related to the ability to deal with present and future job demands and stressors" (Theeboom et al., 2014, p.4). Meta-analytic findings from Theeboom et al. (2014) showed an overall significant positive effect of coaching interventions on coping-related outcomes ($k = 10$, $N = 1703$, $g = 0.43$, $p < .001$). The preliminary study of ACT-informed coaching showed a significant increase in generalised self-efficacy following a brief ACT-informed coaching intervention overall, but no significant increases at any specific time points. This may have been due to the small sample size in the preliminary study. The overall main effect was

consistent with evidence from theoretically underpinned coaching-specific intervention studies (Braunstein & Grant, 2016; Ebner et al., 2017; Evers et al., 2006; Grant, 2012b; McDowall & Butterworth, 2014; Mosteo et al., 2016) and coaching-related ACT-informed intervention studies (Biglan et al., 2013; Stafford-Brown & Pakenham, 2012) that showed increases in self-efficacy following an intervention. As well as being underpowered, it is possible that the results found in the preliminary study are partly explained by the brief coaching intervention not being substantial enough to effect detectable changes in self-efficacy at specific time points.

The ACT Model predicts that ACT-informed coaching will enhance coping outcomes as increases in psychological flexibility increase mindful self-regulation, and reduce experiential avoidance through increased acceptance processes. For example, increases in mindful self-regulation have been shown to increase individuals' use of approach rather than avoidance coping strategies (Weinstein et al., 2009), resulting in a more adaptive coping strategy. ACT interventions also teach individuals to untangle from difficult or unhelpful thoughts and feelings, and to observe thoughts moment to moment. Both these skills may help individuals develop more adaptive coping, through reduced thought suppression and reduced believability of difficult or unhelpful thoughts.

Given the aims of ACT interventions to enhance psychological flexibility, and particularly acceptance and mindfulness processes, it would follow that coping outcomes would increase as a result. In the present study, the specific coping outcome measured is generalised self-efficacy. This is defined as "people's beliefs about their capabilities to exercise control over their own level of functioning and over events that affect their lives" (Bandura, 1991, p. 257). Based on ACT theory, coaching-specific evidence and ACT-informed coaching-related evidence, it is expected that generalised self-efficacy will increase following a brief ACT-informed coaching

intervention. Despite the preliminary study showing inconclusive results for self-efficacy, a larger sample and more substantial intervention are likely to generate detectable activation of mindfulness and acceptance processes, resulting in significant increases in generalised self-efficacy.

ACT-informed coaching and work attitudes. The work attitudes outcome category is defined as outcomes related to "… cognitive, affective and behavioural responses toward work and career" (Theeboom et al., 2014, p.8). Meta-analytic findings from Theeboom et al. (2014) showed an overall significant positive effect of coaching interventions on work attitudes ($k = 7$, $N = 507$, $g = 0.54$, $p < .001$). The preliminary study of ACT-informed coaching showed a significant increase in life satisfaction following a brief ACT-informed coaching intervention. These findings are consistent with results from theoretically underpinned coaching-specific intervention studies (Bozer & Sarros, 2012; Braunstein & Grant, 2016; Grant, 2012b; Mühlberger & Traut-Mattausch, 2015; Sherlock-Storey et al., 2013; Theeboom et al., 2016) and coaching-related ACT-informed intervention studies (Brinkborg et al., 2011; Burton et al., 2010; Hayes et al., 2004; Luoma et al., 2007; Stafford-Brown & Pakenham, 2012; Varra et al., 2008), that found interventions had a positive impact on attitudinal outcomes.

The ACT Model predicts that ACT-informed coaching will improve attitudinal outcomes, as increases in psychological flexibility, and especially commitment and behavioural activation processes, increase valued action which is likely to increase satisfaction and motivation. Values are in themselves motivational, so if the individual is taking values-led committed action, motivation outcomes are likely to increase. If the individual is increasing the quantity of values-led actions in their life or work, then it is likely their satisfaction will increase as a result.

Results of the preliminary study indicated an initial increase in situational intrinsic motivation, but this was not sustained. These findings seem inconsistent with the overall research evidence summarised above. However, findings in the preliminary study may have been the result of participants being asked to report their situational intrinsic motivation towards the coaching, as once the brief coaching session was finished participants no longer had intrinsic motivation for the coaching. It is possible that different results may be found using a less situationally specific measure of motivation.

In the present study, the specific attitudinal outcomes measured are job satisfaction and intrinsic job motivation. Job satisfaction can be defined as the extent to which an individual is satisfied and happy with their job (Hackman & Oldham, 1975). Intrinsic job motivation refers to the extent to which an individual's work performance affects their self-esteem and the extent to which they want to perform well in their job (Warr, Cook, & Wall, 1979). We have chosen to explore intrinsic job motivation in this study, as this construct is broader and less situationally specific than situational intrinsic motivation.

Given that ACT interventions aim to increase psychological flexibility and commitment and behavioural activation processes specifically, it would follow that attitudinal outcomes will improve as a result of ACT coaching. Based on ACT theory, and evidence from coaching-specific intervention studies and ACT-informed intervention studies, it is expected job satisfaction and intrinsic job motivation will improve following an ACT-informed coaching intervention.

ACT-informed coaching and goal-directed self-regulation. The goal-directed self-regulation outcome category is defined as outcomes "… relating to goal-setting, goal-attainment, and goal-evaluation" (Theeboom et al., 2014, p.8). Meta-analytic findings from Theeboom et al. (2014) showed an overall significant positive

effect of coaching interventions on goal-directed self-regulation ($k = 11$, $N = 789$, $g = 0.74$, $p < .001$). The preliminary study of ACT-informed coaching showed a significant increase in goal-directed thinking following a brief ACT-informed coaching intervention, and a significant increase in goal attainment following the intervention. These findings are consistent with coaching-specific studies using theoretically underpinned interventions that found coaching interventions increase goal-directed thinking (Mosteo et al., 2016; Sherlock-Storey et al., 2013), goal-attainment (Grant, 2012b; Hultgren et al., 2016; McDowall & Butterworth, 2014; Roeden et al., 2014), and perceived goal progress (Braunstein & Grant, 2016).

The ACT Model predicts that ACT-informed coaching will improve goal-directed self-regulation outcomes, as increases in psychological flexibility, and specifically commitment and behavioural activation processes, are likely to lead to increased goal attainment. ACT is an approach that is focused on activating behaviour in line with the values that an individual holds (Flaxman et al., 2013). Given the aims of ACT interventions to increase commitment and behavioural activation processes, it would follow that goal-related outcomes would increase as a result of ACT coaching. Apart from the preliminary study of ACT-informed coaching, no ACT-informed intervention studies have included measures of goal-directed self-regulation. However, two ACT research studies have explored committed action. Gagnon et al. (2016) showed that committed action was a negative predictor of academic procrastination, and Castro et al. (2016) found that following a values and committed action workshop, direct care staff increased their engagements with challenging clients with severe developmental disorders.

In the present study, the specific goal-directed self-regulation outcomes measured are goal-directed thinking and goal attainment. Goal directed thinking refers to an individual's perceived agency to initiate and undertake actions required to

achieve their goals, and the perceived ability to find pathways to achieving their goals (Snyder et al., 1996). Goal attainment refers to the extent to which an individual has attained their goals (Kiresuk & Sherman, 1968). Based on ACT theory and coaching-specific evidence, it is expected that goal-directed thinking and goal attainment will increase following an ACT-informed coaching intervention.

ACT-Informed Coaching and Psychological Flexibility

The ACT coaching intervention has been designed to increase psychological flexibility using a range of ACT-informed content and techniques (e.g. values-aligned goals, mindfulness practices, and metaphors). ACT-informed coaching-related research has shown that ACT-informed interventions increase psychological flexibility (e.g. Biglan et al., 2013; Bond & Bunce, 2000; Stafford-Brown & Pakenham, 2012; Varra et al., 2008). Psychological flexibility has been shown to have a positive impact on a range of psychological factors, such as wellbeing and performance, in a range of contexts (Hayes et al., 2006; Ruiz, 2010). The preliminary study of ACT-informed coaching showed no significant increase in psychological flexibility following a brief ACT-informed coaching intervention. However, the lack of significant change in psychological flexibility may have been due to low power in the analysis, and insufficient activation of ACT processes in a brief ACT-informed coaching intervention.

As reviews of coaching research recommend exploring processes of change in coaching interventions, this study aims to test the role of psychological flexibility as a mediator in ACT-informed coaching. ACT research is unusual in the importance placed on understanding mediator and moderator relationships (Ruiz, 2010). The ACT literature identifies increased psychological flexibility as the process of change in ACT-informed interventions. ACT-informed coaching-related research has shown psychological flexibility to have a mediating effect on the positive outcomes of ACT-

informed interventions (Bond & Bunce, 2000; Stafford-Brown & Pakenham, 2012; Varra et al., 2008). In line with the ACT-informed coaching-related evidence, it is expected that increases in psychological flexibility will mediate increases in coaching outcomes following the coaching intervention.

The Present Study

The present study is the second phase of experimentation into the efficacy of ACT-informed coaching. This study aims to adhere to recommendations for methodologically rigorous RCTs, and investigate a theoretically derived mediator in ACT-informed coaching. This study tests the impact of an ACT-informed coaching intervention in a workplace performance and development context. We anticipate a longer and more substantial coaching intervention will have a greater impact on coaching outcomes than the brief intervention used in the preliminary study. This study investigates outcomes suggested by a framework of coaching outcomes; namely, performance and skills, wellbeing, coping, work attitudes, and goal-directed self-regulation. The impact of the intervention on performance will be determined by changes in participant's self-reported individual performance and independent ratings of their individual performance by the participant's supervisor. The impact of the intervention on wellbeing will be determined by changes in participant's general mental health. The impact of the intervention on coping will be determined by changes in participant's general self-efficacy. The impact of the intervention on work attitudes will be determined by changes in participant's job satisfaction and intrinsic job motivation. Finally, the impact of the intervention on goal-directed self-regulation will be determined by changes in participant's goal-directed thinking, and goal attainment.

ACT theory and findings from previous research indicate that ACT-informed coaching will increase individual performance, general mental health, generalised

self-efficacy, job satisfaction, intrinsic job motivation, goal-directed thinking, and goal attainment. As well as investigating coaching outcomes proposed by coaching research, we will measure psychological flexibility to establish if a more substantial ACT-informed coaching intervention increases psychological flexibility. The final aim of the current study is to investigate a theoretically derived process of change in ACT-informed coaching, psychological flexibility, as a mediator in ACT-informed coaching. Taken together, the current evidence leads us to propose the following three hypotheses:

Hypothesis 1: ACT-informed coaching will lead to significant increases in individual performance, general mental health, generalised self-efficacy, job satisfaction, intrinsic job motivation, goal-directed thinking, and goal attainment, when compared to a control group.

Hypothesis 2: ACT-informed coaching will lead to significant increases in psychological flexibility, when compared to a control group.

Hypothesis 3: Increases in psychological flexibility that result from the ACT-informed coaching will account for, or mediate, the increases in individual performance, general mental health, generalised self-efficacy, job satisfaction, intrinsic job motivation, goal-directed thinking, and goal attainment.

Method

Design

Data were collected from an ACT-informed coaching intervention conducted across the UK Civil Service. This intervention used a randomised controlled trial (RCT) design, which compared ACT-informed coaching to a waitlist control group. Participants received the ACT-informed coaching intervention during an

experimental period from March to July 2015. Surveys were distributed by email.

Survey 1 was sent by email one week before the first coaching session (baseline;

Time 1). Survey 2 was sent one week before the second coaching session (five weeks

after the baseline measure; Time 2). Survey 3 was sent one week before the third

coaching session (nine weeks after the baseline measure; Time 3). Survey 4 was sent

four weeks after the third coaching session (14 weeks after the baseline measure;

Time 4). (For further detail of survey administration, please refer to the logistical

summary provided in the procedure section below.)

Participants

The sample for the study was senior managers in the UK civil service who

volunteered to take part in a workplace coaching intervention. The eligibility criteria

for participants were that they had to be at Civil Service grade six or seven (the grade

system indicates consistent levels of seniority across governmental departments), and

able to meet for face-to-face coaching sessions in London. Participants were screened

to ensure they met the inclusion criteria as part of a two stage recruitment process, so

no individuals were excluded based on this criteria.

Of the 69 participants initially recruited into the intervention arm of the study,

66 responded to the survey at Time 1. Of those participants, 65 completed all three

coaching sessions. This represents an overall attrition rate of 6% in the intervention

arm of the study. Of the 68 participants recruited into the control arm of the study, 62

completed the study surveys. This represents an overall attrition rate of 9% in the

control arm of the study. These rates of attrition are low relative to other studies of

this nature. Of the 127 participants in the sample, 90 (71%) were female, and 94

(74%) participants described their ethnicity as white. Participants were aged between

26 to 60 years (mean age of 41.47 years). On average participants had worked in their

job for between 3-4 years (mean of 3.27 years). Of the 127 participants, 5 (4%) were

educated to GSCE level or equivalent, 5 (4%) were educated to A level or equivalent, 48 (38%) were educated to undergraduate degree level, 61 (48%) were educated to postgraduate degree level, and 8 (6%) reported being educated to another level not represented in these categories.

Measures

Performance. This was measured using the individual performance items from the Model of Positive Work Role Behaviours (Griffin et al., 2007). This scale is based on a theoretically derived model of performance, focusing on an individual's proficiency, adaptivity, and proactivity at work. All items are rated based on how often participants have carried out the behaviour over the past month on a scale ranging from 1 (very little) to 5 (a great deal). Responses were collected as a self-report from participants and independent ratings of performance by the participants' supervisor. Each version of the scale consists of nine items overall. Participants were asked to rate how often they had carried out each behaviour over the past month on a scale ranging from 1 ("very little") to 5 (a "great deal"). An example self-report item for this scale is "Completed your core tasks well using the standard procedures". Supervisors were asked to rate how often the participant had carried out each behaviour over the past month on a scale ranging from 1 ("very little") to 5 (a "great deal"). An example supervisor-rating item for this scale is "Carried out the core parts of their job well". Higher scores indicate higher performance. However, a low response rate for supervisor ratings (>5% return rate) meant these data were not analysable. Therefore, only self-report data has been included in the study analysis. The internal consistency reliability coefficient of the self-report version of this scale in the current sample was good (Cronbach's alphas: .91 at Time 1, .91 at Time 2, .93 at Time 3, and .92 at Time 4).

General mental health. This was measured using the General Health Questionnaire (GHQ-12; Goldberg, 1992). This scale is a measure of current mental health; specifically the inability to carry out normal functions, and the appearance of new and distressing experiences. It consists of 12 items. An example item from this scale is "have you recently felt capable of making decisions about things?" Items are scored 0 (more so than usual) to 3 (much less than usual). Higher scores signal poor general mental health: For the purposes of this study, scores were reverse coded so higher scores indicate increased general mental health. The internal consistency reliability coefficient of this scale in the current sample was good (Cronbach's alphas: .88 at Time 1, .89 at Time 2, .91 at Time 3, and .90 at Time 4).

Generalised self-efficacy. This was measured using the Generalised Self-Efficacy Scale (GSE; Schwarzer & Jerusalem, 1995). The GSE is a measure of a general sense of perceived self-efficacy which relates to the belief that one can perform novel or difficult tasks, and adapt after stressful life events. It consists of 10 items. An example item from this scale is "It is easy for me to stick to my aims and accomplish my goals". Items are scored 1 (not true at all) to 4 (exactly true). Higher scores indicate higher general self-efficacy. The internal consistency reliability coefficient of this scale in the current sample was good (Cronbach's alphas: .87 at Time 1, .89 at Time 2, .88 at Time 3, and .91 at Time 4).

Job satisfaction. This was measured using the General Job Satisfaction Scale (GJSS; Hackman & Oldham, 1975). The GJSS measures the degree to which individuals are satisfied and happy in their work. It consists of five items. An example item is "Generally speaking, I am very satisfied with this job". Items are scored 1 (disagree strongly) to 7 (agree strongly). The internal consistency reliability coefficient of this scale in the current sample was good (Cronbach's alphas: .79 at Time 1, .81 at Time 2, .85 at Time 3, and .86 at Time 4).

Intrinsic job motivation. This was measured using the Intrinsic Job Motivation Scale (IJMS; Warr et al., 1979). This scale measures the extent to which a person is motivated to work well in his or her job in order to achieve intrinsic satisfaction. It consists of six items and respondents are instructed to answer how strongly they agree or disagree based on their present job rather than work in general. An example item is "I feel a sense of personal satisfaction when I do this job well". Items are scored 1 (No, I strongly disagree) to 7 (Yes, I strongly agree). Higher scores indicate higher motivation. The internal consistency reliability coefficient of this scale in the current sample was below the acceptable level of .70 (Cronbach's alphas: .62 at Time 1, .54 at Time 2, .61 at Time 3, and .63 at Time 4; Cronbach & Gleser, 1957). This suggests the IJMS scale was not reliably predicting intrinsic job motivation in the current sample. An analysis of the scale items indicated it was not possible to increase the reliability of the scale by excluding scale items; therefore, the analysis is conducted using this scale whilst noting the low reliability coefficient.

Goal-directed thinking. This was measured using the State Hope Scale (SHS; Snyder et al., 1996). The SHS is a measure of current goal-directed thinking. It consists of six items. An example item from this scale is "I can think of many ways to reach my current goals". Items are scored 1 (definitely false) to 8 (definitely true). Higher scores indicate higher current goal-directed thinking. The internal consistency reliability coefficient of this scale in the current sample was good (Cronbach's alphas: .88 at Time 1, .89 at Time 2, .91 at Time 3, and .92 at Time 4).

Goal attainment. This was measured using a self-report measure of goal attainment (Spence, 2007). This method measures participants' perceived progress towards their goals. After setting goals, individuals are asked to rate their success in working towards each identified goal on a 5 point scale from 1 (0% success) to 5 (100% success). Then individuals are asked to indicate a level of difficulty for each

goal from 1 (very easy) to 4 (very difficult). Goal attainment scores are calculated by multiplying the progress score by the difficulty score for each goal, and taking the mean across the individual's goals. By rating the difficulty of the goal it is argued that the measure becomes more sensitive to change. This is due to creating greater influence for progress towards goals deemed to be more challenging (Spence, 2007). The Time 1 self-report measure of goal attainment for the ACT coaching group was administered in person at the end of the first coaching session, as goals were constructed in this coaching session. The Time 1 self-report measure of goal attainment for the control group was administered online as part of survey 1. Subsequent measures of goal attainment were administered as part of the online surveys.

Psychological flexibility. Psychological flexibility was measured using the Work-related Acceptance and Action Questionnaire (WAAQ; Bond et al., 2013). This is a measure of psychological flexibility at work; specifically the extent to which people can take goal-directed actions at work in the presence of difficult internal experiences. It consists of seven items. An example item from this scale is "I am able to work effectively in spite of any personal worries that I have". Items are scored 1 (never true) to 7 (always true). Higher scores indicate greater work-related psychological flexibility. The internal consistency reliability coefficient of this scale in the current sample was good (Cronbach's alphas: .91 at Time 1, .92 at Time 2, .94 at Time 3 and .95 at Time 4).

Working alliance. Data for an investigation into the role of working alliance in ACT-informed coaching was collected during this study for analysis at a later stage of the research. (Full details of this measure are reported in Chapter 7.)

Intervention

The ACT-informed coaching intervention was designed and delivered face-to-face by the researcher. The researcher had undertaken coaching-specific and ACT-specific training in advance of designing and delivering the intervention. Throughout the experimental period, two practitioners, experienced in both ACT and coaching, provided supervision. The ACT-informed coaching intervention consisted of three face-to-face 90-minute coaching sessions delivered over a period of nine weeks. A protocol for the coaching intervention was developed using a range of ACT-based resources (Blonna, 2011; Flaxman et al., 2013; Harris, 2009). (See Appendix E for the coaching intervention protocol for this study.) Particular attention was paid to ensure that the intervention was entirely consistent with the ACT model: For example, using a values clarification exercise, use of metaphors in the coaching, and inclusion of experiential mindfulness practices. To ensure the fidelity of the intervention, a practitioner experienced in both ACT and coaching reviewed the protocol prior to delivery. The protocol for this study built upon and extended the brief coaching intervention protocol developed for the preliminary study.

The core aims of the first coaching session were to (a) introduce the coachee to ACT-informed coaching, and the strategies ACT approaches employ, (b) identify core work values for the coachee, (c) identify goals for the coachee to work on during the coaching programme, and (d) introduce the coachee to mindfulness practice. The three main exercises used in the session were a values clarification exercise, a goal-setting process, and a short mindfulness practice. Participants were asked to practice mindfulness between coaching sessions: Two mindfulness practices were discussed in the coaching session, and then emailed to participants following the session. (See Appendix F for the hand-outs used in this study.)

The core aims of the second coaching session were to (a) review progress towards the coachee's goals, (b) review the use of mindfulness since the previous session, and (c) introduce defusion and acceptance as ways of moving past psychological blocks to progress. There were three main exercises used in the session: A mindfulness exercise focused on defusing the coachee from their thoughts, feelings and physical sensations; a defusion and acceptance exercise focused on moving beyond psychological barriers to coachees goal progress; and a metaphor designed to increase the coachees willingness to experience difficult thoughts and emotions in relation to their goals. Participants were asked to use mindfulness practices between sessions, and practice using the defusion, acceptance, and willingness exercises if they noticed psychological blocks to progress. Copies of these exercises were emailed to participants after the coaching session.

The core aims of the final session were to (a) review progress towards the coachee's goals, (b) introduce the observing perspective (i.e. self-as-context perspective), and (c) encourage coachees to keep working towards their goals and increase their values consistent actions. There were two main exercises used in the session: A mindfulness exercise focusing on the observing perspective; and a values consistency exercise, which asked coachees to reflect on what they are doing day-to-day to live their values, where the inconsistencies with their values are, and what else they might be able to do to bring their values to life. Copies of these exercises were emailed to participants after the coaching session. Following completion of the final survey, participants were emailed a handout with information to help participants move forward with their gaols and values following the coaching programme. This included (a) a short mindfulness practice; (b) a life values clarification exercise; (c) tips and suggestions for facilitating values-based living; (d) a resilience enhancing exercise; and (e) resources for learning more about ACT.

Procedure

The study was given ethical approval by the Institute of Management Studies internal ethical standards review process. Participants were recruited from the UK civil service via internal communications from the centralised Civil Service Learning function. Participants were recruited from a range of UK civil service departments: Cabinet Office; Crown Prosecution Service; Department for Business, Innovation & Skills; Department for Communities and Local Government; Department for Transport; Department of Health; Department for Work and Pensions; Education Funding Agency; Foreign and Commonwealth Office; Government Office for Science; Her Majesty's Prison and Probation Service; HM Revenue and Customs; Home Office; Ministry of Defence; Ministry of Justice; The Insolvency Service; Official Solicitor and Public Trustee; and UK Exports Finance.

A two-stage recruitment process was used. In stage one, CS Learning distributed a short brief for the research across civil service departments. (See Appendix G for recruitment materials for this study.) Interested individuals were asked to express their interest in the study. At this stage, 287 individuals expressed an interest in the study. In stage two, the researcher contacted interested individuals with detailed information for the study, and individuals were asked to confirm their participation in the study. Individuals were selected on a first come, first served basis until an initial sample size of 137 participants was reached (i.e. 69 participants in the experimental condition, and 68 participants in the control condition). An online research randomiser tool (www.randomizer.org) was used to randomly allocate participants to either the experimental group or the waitlist control group.

Data were collected through online surveys sent to participants by email. (See Appendix H for Survey 1 for this study.) For logistical purposes, participants in the experimental condition were split into four equal sets. Specifically, we calculated that

it would be possible for the researcher to coach up to 17 people per week. We split

the experimental group into four sets of 17 people, and the control group into another

four sets of 17 people. These sets determined the date surveys were sent to

participants, and the week in which participants received coaching. By allocating

participants to the same week for survey administration and coaching delivery during

three consecutive months, this ensured that coaching was received at the same point

in each month for each coachee, and that all coachees had the same amount of time

between coaching sessions. Table 3 shows a schedule of the study survey

administration and coaching sessions by condition and set. This shows time points for

every survey administered in the study, and when coaching sessions were conducted

for all study participants.

Table 3 *RCT Study Schedule of Survey Administrations and Coaching Sessions by Condition and Set*

Date	Experimental Condition				Control Condition			
	Set 1	Set 2	Set 3	Set 4	Set 1	Set 2	Set 3	Set 4
23rd Mar	T1				T1			
30th Mar	C1	T1				T1		
6th Apr		C1	T1				T1	
13th Apr			C1	T1				T1
20th Apr	T2			C1	T2			
27th Apr	C2	T2				T2		
4th May		C2	T2				T2	
11th May			C2	T2				T2
18th May	T3			C2	T3			
25th May	C3	T3				T3		
1st Jun		C3	T3				T3	
8th Jun			C3	T3				T3
15th Jun				C3				
22nd Jun	T4				T4			
29th Jun		T4			C1	T4		
6th Jul			T4			C1	T4	
13th Jul				T4			C1	T4
20th Jul								C1
27th Jul					C2			
3rd Aug						C2		
10th Aug							C2	
17th Aug								C2
24th Aug					C3			
31st Aug						C3		
7th Sep							C3	
14th Sep								C3

Note: T1 = Time 1; T2 = Time 2; T3 = Time 3; T4 = Time 4; C1 = Coaching session 1; C2 = Coaching session 2; C3 = Coaching session 3.

No participants were allowed to change set once the experimental period began. This process ensured participants in the experimental and control groups completed baseline measures and subsequent surveys with the same time intervals in between. It also ensured a consistent time interval in the experimental group between completion of the online surveys and coaching sessions. Participants were invited to express a preference for set based on their availability (e.g. to avoid pre-booked annual leave dates). Of the 195 coaching sessions delivered to 65 participants in the experimental group, 144 (74%) took place at the participant's workplace, 47 (24%) at

the Goldsmiths campus, and 4 (2%) at another location of the participant's choice

(i.e. public café).

Results

Of the initial 69 participants recruited for the ACT coaching group four (6%)

did not complete the required questionnaires or participate in all three coaching

sessions. Of the 68 participants recruited for the control group six participants (8%)

did not complete the required questionnaires. These participants are excluded from

the analyses. As a result of this attrition, the analyses in this study are based on the

following group sizes: ACT = 65 and control = 62. Data were analysed using the IBM

SPSS Statistics program (version 22). Data were cleaned and screened in advance of

analyses, in accordance with recommendations by Tabachnick and Fidell (2001).

Each item was examined to ensure the plausibility of data and to identify any out-of-

range values. There were a small number of missing values in the overall data set

(<5%) and after investigation it was established that MCAR's test was non-significant

($p=1.00$ for both the intervention and control group), so values were replaced using

EM estimation. Items requiring reverse scoring were computed (items 2 and 5 on the

GJSS, and all items on the GHQ-12). The Cronbach's alpha for each scale was

inspected to ensure the reliability of the scale was satisfactory (reported in the

methods section of this chapter).

Scales were checked by group for normality in the distribution of the data by

ensuring skewness was less than an absolute value of 2 and kurtosis less than an

absolute value of 7 (Curran et al., 1996). Careful consideration of outliers was made.

As argued by Osborne and Overbay (2004), it is likely that around 1% of participants

will be 3 standard deviations from the mean despite being legitimate cases sampled

from the correct population. One case in the control group was identified as a

univariate outlier for goal attainment at Time 2 due to a moderately high z score. The

z score was marginally outside of the critical value for χ^2. Rather than deleting the case it was truncated (through winsorizing) to ensure no deleterious effects on the subsequent analyses. Using Mahalanobis Distance with $p < .001$ one case was identified as a multivariate outlier and was deleted from the final analysis. As a result of screening, the subsequent analyses are based on the following group sizes: ACT = 65 and control = 61.

Group differences for all study and biographical variables at Time 1 were examined. Results indicated that there were significant Time 1 differences between the ACT and control group for goal attainment (F (1, 124) = 61.26, $p < .001$, $\eta^2 =$ .33). A comparison of the group mean values (ACT group = 15.02; control group = 24.98) suggests the control group had constructed goals they had made significantly more progress towards at Time 1 that the ACT group. No other variables indicated significant differences between the ACT and control groups at Time 1. Table 4 presents the means and standard deviations of all study and biographical variables by group at each time point.

Table 4 *RCT Study Means and Standard Deviations for Study and Biographical Variables*

Variable	ACT		Control	
	M	SD	M	SD
Self-rated performance				
Time 1	3.45	0.76	3.61	0.78
Time 2	3.38	0.65	3.43	0.84
Time 3	3.41	0.72	3.28	0.76
Time 4	3.51	0.66	3.30	0.69
General mental health				
Time 1	2.01	0.37	1.95	0.47
Time 2	2.11	0.44	1.99	0.42
Time 3	2.20	0.38	1.89	0.51
Time 4	2.27	0.34	2.02	0.49
Generalised self-efficacy				
Time 1	3.26	0.35	3.26	0.39
Time 2	3.25	0.32	3.24	0.43
Time 3	3.33	0.32	3.27	0.37
Time 4	3.41	0.31	3.22	0.44
Job satisfaction				
Time 1	4.84	1.11	4.65	1.11
Time 2	4.86	1.15	4.50	1.12
Time 3	4.72	1.29	4.29	1.18
Time 4	4.98	1.19	4.38	1.23
Intrinsic job motivation				
Time 1	6.05	0.48	6.09	0.61
Time 2	6.02	0.40	6.14	0.50
Time 3	6.04	0.45	6.04	0.56
Time 4	6.01	0.49	5.97	0.59
Goal-directed thinking				
Time 1	5.79	1.08	5.69	1.22
Time 2	5.92	1.00	5.72	1.21
Time 3	6.09	1.02	5.59	1.22
Time 4	6.29	0.96	5.66	1.31
Goal attainment				
Time 1	15.02	5.18	24.98	8.76
Time 2	19.65	5.12	26.58	8.11
Time 3	26.28	7.81	27.84	8.65
Time 4	30.20	7.07	29.75	7.94
Psychological flexibility				
Time 1	4.96	0.83	4.95	0.91
Time 2	4.91	0.86	4.94	0.92
Time 3	5.25	0.87	5.02	0.95
Time 4	5.40	0.83	5.03	1.02
Age (years)	40.55	8.08	42.38	7.39
Years in role	3.71	4.33	2.82	3.61

Note: M = mean; SD = standard deviation.

Bivariate Correlations

Table 2 presents the zero-order correlations for the Time 1 study and biographical variables. As can be seen, intrinsic job motivation was significantly correlated with gender, and goal attainment was correlated with age and ethnicity. These biographical variables were controlled for in subsequent analyses involving these study variables.

Table 5 *RCT Study Zero-Order Correlations for Study and Biographical Variables at Time 1*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Performance	-																
2. General mental health	.26**	-															
3. Generalised self-efficacy	.24**	.35**	-														
4. Job satisfaction	.01	.32**	.05	-													
5. Intrinsic job motivation	.12	-.09	.05	.26**	-												
6. Goal-directed thinking	.28**	.52**	.26**	.21*	.21*	-											
7. Goal attainment	.30**	.14	.16	.09	.06	.17	-										
8. Psychological flexibility	.45**	.45**	.63**	.06	.13	.52**	.25**	-									
9. Age	.08	-.08	.05	-.02	-.29	.04	.20*	.13	-								
10. Gender	.00	.13	-.08	-.01	-.25**	-.08	.12	-.06	.06	-							
11. Ethnicity	.08	.04	.09	-.04	-.02	.02	.28**	.08	.04	.12	-						
12. Years in role	-.10	.07	.17	.01	-.07	.06	.06	.12	.26**	.08	.12	-					
13. Current role	-.10	-.09	.01	-.08	.03	-.01	-.05	-.17	-.20*	-.14	-.06	-.04	-				
14. Employment status	-.04	-.02	.06	-.02	.06	.10	-.11	.00	.18*	-.11	-.09	-.02	-.03	-			
15. Education 1	-.06	-.02	-.02	.18*	.04	.06	.08	-.05	.19*	-.04	-.10	.10	-.01	.334*	-		
16. Education 2	-.05	.10	.05	.00	-.04	-.07	-.14	.13	.16	-.13	-.06	.9	-.06	-.04	-.04	-	
17. Education 3	.18*	.12	.08	-.05	-.12	.06	-.03	.07	-.15	.23*	.11	-.07	.03	-.10	-.16	-.16	-
18. Education 4	-.03	-.15	.03	-.06	.04	.04	.04	-.03	.07	-.09	.12	-.08	-.20*	.21*	-.05	-.05	-.20*

Note: N = 126; *p* <.05; ** *p* <.01. Education coding: 1 = GSCE or equivalent vs. postgraduate degree; 2 = A level or equivalent vs. postgraduate degree; 3 = Bachelor's degree vs. postgraduate degree; 4 = Other vs. postgraduate degree.

Intervention Analysis

A 2 x 4 repeated measures multivariate analysis of covariance (MANCOVA) was carried out to test the first and second hypotheses; that ACT-based coaching would lead to significant changes in individual performance, general mental health, generalised self-efficacy, job satisfaction, intrinsic job motivation, goal-directed thinking, goal attainment, and psychological flexibility. The sample size recommended by Cohen (1988) for sufficient power to detect a medium effect (i.e. to detect a *P* value of .05) in this type of analysis is 64 participants per group. The ACT group had 65 participants, but the control group had 61 which is slightly less than the recommended sample size. The between-subjects factor was group (ACT coaching vs. control), and the within-subjects factor was time (Time 1 vs. Time 2 vs. Time 3 vs. Time 4). Covariates included in the analysis were age, gender, Education 1, Education 3, and ethnicity. This analysis showed a significant overall group by time interaction when all dependent, mediator, and control variables were included (F (3, 117) = 16.03, p = <.001, η^2 = .29). As the overall MANCOVA analysis was significant, repeated measures MANOVAs and MANCOVAs were carried out for each of the variables. Where the individual analyses showed significant main effects, within-subjects simple effects tests were performed to isolate the within-subjects effects for each time interval. These analyses were carried out for six time intervals, specifically Time 1 to Time 2, Time 1 to Time 3, Time 1 to Time 4, Time 2 to Time 3, Time 2 to Time 4, and Time 3 to Time 4. A Bonferroni corrected p value of .008 was applied for within-subjects simple contrasts. Where the individual analyses showed significant main effects, between-subjects simple effects tests were also performed to isolate the between-subjects effects at each time point. These analyses were carried out (with Time 1 as a covariate) for Time 2, Time 3, and Time 4. A

Bonferroni corrected p value of .013 was applied for between-subjects simple

contrasts.

Self-rated performance. The individual MANOVA for the self-rated

performance measure (with Education 3 entered as a control) showed a significant

group by time interaction (F (3, 121) = 2.71, p = .048, η^2 = .06). Results showed a

significant main effect for time (F (3, 369) = 3.32, p = .020, η^2 = .03) but a non-

significant main effect for group (F (1, 123) = 2729.44, p = .874, η^2 = .00). Within-

subjects simple effects tests showed no significant changes over time in the ACT

group. In the control group, tests indicated a significant decrease in performance

between T1 to T3 (F (1, 60) = 10.47, p = .002, η^2 = .15), and T1 to T4 (F (1, 60) =

9.87, p = .003, η^2 = .14). Between-subjects tests, with T1 scores entered as a

covariate, indicated that performance was significantly higher in the ACT group at T4

(F (1, 123) = 6.29, p = .013, η^2 = .05).

General mental health. The individual MANOVA for the GHQ-12 showed a

significant group by time interaction (F (3, 122) = 3.66, p = .014, η^2 = .08). Results

showed a significant main effect for time (F (3, 372) = 5.33, p = .001, η^2 = .04) and a

significant main effect for group (F (1, 124) = 5129.99, p = .001, η^2 = .08). Simple

effects tests showed a significant increase in general mental health for the ACT group

between T1 to T3 (F (1, 64) = 10.11, p = .002, η^2 = .14), T1 to T4 (F (1, 64) = 18.97,

p < .001, η^2 = .23), and T2 to T4 (F (1, 64) = 8.93, p = .004, η^2 = .12). No significant

changes in the control group were observed. Between-subjects tests, with T1 scores

entered as a covariate, showed that wellbeing was significantly higher in the ACT

group at T3 (F (1, 123) = 14.28, p < .001, η^2 = .10) and at T4 (F (1, 123) = 10.30, p =

.002, η^2 = .08).

Generalised self-efficacy. The individual MANOVA for the GSE showed a

significant group by time interaction (F (3, 122) = 4.91, p =.003, η^2 = .11). Results

showed a significant main effect for time (F (3, 372) = 3.17, p = .024, η^2 = .03) but a non-significant main effect for group (F (1, 124) = 12777.92, p = .254, η^2 = .01). Simple effects tests for the ACT group indicated a significant increase in generalised self-efficacy between T1 and T4 (F (1, 64) = 14.44, p < .001, η^2 = .18), and T2 and T4 (F (1, 64) = 20.11, p < .001, η^2 = .24). No significant changes in the control group were observed. Between-subjects tests, with T1 scores entered as a covariate, showed that generalised self-efficacy was significantly higher in the ACT group at T4 (F (1, 123) = 12.54, p = .001, η^2 = .09).

Job satisfaction. The individual MANOVA for the GJSS (with Education 1 entered as a control) showed no significant group by time interaction (F (3, 121) = 1.75, p = .161, η^2 = .04). No further analyses were performed for this variable.

Intrinsic job motivation. The individual MANCOVA for the IJMS showed no significant group by time interaction (F (3, 121) = 1.68, p = .175, η^2 = .04). No further analyses were performed for this variable.

Goal-directed thinking. The individual MANOVA for the SHS showed a significant group by time interaction (F (3,122) = 4.02, p = .009, η^2 = .09). Results showed a significant main effect for time (F (3, 372) = 3.25, p = .022, η^2 = .03) and a significant main effect for group (F (1, 124) = 4.03, p = .047, η^2 = .03). Simple effects tests indicated a significant increase in goal-directed thinking for the ACT group between T1 to T4 (F (1, 64) = 18.73, p < .001, η^2 = .23), and T2 to T4 (F (1, 64) = 12.64, p = .001, η^2 = .17). No significant changes in the control group were observed. Between-subjects tests, with T1 scores entered as a covariate, showed that goal-directed thinking was significantly higher in the ACT group at T3 (F (1, 123) = 8.16, p = .005, η^2 = .06) and T4 (F (1, 123) = 14.09, p < .001, η^2 = .10).

Goal attainment. The individual MANCOVA for the goal attainment variable showed a significant group by time interaction (F (3, 1120) = 15.97, p <.001,

$\eta^2 = .29$). Results showed a significant main effect for time (F (3, 372) = 77.31, $p < .001$, $\eta^2 = .38$) and a significant main effect for group (F (1, 124) = 242.68, $p < .001$, $\eta^2 = .95$). Simple effects tests indicated a significant increase in goal attainment for the ACT group at all time intervals; T1 to T2 (F (1, 64) = 25.87, $p < .001$, $\eta^2 = .29$), T1 to T3 (F (1, 64) = 84.20, $p < .001$, $\eta^2 = .57$), T1 to T4 (F (1, 64) = 187.20, $p < .001$, $\eta^2 = .75$), T2 to T3 (F (1, 64) = 63.29, $p < .001$, $\eta^2 = .50$), T2 to T4 (F (1, 64) = 183.19, $p < .001$, $\eta^2 = .74$), and T3 to T4 (F (1, 64) = 22.88, $p < .001$, $\eta^2 = .26$). For the control group, analyses showed a significant increase in goal attainment between T1 to T3 (F (1, 60) = 10.29, $p = .002$, $\eta^2 = .15$), T1 to T4 (F (1, 60) = 17.03, $p < .001$, $\eta^2 = .22$), and T2 to T4 (F (1, 60) = 9.03, $p < .001$, $\eta^2 = .13$). Between-subjects tests, with T1 scores entered as a covariate, showed no significant differences between the ACT group and control group for goal attainment.

Psychological flexibility. The individual MANOVA for the psychological flexibility variable showed a significant group by time interaction (F (3,122) = 3.63, $p = .015$, $\eta^2 = .08$). Results showed a significant main effect for time (F (3, 372) = 11.16, $p < .001$, $\eta^2 = .08$) but a non-significant main effect for group (F (1, 124) = 1.02, $p = .313$, $\eta^2 = .01$). Simple effects tests showed a significant increase in psychological flexibility for the ACT group between T1 to T3 (F (1, 64) = 10.49, $p = .002$, $\eta^2 = .14$), T1 to T4 (F (1, 64) = 16.96, $p < .001$, $\eta^2 = .21$), T2 to T3 (F(1, 64) = 16.23, $p < .001$, $\eta^2 = .20$), and T2 to T4 (F (1, 64) = 22.46, $p < .001$, $\eta^2 = .26$). No significant changes in the control group were observed. Between-subjects tests, with T1 scores entered as a covariate, showed that psychological flexibility was significantly higher in the ACT group at T4 (F (1, 123) = 8.39, $p = .004$, $\eta^2 = .06$).

Mediation Analyses

We examined the hypothesised mediation relationships using a non-parametric bootstrapping procedure, as outlined in Preacher and Hayes (2004). This

analysis tests the direct effect between a predictor variable (X) and an outcome variable (Y), and the specific indirect effect of a mediator variable (M). The direct effect is the impact of X on Y. A specific indirect effect is the effect of X on Y though the indirect effect of a mediator (M). To model effects, the direct effect of X on Y is represented by the difference in scores in the outcome between the time points used in the analysis (e.g. Time 1 to Time 2; Y_2-Y_1), and the indirect effects are represented by the difference in scores in the mediator variables between the same time points as the direct effects (e.g. Time 1 to Time 2; M_2-M_1). Group (ACT vs control) was entered as the X variable. Scores for Y_2 were entered as the Y variable and scores for M_2 were entered as the M variable. Scores for Y_1 and M_1 were entered as covariates. The analysis uses bootstrapping (sampling data with replacement) to generate a distribution of the direct and indirect effects. The 95% confidence intervals indicate whether the indirect effect is different to zero (i.e. an indirect effect is indicated) if the 2.5% and 97.5% limits exclude zero.

It was expected that psychological flexibility would mediate the changes observed in the coaching outcome variables. Mediation analyses were conducted for outcomes that showed significant increases over time in the ACT group, using time intervals that showed a significant increase in psychological flexibility (between T1 to T3, T1 to T4, T2 to T3, and T2 to T4) to model the mediator variable. A criterion required for establishing a mediator as a mechanism of change is to establish a timeline of change from which causal relations can be inferred, i.e. causes should precede effects (Kazdin, 2007). To provide a comprehensive analysis of mediation effects in the data, mediation analyses were conducted to test for (a) concomitant changes in the mediator accounting for significant changes in the outcome variable (e.g. increases in the mediator between T1 to T4 mediate increases in outcome between T1 to T4), and (b) preceding changes in the mediator variable accounting for

significant changes in the outcome variable (e.g. increases in the mediator between

T1 to T3 mediate increases in outcome between T1 to T4). The results of these

analyses are shown in Table 6.

Table 6 *Bootstrapped Analysis for Detecting Mediation Effects*

Outcome Variable	Mediator Variable	Bootstrap Estimate		BCa 95% CI	
		Effect	*SE*	Lower	Upper
General mental health	Psychological flexibility				
T1 – T3	T1 – T3	-.0724	.0387	-.1550	-.0035
T1 – T4	T1 – T3	-.0267	.0173	-.0708	-.0001
T1 – T4	T1 – T4	-.0897	.0378	-.1817	-.0297
T2 – T4	T1 – T3	-.0041	.0103	-.0375	.0089
T2 – T4	T2 – T3	-.0046	.0150	-.0460	.0208
T2 – T4	T2 – T4	-.0740	.0319	-.1477	-.0221
General self-efficacy	Psychological flexibility				
T1 – T4	T1 – T3	-.0462	.0225	-.0937	-.0440
T1 – T4	T1 – T4	-.0903	.0348	-.1693	-.0310
T2 – T4	T1 – T3	-.0355	.0182	-.0754	-.0033
T2 – T4	T2 – T3	-.0354	.0170	-.0796	-.0092
T2 – T4	T2 – T4	-.0769	.0273	-.1348	-.0305
Goal-directed thinking	Psychological flexibility				
T1 – T4	T1 – T3	-.0982	.0572	-.2430	-.0119
T1 – T4	T1 – T4	-.2671	.0858	-.4552	-.1236
T2 – T4	T1 – T3	-.0651	.0414	-.1802	-.0036
T2 – T4	T2 – T3	-.0757	.0447	-.1910	-.0127
T2 – T4	T2 – T4	-.2552	.0851	-.4408	-.0945
Goal attainment	Psychological flexibility				
T1 – T3	T1 – T3	-.8363	.4862	-2.1074	-.1373
T1 – T4	T1 – T3	-.5332	.4133	-1.6578	.0382
T1 – T4	T1 – T4	-.9433	.5078	-2.3019	-.1884
T2 – T3	T1 – T3	-.7252	.4899	-1.8955	.0200
T2 – T3	T2 – T3	-.8363	.4825	-2.0796	-.1182
T2 – T4	T1 – T3	-.5377	.3774	-1.7709	-.0430
T2 – T4	T1 – T4	-.8738	.4380	-2.0195	-.2324
T2 – T4	T2 – T3	-.7235	.4527	-2.0139	-.1031
T2 – T4	T2 – T4	-1.0406	.5462	-2.4600	-.2452
T3 – T4	T1 – T3	-.1880	.2998	-.9175	.2647
T3 – T4	T1 – T4	-.2392	.3080	-.9895	.2405
T3 – T4	T2 – T3	-.3231	.3792	-1.2285	.2787
T3 – T4	T2 – T4	-.3681	.4042	-1.3683	.2676

Note: BCa = bias corrected and accelerated bootstrapping confidence intervals that contain corrections for both median bias and skew. Confidence intervals containing zero are interpreted as non-significant. 1000 bootstrap samples.

General mental health. Intervention analysis indicated that general mental health increased significantly between T1 to T3, T1 to T4, and T2 to T4. Mediation analyses indicated that increases in psychological flexibility between T1 to T3, T1 to T4, and T2 to T4 mediated concomitant increases in general mental health between T1 to T3, T1 to T4, and T2 to T4 respectively. The significant T1 to T3 increase in psychological flexibility mediated the significant T1 to T4 increase in general mental health. No mediation effect was shown for prior changes in psychological flexibility for significant T2 to T4 increases in general mental health.

Generalised self-efficacy. Intervention analysis indicated that generalised self-efficacy increased significantly between T1 to T4 and T2 to T4. Mediation analyses showed that increases in psychological flexibility between T1 to T4, and T2 to T4 mediated concomitant increases in generalised self-efficacy between T1 to T4, and T2 to T4 respectively. The significant T1 to T3 increase in psychological flexibility mediated the significant T1 to T4, and T2 to T4 increases in generalised self-efficacy; and, the significant T2 to T3 increase in psychological flexibility mediated the significant T2 to T4 increase in generalised self-efficacy. Overall, these findings show that psychological flexibility mediated generalised self-efficacy at all time intervals tested in this analysis.

Goal-directed thinking. Intervention analysis indicated that goal-directed thinking increased significantly between T1 to T4, and T2 to T4. Mediation analyses showed that increases in psychological flexibility between T1 to T4, and T2 to T4 mediated concomitant increases in goal-directed thinking between T1 to T4, and T2 to T4 respectively. The significant T1 to T3 increase in psychological flexibility mediated the significant T1 to T4, and T2 to T4 increases in goal-directed thinking; and, the significant T2 to T3 increase in psychological flexibility mediated the significant T2 to T4 increase in goal-directed thinking. Overall, these findings show

that psychological flexibility mediated goal-directed thinking at all time intervals tested in this analysis.

Goal attainment. Intervention analysis indicated that goal attainment increased significantly between T1 to T2, T1 to T3, T1 to T4, T2 to T3, T2 to T4, and T3 to T4. Mediation analyses showed that increases in psychological flexibility between T1 to T3, T1 to T4, T2 to T3, and T2 to T4 mediated concomitant increases in goal-directed thinking between T1 to T3, T1 to T4, T2 to T3, and T2 to T4 respectively. (We were unable to test whether increases in goal attainment between T1 to T2 and T3 to T4 were mediated by concomitant increases in psychological flexibility because no significant increases in psychological flexibility were observed during these intervals). The significant T1 to T3, T1 to T4, and T2 to T3 increases in psychological flexibility were each shown to mediate the significant T2 to T4 increase in goal attainment. No mediation effect was shown for prior changes in psychological flexibility for significant T1 to T4, T2 to T3, and T3 to T4 increases in general mental health.

Summary of Findings

To summarise, the findings in this study partially supported Hypothesis 1. Results indicated significant increases in general mental health, generalised self-efficacy, and goal-directed thinking for the ACT group. General mental health increased between T1 to T3, T1 to T4, and T2 to T4. General mental health was significantly higher in the ACT group compared to the control group at T3 and T4. Generalised self-efficacy increased between T1 to T2, and T1 to T4. Generalised self-efficacy was significantly higher in the ACT group compared to the control group at T4. Goal-directed thinking increased between T1 to T2, and T1 to T4. Goal-directed thinking was significantly higher in the ACT group compared to the control group at

T3 and T4. No significant changes general mental health, general self-efficacy, or goal-directed thinking were shown for the control group at any time intervals.

Results indicated significant increases in goal attainment for the ACT group between T1 to T2, T1 to T3, T 1 to T4, T2 to T3, T2 to T4, and T3 to T4. There were also significant increases in goal attainment for the control group between T1 to T3, T1 to T4, and T2 to T4. The ACT group had significantly lower goal attainment compared to the control group at T1, which indicates the ACT group had lower goal attainment at the start of the study and scores converged during the experimental period. A comparison of the mean values and effect sizes for this variable suggest that the ACT group made greater progress towards their goals as a result of the coaching intervention than the control group.

No changes were observed in the self-rated performance outcome for the ACT group; however, there was a significant decrease in self-rated performance for the control group, suggesting that the ACT coaching had a maintenance effect on performance outcomes. Between-subjects analyses indicated that performance was significantly higher in the ACT group compared to the control group at T4. No changes were observed in the ACT group or the control group for job satisfaction or intrinsic job motivation.

Hypothesis 2 was supported as results indicated significant increases in psychological flexibility for the ACT group between T1 to T3, T1 to T4, T2 to T3, and T 2 to T4. No changes in psychological flexibility were observed for the control group. Psychological flexibility was significantly higher in the ACT group compared to the control group at T4.

Hypothesis 3 was supported for general mental health, generalised self-efficacy, goal-directed thinking, and goal attainment outcomes. The mediation analyses for general mental health indicated that psychological flexibility mediated

concomitant increases in general mental health between T1 to T3, T1 to T4, and T2 to T4. The significant T1 to T3 increase in psychological flexibility mediated the significant T1 to T4 increase in general mental health. The mediation analyses for general self-efficacy indicated that psychological flexibility mediated concomitant increases in generalised self-efficacy between T1 to T4, and T2 to T4. The T1 to T3 increase in psychological flexibility mediated the T1 to T4, and T2 to T4 increases in generalised self-efficacy; and, the T2 to T3 increase in psychological flexibility mediated the T2 to T4 increase in generalised self-efficacy. The mediation analyses for goal-directed thinking indicated that psychological flexibility mediated concomitant increases in goal-directed thinking between T1 to T4, and T2 to T4. The T1 to T3 increase in psychological flexibility mediated the T1 to T4, and T2 to T4 increases in goal-directed thinking; and, the T2 to T3 increase in psychological flexibility mediated the T2 to T4 increase in goal-directed thinking. The mediation analyses for goal attainment indicated that psychological flexibility mediated concomitant increases in goal attainment between T1 to T3, T1 to T4, T2 toT3, and T2 to T4. Increases in goal-directed thinking between T2 to T4 were mediated by prior increases in psychological flexibility between T1 to T3, T1 to T4, and T2 to T3.

Discussion

This randomised controlled trial of ACT-informed coaching hypothesised that an ACT-informed coaching intervention would lead to significant increases in individual performance, general mental health, general self-efficacy, job satisfaction, intrinsic job motivation, goal-directed thinking, goal attainment, and psychological flexibility in comparison to a waitlist control group. The study also hypothesised that increases in psychological flexibility would mediate increases in individual performance, general mental health, generalised self-efficacy, job satisfaction, intrinsic job motivation, goal directed thinking, and goal attainment.

Consistent with ACT theory, findings showed that ACT-informed coaching increased psychological flexibility. There were significant increases in psychological flexibility in the ACT group over time, and no significant increases in the control group. These results are consistent with evidence from ACT-informed coaching-related research that shows ACT-informed interventions increase psychological flexibility (e.g. Biglan et al., 2013; Bond & Bunce, 2000; Bond & Flaxman, 2006; Stafford-Brown & Pakenham, 2012; Varra et al., 2008). These findings represent a novel contribution to the coaching literature, as no other coaching intervention studies have investigated psychological flexibility as an outcome.

Results showed the coaching intervention did not significantly improve performance in the ACT group over time. However, performance significantly decreased in the control group over time compared to the ACT group. These results suggest the ACT group may have experienced a maintenance effect on performance as a result of the ACT-informed coaching. These results are not consistent with ACT theory that predicted increases in psychological flexibility would enhance performance. Greater psychological flexibility activates defusion and acceptance of thoughts that might hinder performance, encourages valued-led action, and allows individuals to better respond to goal-related opportunities. Findings from coaching-specific evidence (David et al., 2016; MacKie, 2014; Ogbuanya et al., 2017; Ratiu et al., 2017) and ACT-informed coaching-related evidence (Bond & Bunce, 2000; Burton et al., 2010; Luoma et al., 2007; Varra et al., 2008) also suggested ACT-informed coaching would improve performance. A possible explanation for the overall decrease in performance in the control group is the impact of an organisation wide event. There was a general election one month into the experimental period, which had implications across the Civil Service. Many participants were directly impacted by a change of role, team or department as a result of this, and changes on

this scale could have had an overall impact on performance across the organisation, such that performance decreased in the control group. This may have resulted in a decrease in performance for the control group that was buffered in the ACT group by the coaching intervention.

The analysis of the data supports our hypothesis that an ACT-informed coaching intervention would improve general mental health. There were significant increases in general mental health in the ACT group over time, and no significant increases in the control group. These results are consistent with ACT theory that predicted general mental health would increase as a result of clarifying and constructing values, and through developing greater mindful awareness of the desired balance individuals have across things that are meaningful and important to them. These results are consistent with findings from the preliminary study, evidence from coaching-specific research (Collard & Walsh, 2008; David et al., 2016; Hultgren et al., 2016; Ogbuanya et al., 2017; Weinberg, 2016), and ACT-informed coaching-related research (Bond & Bunce, 2000; Biglan et al., 2013; Brinkborg et al., 2011; Burton et al., 2010; Hayes et al., 2004; Jeffcoat & Hayes, 2012; Lloyd et al., 2013, 2017; Noone & Hastings, 2009, 2010; Stafford-Brown & Pakenham, 2012) that have shown improvements in wellbeing outcomes. Mediation analyses indicated increases in psychological flexibility mediated increases in general mental health, with a timeline of change being established for T1 to T3 increases in psychological flexibility mediating T1 to T4 increases in general mental health. These findings support psychological flexibility as a mechanism of change in ACT-informed coaching for general mental health, as predicted in ACT theory.

The analysis of the data supports our hypothesis that an ACT-informed coaching intervention would increase generalised self-efficacy. There were significant increases in generalised self-efficacy in the ACT group over time, and no

significant increases in the control group. These results are consistent with ACT theory, which predicts that ACT-informed coaching will enhance coping outcomes as increases in psychological flexibility increase mindful self-regulation, and reduce experiential avoidance through increased acceptance processes. These results are consistent with findings from coaching-specific evidence (Braunstein & Grant, 2016; Ebner et al., 2017; Evers et al., 2006; Grant, 2012b; McDowall & Butterworth, 2014; Mosteo et al., 2016) and coaching-related ACT-informed intervention studies (Biglan et al., 2013; Stafford-Brown & Pakenham, 2012) that showed increases in self-efficacy following an intervention. Results from the preliminary ACT-informed coaching study showed no significant increase in generalised self-efficacy; however it was hypothesised in the present study that a more substantial coaching intervention would result in demonstrable increases in this variable. Mediation analyses indicated increases in psychological flexibility mediated increases in generalised self-efficacy, with a timeline of change being established for T1 to T3 increases in psychological flexibility mediating T1 to T4 and T2 to T4 increases in generalised self-efficacy; and T2 to T3 increases in psychological flexibility mediating increases in generalised self-efficacy from T2 to T4. These findings support psychological flexibility as a mechanism of change in ACT-informed coaching for generalised self-efficacy, as predicted in ACT theory.

The analysis of the data did not support our hypothesis that an ACT-informed coaching intervention would increase job satisfaction and intrinsic job motivation. The ACT Model predicts that ACT-informed coaching will improve attitudinal outcomes, as increases in psychological flexibility, and especially commitment and behavioural activation processes, increase valued action. However, there were no main effects shown for job satisfaction or intrinsic job motivation. These results are not consistent with evidence from coaching-specific research (Bozer & Sarros, 2012;

Braunstein & Grant, 2016; Grant, 2012b; Mühlberger & Traut-Mattausch, 2015; Sherlock-Storey et al., 2013; Theeboom et al., 2016) or ACT-informed coaching-related studies (Brinkborg et al., 2011; Burton et al., 2010; Hayes et al., 2004; Luoma et al., 2007; Stafford-Brown & Pakenham, 2012; Varra et al., 2008) that have shown improvements in participants' attitudinal outcomes.

Findings from the preliminary study showed increases in life satisfaction following the intervention, so it was expected that the work-focused coaching intervention would increase job satisfaction. However, the ACT intervention study by Bond and Bunce (2000) also found no change in job satisfaction following an ACT-informed intervention, and attributed this to insufficient changes in organisational processes, procedures, and structures to produce an increase in job satisfaction. If this is the case, then a coaching intervention more closely aligned with the participant's job might have a greater impact on job satisfaction.

The preliminary study showed an initial significant increase in situational intrinsic motivation, though this was not enduring. It was expected that increases in intrinsic motivation would occur as a result of greater values clarity, as values are motivational, and increases in values-led action are likely to increase intrinsic motivation related to that action. Therefore, it was expected that work-focused coaching would increase intrinsic job motivation. The absence of an effect could be attributed to the IJMS scale not reliably predicting intrinsic job motivation in the current sample, as indicated by poor internal consistency reliability coefficients. However, the ACT intervention study by Bond and Bunce (2000) also found no change in job motivation following an ACT-informed intervention, and again attributed this to insufficient changes in organisational processes, procedures, and structures. Results from the present study for job satisfaction and intrinsic job

motivation seem inconclusive, so further research might provide clarity on the impact of ACT-informed coaching on work-related attitudinal outcomes.

The findings from this study support the hypothesis that an ACT-informed coaching intervention would increase goal-directed thinking. There were significant increases in goal-directed thinking in the ACT group over time, and no significant increases in the control group. ACT theory predicts increases in goal-directed thinking as a result of increases in psychological flexibility, and specifically commitment and behavioural activation processes that encourage values-led action. These findings are consistent with findings from the preliminary study, coaching-specific research showing improvements in goal-related outcomes (Braunstein & Grant, 2016; Grant, 2012b; Hultgren et al., 2016; McDowall & Butterworth, 2014; Mühlberger & Traut-Mattausch, 2015; Roeden et al., 2014; Mosteo et al., 2016; Sherlock-Storey et al., 2013), and ACT-informed research into committed action (Castro et al., 2016; Gagnon et al., 2016). Mediation analyses indicated increases in psychological flexibility mediated increases in goal-directed thinking, with a timeline of change being established for T1 to T3 increases in psychological flexibility mediating T1 to T4 and T2 to T4 increases in goal-directed thinking; and T2 to T3 increases in psychological flexibility mediating increases in goal-directed thinking from T2 to T4. These findings support psychological flexibility as a mechanism of change in ACT-informed coaching for goal-directed thinking, as predicted in ACT theory. These findings represent a novel contribution to the ACT literature, as no other ACT-informed intervention studies in any context have investigated goal-directed thinking as an outcome.

The analysis of the data does not support our hypothesis that an ACT-informed coaching intervention would increase goal attainment compared to the control group. Both the ACT group and the control group showed increases in goal

attainment over time. The ACT Model predicts that ACT-informed coaching will increase goal attainment, as increases in psychological flexibility, and specifically commitment and behavioural activation processes, focus behaviour in line with the values that an individual holds and encourage action towards values-led goals. However, significant increases in the control group question the extent to which ACT processes are accounting for changes in goal attainment. The act of setting goals can be seen as an intervention, and may have been sufficient to generate significant changes in goal attainment in the control group. Goal-setting theory states that goals themselves influence action as they are directive, energising, activate knowledge and strategies, and influence persistence (Locke & Latham, 2002). Therefore, increases in goal attainment in the ACT group may in part be due to goal-setting processes.

Goal attainment at Time 1 was the only variable in the study to have significant differences between the ACT group and control group at baseline. It is not only possible that setting goals acted as an intervention, but that constructing goals in the first coaching session with the support of a coach also had an intervention effect. If that is the case, constructing goals with a coach will lead to non-equivalent goal attainment at baseline measures of goal attainment compared to setting goals without input from a coach (i.e. in a control condition).

However, scores for goal attainment in the ACT and control groups converged, suggesting that despite significantly lower goal attainment at Time 1, goal attainment in the ACT group was equivalent to the control group at Time 4. Therefore, the ACT group showed greater overall increases in goal attainment in the study. It is likely that ACT processes account for the additional gains in the ACT group. This assumption is supported by results from the mediation analyses that show a mediation effect of increases in psychological flexibility for increases in goal attainment: Specifically, increases in psychological flexibility between T1 to T3 and

T1 to T4, T2 to T3, and T2 to T4 mediated concomitant increases in goal attainment respectively; and increases in psychological flexibility between T1 to T3 and T1 to T4, and T2 to T3 mediated increases in goal attainment between T2 to T4. Taken overall, the findings of the present study suggest psychological flexibility accounts for increases in goal attainment to some extent, but that goals-setting processes also account for increases in this outcome.

There are drawbacks to how goal attainment was measured and controlled in the present study. It would be beneficial for future coaching studies to isolate the processes involved in goal attainment, and control for goal-related confounds to a greater extent than was possible in the present study. Options could include (a) a control group that do not set goals to provide a non-goal-setting baseline, (b) standardising a goal-setting process to use with the intervention group and control group, to account for the intervention effect of setting goals with a coach, and (c) including a non-coaching intervention condition to isolate the effects attributable to processes activated in the coaching specifically.

Theoretical Implications

This is the first randomised controlled trial investigating the impact of an ACT-informed coaching intervention. These findings suggest that ACT-based coaching is effective in increasing general mental health, generalised self-efficacy, goal-directed thinking, and psychological flexibility in workplace performance and development contexts. The coaching also seemed to sustain performance in the ACT group, while performance in the control group decreased. However, based on our results there is no support for the effectiveness of ACT-informed coaching improving work attitudes, as neither the job satisfaction nor intrinsic job motivation outcomes showed significant increases in either the ACT or control groups. Findings for goal

attainment seem to suggest that ACT coaching accounts for some improvements in goal attainment, but it is likely that other goal-related processes play a part as well.

This study also contributes a methodologically rigorous RCT to the coaching evidence base that responds to the recommendations made for coaching research (random allocation to control for confounds, measuring outcomes over time to determine longitudinal impacts, and adequate sample sizes to detect effects). It is our hope that, as well as contributing to the coaching research evidence base directly, this study provides a useful methodological archetype for future quantitative coaching research studies.

The results of this study show that ACT-based coaching is effective in increasing psychological flexibility. This finding is congruent with ACT theory and ACT-informed coaching-related research (Bond & Bunce, 2000; Stafford-Brown & Pakenham, 2012; Varra et al., 2008). This RCT adds to a growing evidence base for the effectiveness of ACT-based interventions in workplace performance and development contexts. This is the second ACT-informed study that has investigated the impact of an ACT-informed intervention on goal-directed self-regulation outcomes (i.e. goal-directed thinking and goal attainment). This study provides support that ACT-informed interventions direct coachee's self-regulation processes towards goals, as demonstrated through increased goal-related thinking and goal attainment.

Finally, the mediation analysis in this study showed that increases in psychological flexibility mediated changes in coaching outcomes, which contributes an empirical analysis of a theoretically derived process of change in ACT-informed coaching. There has been limited exploration of processes of change in coaching interventions (De Meuse et al., 2009; Grover & Furnham, 2016; Jones et al., 2016; Sonesh, Coultas, Lacerenza, et al., 2015; Theeboom et al., 2014), and those that have

been conducted have methodological issues (i.e. an over-reliance on cross-sectional data; no random allocation of participants in any study; no control condition in any study; little standardisation of the coaching interventions; and no measures of the mediator over time) that reduce how confidently findings can be generalised. Again, it is our hope that as well as contributing to the evidence base for processes of change in coaching, this study provides a useful methodological exemplar for similar investigations in future coaching research studies.

Limitations

The main limitations in the present study were (1) environmental factors that may have had an influence on the study results, (2) the unsuccessful measurement of an independent or objective rating of performance, and (3) the low attrition rate in the study. Firstly, the study was conducted across departments of the UK Civil Service, and the general election held in May 2015 may have impacted the study results. The general election results generated substantial changes in the Civil Service, with many study pariticpants changing job role, supervisior, and in some cases department. This may explain why there was a decrease in performance in the control group, and performance was maintained in the experiemental group.

Secondly, due to those environmental factors, the study was only successful at obtaining a self-report measure of performance. We asked participant's supervisors to complete an independent rating of performance, however, a low response rate (>5%) meant we were not able to analyse these data. The possibility of collecting objective performance data (e.g., organisational data on job performance, task error rates, or other organisational outcomes) was explored at the design stage, however, during the data collection period no objective measures of performance were available. Future research should include independent or objective ratings of performance to examine if the findings on self-reported performance are replicated.

Finally, there was low attrition in the study in comparison to other intervention studies of this type. As with the preliminary study, this may have been due to the nature of the intervention, as indiviuals who took part in the study may have been highly motivated to engage in coaching in order to achieve their goals. It may also be the case that a strong psychological contract develops between a participant and the researcher in coaching studies due to engaging in a coaching intervention. This explanation is consistent with the higher attrition in the waitlist control group, who completed surveys before starting their coaching. As with the preliminary study, participants were high in generalised self-efficacy at baseline, and had high education levels (91% of participants were educated to degree level or above). Samples of high functioning individuals may be less likely to leave a study than studies using clinical samples, which could partly explain the low attrition.

Directions for Future Research

Recommendations for future research indicated by this study are (a) to compare the effects of more than one mediator to establish if psychological flexibility best explains changes in outcomes following ACT-informed coaching, and (b) to further explore psychological flexibility as a mechanism of change in ACT-informed coaching. Firstly, future studies should compare the effects of more than one mediator to establish if psychological flexibility best explains change in ACT-informed coaching. Johansson and Høglend (2007) suggest that to enhance our understanding of processes of change, research studies should investigate more than one potential mediator. This allows researchers to begin ruling out other plausible mediators, strengthening the case for those that remain. Future studies could examine psychological flexibility as an empirically supported process of change theoretically derived from ACT research, and an alternate plausible mediator.

Secondly, future research should further investigate psychological flexibility as a mechanism of change in ACT-informed coaching. There are a number of requirements that should be met before a mediator can be said to be a mechanism of change, namely (1) strength of association between mediator and outcome, (2) specificity of effect, (3) replication of results across intervention studies, (4) response to experimental manipulation, (5) timeline of change to infer causal relations, (6) gradient of change due to greater activation, and (7) theoretical coherence of explanation (Kazdin, 2007). Further studies would be beneficial to establish a more detailed timeline of change in the mediator and outcome variables, consistency of these results in other ACT-informed coaching intervention studies, and additional evidence of the gradient of change (e.g. a dose-response relation comparing conditions with different levels of activation of ACT processes). Based on recommendations for establishing a mechanism of change, further investigation of ACT-informed coaching would be valuable to support psychological flexibility as a mechanism of change in ACT-informed coaching.

In conclusion, these results provide encouragement that further research investigating the impact of ACT-informed coaching is a worthwhile enterprise. ACT-informed coaching has been shown to be an effective workplace intervention to improve general mental health, increase generalised self-efficacy, increase goal-directed thinking, and psychological flexibility when examined using a rigorous RCT methodology. ACT-informed coaching also sustained performance, and played a mediating role in increases in goal attainment. Evidence of psychological flexibility as a mediator in ACT-informed coaching has also been shown for improved general mental health, increased generalised self-efficacy, and increased goal-directed thinking. Future research studies should compare the indirect effects of two theoretically derived mediators on workplace coaching outcomes, as investigating

more than one plausible mediator allows researchers to begin ruling out other

potential mediators, and strengthens the case for those that remain.

Chapter 7: Investigating the Processes of Change in ACT-Informed Coaching

Abstract

Investigating more than one potential mediator allows researchers to begin ruling out other plausible mediators, and strengthens the case for those that remain. This study compares the indirect effects of two theoretically derived mediators on workplace coaching outcomes, psychological flexibility (derived from the ACT Model), and working alliance (derived from the Contextual Model). This within-subjects repeated measures study of ACT-informed coaching compared the indirect effects of psychological flexibility and working alliance on general mental health, generalised self-efficacy, goal-directed thinking, and goal attainment following an ACT-informed coaching intervention. Participants are senior managers in the UK Civil Service, who received three sessions of ACT coaching ($N = 65$; the intervention arm of Study 2). Intervention analyses showed increases in general mental health (T1 to T3, T1 to T4, and T2 to T4), generalised self-efficacy (T1 to T4, T2 to T3, T2 to T4, and T3 to T4), goal-directed thinking (T1 to T4, and T2 to T4), goal attainment (T1 to T2, T1 to T3, T1 to T4, T2 to T3, T2 to T4, and T3 to T4), psychological flexibility (T1 to T3, T1 to T4, T2 to T3, and T2 to T4), and working alliance (T2 to T3, T2 to T4, and T3 to T4). Mediation analysis indicated increases in psychological flexibility mediated increases in generalised self-efficacy (T2 to T3, T2 to T4, and T3 to T4), goal-directed thinking (T2 to T4), and goal attainment (T2 to T4). No significant mediation effects of working alliance were shown at any time intervals. Findings support the prediction of the ACT model over the Contextual Model. Future studies should explore potential moderators of these effects, and further investigate psychological flexibility as a mechanism of change in ACT-informed coaching.

Introduction

A key issue identified by recent coaching meta-research is the limited exploration of processes of change in coaching intervention studies (De Meuse et al., 2009; Grover & Furnham, 2016; Jones et al., 2016; Sonesh, Coultas, Lacerenza, et al., 2015; Theeboom et al., 2014). Processes of change relate to two things, (a) the conditions under which an intervention may be less or more effective (i.e. moderators), and (b) the processes through which an intervention generates change (i.e. mediators) (Kendall et al., 2013). For coaching practitioners to be most effective it is crucial to know the moderators that impact the effectiveness of interventions; and the mediators involved in the process of change, in order to identify which factors to target to enhance the impact of an intervention (Kazdin, 2007). Kazdin (2007) advises using theory as a guide to identify relevant mediators in an intervention, emphasising the need for theoretically underpinned approaches to coaching.

Reviews of coaching research suggest that more studies should evaluate processes of change in coaching (De Meuse et al., 2009; Grover & Furnham, 2016; Sonesh, Coultas, Lacerenza, et al., 2015). At present, three coaching-specific studies have investigated theoretically congruent mediators of coaching outcomes derived from the theory underpinning approaches used in the studies (David et al., 2016; Ebner et al., 2017; Theeboom et al., 2016). Theeboom et al. (2016) hypothesised that increases in positive affect would mediate increases in cognitive flexibility resulting from solution-focused questions; however, this hypothesis was not supported by the results. David et al. (2016) found that decreases in depressed mood were mediated by increases in rational beliefs resulting from rational coaching; and increases in managerial soft skills were mediated by decreases in fairness demandingness (an irrational belief). Ebner et al. (2017) found that increases in self-efficacy mediated improvements in individual coping (i.e. greater situation control, greater social

support, and lower avoidance) resulting from increases in self-management skills following coaching informed by social learning theory.

ACT-informed coaching is a theory-driven acceptance- and mindfulness-based approach to coaching based on the ACT Model (Hayes et al., 2012). The ACT Model hypothesises psychological flexibility as the mechanism of change in ACT coaching (Hayes et al., 2012). Psychological flexibility is defined as "… contacting the present moment as a conscious human being, fully and without needless defence … and persisting with or changing a behaviour in the service of chosen values" (Hayes et al., 2012, p.96-97). The aim of ACT-informed interventions is to increase psychological flexibility using the six processes identified in the ACT Model: Values, committed action, present moment awareness, self-as-context, defusion, and acceptance (Hayes et al., 2012). In the previous chapter, a methodologically rigorous analysis of mediation in a RCT study of ACT-informed coaching showed that increases in psychological flexibility mediated changes in general mental health, generalised self-efficacy, goal-directed thinking, and goal attainment. (This study is reported in full in Chapter 6).

To enhance our understanding of processes of change, research studies should investigate more than one potential mediator (Johansson & Høglend, 2007; Kazdin; 2007). This allows researchers to begin ruling out other plausible mediators, strengthening the case for those that remain. Therefore, this study aims to empirically compare two mediators in ACT-informed coaching, (a) psychological flexibility as the theoretically derived and empirically supported mediator in ACT-informed coaching, and (b) working alliance as a plausible mediator, derived from the Contextual Model.

Working Alliance as a Mediator in Coaching

Working alliance is a concept from psychotherapy, and is defined as the collaborative alliance between a client and a therapist with a focus on the agreement of goals and tasks for therapy, and the quality of interpersonal bond (Bordin, 1979). The theoretical justification for working alliance as a mediator in coaching is derived from the Contextual Model. The Contextual Model is a psychotherapy-specific model that has been adopted by some coaching researchers as a framework for developing an understanding of the processes of change in coaching (e.g. De Haan & Duckworth, 2012; McKenna & Davis, 2009; Stober & Grant, 2006a). The model proposes three pathways of change (Wampold & Budge, 2012). The first pathway is the therapeutic relationship. The second pathway is the client's expectations of therapy. The third pathway is the specified actions and techniques of the therapeutic approach. The relationship is involved in all three pathways. It is directly represented in the first pathway. In the second pathway, if there is a strong relationship between the therapist and client, the client is likely to accept treatment and work with the therapist, generating an expectation that the treatment will work (Wampold, 2015). In the third pathway, a strong relationship between the therapist and client is required for collaboration and agreement on tasks (Wampold, 2015). (See Chapter 3 for a detailed discussion of the Contextual Model)

This model is not positioned in opposition to theoretically specific approaches; rather it aims to integrate generalised factors and approach-specific factors (Laska et al., 2014; Wampold & Budge, 2012). In the Contextual Model, approach-specific techniques (e.g., such as using solution-focused questions in solution-focused approaches) are important, but do not account for the change in psychotherapy; rather, specific techniques are a way to generate action in the client towards health promoting activities or behaviours, but a strong relationship is

required for the client to undertake those actions (Wampold & Imel, 2015). In the Contextual Model, working alliance is the variable that accounts for change.

There are four coaching-specific studies that have investigated working alliance as a mediator in coaching (Baron & Morin, 2009; De Haan et al., 2013; De Haan et al., 2016; Sonesh, Coultas, Marlow, et al., 2015). Baron and Morin (2009) showed that working alliance mediated the relationship between a higher number of coaching sessions and higher coachee self-efficacy, using a pre- and post-intervention within-subjects design in a workplace sample. De Haan et al. (2013) showed working alliance mediated higher coachee self-efficacy associated with better perceptions of coaching effectiveness, and partially mediated the greater range of coach technique associated with higher perceived coaching effectiveness, using cross-sectional data from a convenience sample of workplace coaching.

Sonesh, Coultas, Marlow, et al. (2015) showed stronger working alliance partially mediated higher coachee insight associated with the coach engaging in more regulating motivation behaviours (e.g. giving coachees homework between sessions); and stronger working alliance partially mediated higher coachee insight associated with higher coachee motivation, using cross-sectional data from a student sample. Similar mediation analyses using a convenience sample of individual's receiving leadership coaching showed no significant mediation effects of working alliance on any outcomes. De Haan et al. (2016) found that working alliance mediated higher coachee self-efficacy associated with sponsor-rated coaching effectiveness, using cross-sectional data from a convenience sample of workplace coaching.

There are methodological issues in the studies that reduce how confidently findings can be interpreted and generalised: Specifically, an over-reliance on cross-sectional data; no random allocation of participants in any study; no control condition in any study; little standardisation of the coaching interventions; and no measures of

the mediator over time. In sum, the evidence for working alliance as a mediator is weak. More rigorous research is required to confidently establish if working alliance is a mediator of change in coaching.

Working Alliance in ACT-Informed Coaching

The role of the relationship in ACT-informed interventions has been discussed conceptually in the ACT psychotherapy-specific literature. In a similar way to the Contextual Model, the relationship is an important factor in the ACT Model, but change is not attributed to properties of the relationship, such as working alliance (Vilardaga & Hayes, 2010). The ACT perspective is congruent with empirical evidence which highlights that no attempts to enhance therapists' skills in developing a strong alliance, nor adherence to alliance guidelines, have yet improved therapeutic outcomes (Vilardaga & Hayes, 2010). The aim of mediation analyses is to identify which factors to target to enhance the impact of an intervention (Kazdin, 2007). If targeting alliance-related factors does not enhance the impact of an intervention, this undermines the role of working alliance as a mediator in that intervention.

From an ACT perspective, what is important is the function of the relationship in satisfying the goals and values of the therapist and the client, rather than the properties or form of the relationship itself (Vilardaga & Hayes, 2010). The impact of the relationship occurs, not as a result of the properties of the relationship, but through reinforcing specific targeted behaviours in interpersonal interactions between the therapist and the client (Follette, Naugle, & Callaghan, 1996). This means change occurs from the therapist using interactions with the client to encourage helpful behaviours, and undermine less helpful behaviours, i.e. the relationship generates change through how it functions. Most human psychological problems involve complex human cognition and behaviour, where it is beneficial to untangle from unhelpful language and cognition processes (Vilardaga & Hayes, 2010). The

relationship provides an opportunity for the therapist to help a client untangle from those unhelpful processes. For example, if a client is avoidant of close, trusting relationships, a therapist will be effective by openly and positively reinforcing trusting behaviours the client shows in the therapeutic relationship. Consequently, the ideal relationship does not have any particular qualities, but will have the form which functions best to serve the client and therapist in achieving their common goals.

Based on ACT theory, engaging with the six processes of psychological flexibility generates an effective and transformative interpersonal relationship (Vilardaga & Hayes, 2010). The ideal relationship in ACT is flexible; and psychological flexibility, with the six underlying processes of the ACT Model (values, committed action, self-as-context, present moment awareness, defusion, and acceptance), provides a model for how an effective relationship functions.

The process of values in ACT encourages a relationship grounded in what the therapist and client most care about. In the relationship, this encourages a quality of living that is values-led (Pierson & Hayes, 2007). The process of committed action requires both the client and therapist to actively engage with goals and values, both within therapy and outside of it. A committed relationship is active and action focused (Pierson & Hayes, 2007). The process of self-as-context means the therapist and client view themselves from the ever-changing self-perspective that notices and observes, but transcends a rigid self-concept. This relationship is conscious and compassionate to both the therapist and the client (Pierson & Hayes, 2007).

The process of present moment awareness means the client and therapist being aware of each other's actions. A relationship that is present is alive, has vitality, and is occurring in the here and now (Pierson & Hayes, 2007). The process of acceptance allows uncomfortable thoughts, emotions, and other experiences to be there. For the therapist this might mean a willingness to reduce barriers; and for the

client it might be opening up in the session. An accepting relationship is one that is accepting of both parties (Pierson & Hayes, 2007). The process of defusion encourages the therapist and client to remember that thoughts and feelings are constantly changing, and not to get caught up in the reality suggested by a particular story or judgement about each other or themselves. A defused relationship is playful, open and creative (Pierson & Hayes, 2007). If a relationship is values-led, committed, conscious, alive, accepting, open, and creative (i.e. psychologically flexible), it will lead to effective behaviour change in ACT interventions.

To summarise, according to ACT theory, the relationship is a functionally important factor, as psychological flexibility increases through the interpersonal interactions between the client and the therapist. However, there is no transformational property inherent in the form of the relationship (i.e. working alliance), and therefore we would not expect working alliance to act as a mediator of changes in coaching outcomes that result from ACT-informed coaching. At present, no studies have directly tested this conceptual argument, so findings from this study will make a novel contribution to the ACT literature as well as the coaching evidence-base.

The Present Study

The aim of the present study is to compare the indirect effects of two theoretically derived mediators of ACT-informed workplace coaching outcomes, (1) psychological flexibility as the theoretically derived and empirically supported process of change in ACT-informed coaching, and (2) working alliance as a plausible mediator derived from the Contextual Model. At the time the present study was conducted, Theeboom et al. (2014) had proposed the first framework of coaching outcomes. This framework is workplace coaching specific, and assigns all study

outcomes to one of the following categories: Performance and skills, wellbeing, coping, work attitudes, or goal-directed self-regulation.

In this study, we compare the indirect effects of these two mediators with coaching outcomes that showed a significant group by time interaction in the previous RCT of ACT-informed coaching (This study is reported in full in Chapter 6); namely, outcomes from the performance, wellbeing, coping, and goal-directed self-regulation outcome categories. The specific performance outcome measured in this study is individual performance. Individual performance can be defined as behaviour that contributes to individual effectiveness (Griffin et al., 2007). The specific wellbeing outcome measured in this study is general mental health. This can be defined as the absence of mental illness (Banks et al., 1980). The specific coping outcome measured in this study is generalised self-efficacy. This is defined as "people's beliefs about their capabilities to exercise control over their own level of functioning and over events that affect their lives" (Bandura, 1991, p. 257). The specific goal-directed outcomes measured in this study are goal-directed thinking, and goal attainment. Goal directed thinking refers to an individual's perceived agency to initiate and undertake actions required to achieve their goals, and the perceived ability to find pathways to achieving their goals (Snyder et al., 1996). Goal attainment refers to the extent to which an individual has attained their goals (Kiresuk & Sherman, 1968).

Based on the conceptual explanation for the impact of the relationship in ACT-informed interventions, and the evidence from the ACT-informed coaching RCT study, it is expected that increases in coaching outcomes that result from the coaching intervention will be mediated by increases in psychological flexibility alone. Currently, the limited evidence investigating working alliance as a mediator in coaching interventions provides support for working alliance mediating increases in

self-efficacy; but the available evidence is weak. No support has been shown for working alliance as a mediator of increases in performance, mental health, goal-directed thinking, or goal attainment resulting from coaching. This leads us to propose the following hypothesis:

Hypothesis 1: ACT-informed coaching will lead to significant increases in individual performance, general mental health, generalised self-efficacy, goal-directed thinking, and goal attainment.

Hypothesis 2: ACT-informed coaching will lead to significant increases in psychological flexibility.

Hypothesis 3: Increases in individual performance, general mental health, generalised self-efficacy, goal-directed thinking, and goal attainment that result from ACT-informed coaching will be mediated by increases in psychological flexibility but not by working alliance.

Method

Design

The present study is a within-subjects repeated measures design, using data collected from the intervention arm of the ACT-informed coaching RCT (reported in full in Chapter 6). Participants received the ACT-informed coaching intervention during an experimental period from March to July 2015. Surveys were distributed by email. Survey 1 was sent by email one week before the first coaching session (Time 1) and provided a baseline measure. Survey 2 was sent one week before the second coaching session (Time 2); five weeks after the baseline measure. Survey 3 was sent one week before the third coaching session (Time 3); nine weeks after the baseline measure. Survey 4 was sent four weeks after the third coaching session (Time 4); 14 weeks after the baseline measure. (For further detail of survey administration, please refer to the logistical summary provided in the procedure section below.)

Participants.

The sample for the study was senior managers in the UK civil service who volunteered to take part in a workplace coaching intervention. The eligibility criteria for participants were that they had to be at Civil Service grade six or seven (the grade system indicates consistent levels of seniority across governmental departments), and able to meet for face-to-face coaching sessions in London. Participants were screened to ensure they met the inclusion criteria as part of a two stage recruitment process, so no individuals were excluded based on this criteria.

Of the 69 participants initially recruited into the intervention arm of the study, 66 responded to the survey at Time 1. Of those participants, 65 completed all three coaching sessions. This represents an overall attrition rate of 6%. Of the 65 participants, 47 (72%) were female, and 48 (74%) participants described their ethnicity as white. There was an age range of 26 to 59 years (mean age of 40.6 years) in the sample. On average participants had worked in their job for between 3-4 years (mean of 3.7 years). Of the 65 participants, 5 (4%) were educated to GSCE level or equivalent, 5 (4%) were educated to A level or equivalent, 48 (38%) were educated to undergraduate degree level, 61 (48%) were educated to postgraduate degree level, and 8 (6%) reported being educated to another level not represented in these categories.

Measures.

Performance. This was measured using individual performance items from the Model of Positive Work Role Behaviours (Griffin et al., 2007). This scale is based on a theoretically driven model of performance, focusing on an individual's proficiency, adaptivity, and proactivity at work. All items are rated based on how often participants have carried out the behaviour over the past month on a scale ranging from 1 (very little) to 5 (a great deal). Responses can be collected as a self-

report from individuals, and as supervisor ratings. Each version of the scale consists of nine items overall. Participants were asked to rate how often they had carried out each behaviour over the past month on a scale ranging from 1 ("very little") to 5 (a "great deal"). An example self-report item for this scale is "Initiated better ways of doing your core tasks". Higher scores indicate higher performance.

As well as self-ratings from participants, we asked participants' supervisors to provide independent ratings of performance and rate how often their employee had carried out each behaviour over the past month on a scale ranging from 1 ("very little") to 5 (a "great deal"). An example supervisor-rating item for this scale is "Carried out the core parts of their job well". Higher scores indicate higher performance. However, a low response rate (>5%) for supervisor ratings meant these data were not analysable. Therefore, only self-report data has been included in the study analysis. The internal consistency reliability coefficient of the self-report version of this scale in the current sample was good (Cronbach's alphas: .90 at Time 1, .92 at Time 2, .93 at Time 3, and .91 at Time 4).

General mental health. This was measured using the General Health Questionnaire-12 (GHQ-12; Goldberg, 1992). This scale is a measure of current general mental health, specifically the inability to carry out normal functions and the appearance of new and distressing experiences. It consists of 12 items. An example item from this scale is "have you recently felt capable of making decisions about things?" Items are scored 0 (more so than usual) to 3 (much less than usual). Higher scores signal poor mental health. For the purposes of this study, all scores were reversed so that higher scores indicate increased wellbeing. The internal consistency reliability coefficient of this scale in the study sample was good (Cronbach's alphas: .845 at Time 1, .895 at Time 2, .859 at Time 3 and .851 at Time 4).

Generalised self-efficacy. This was measured using the Generalised Self-Efficacy Scale (GSE; Schwarzer & Jerusalem, 1995). The GSE is a measure of a general sense of perceived self-efficacy which relates to the belief that one can perform novel or difficult tasks, and adapt after stressful life events. It consists of 10 items. An example item from this scale is "It is easy for me to stick to my aims and accomplish my goals". Items are scored 1 (not true at all) to 4 (exactly true). Higher scores indicate higher self-efficacy. The internal consistency reliability coefficient of this scale in the current sample was good (Cronbach's alphas: .848 at Time 1, .845 at Time 2, .869 at Time 3 and .866 at Time 4.

Goal-directed thinking. This was measured using the State Hope Scale (SHS; Snyder et al., 1996), which is a measure of current goal-directed thinking. It consists of six items. An example item from this scale is "At this time, I am meeting the goals I have set for myself". Items are scored 1 (definitely false) to 8 (definitely true). Higher scores indicate higher current goal-directed thinking. The internal consistency reliability coefficient of this scale in the current sample was good (Cronbach's alphas: .87 at Time 1, .87 at Time 2, .89 at Time 3, and .92 at Time 4).

Goal attainment. This was measured using a self-report measure of goal attainment (Spence, 2007). This method measures participants' perceived progress towards their goals. After setting goals, individuals are asked to rate their success in working towards each identified goal on a 5 point scale from 1 (0% success) to 5 (100% success). Then individuals are asked to indicate a level of difficulty for each goal from 1 (very easy) to 4 (very difficult). Goal attainment scores are calculated by multiplying the progress score by the difficulty score for each goal, and taking the mean across the individual's goals. By rating the difficulty of the goal it is argued that the measure becomes more sensitive to change by creating greater influence for progress towards goals deemed to be more challenging (Spence, 2007). The Time 1

self-report measure of goal attainment was administered in person to participants in the ACT coaching group at the end of the first coaching session, as goals were constructed in this coaching session. Time 2, Time 3, and Time 4 measures of goal attainment for the ACT group were administered as part of the online surveys at those time points. The goal attainment measures for the control group were all were administered as part of the online surveys.

Psychological flexibility. This was measured using the Work-related Acceptance and Action Questionnaire (WAAQ; Bond et al., 2013). This is a measure of psychological flexibility at work; specifically the extent to which people can take goal-directed actions in the presence of difficult internal experiences. It consists of seven items. An example item from this scale is "I am able to work effectively in spite of any personal worries that I have". Items are scored 1 (never true) to 7 (always true). Higher scores indicate greater psychological flexibility in the context of work. The internal consistency reliability coefficient of this scale in the current sample was good (Cronbach's alphas: .895 at Time 1, .917 at Time 2, .931 at Time 3 and .950 at Time 4).

Working alliance. This was measured using a short revised version of the Working Alliance Inventory (WAI-SR; Hatcher & Gillaspy, 2006). This is a measure of the collaborative alliance between a client and a helping professional, focusing on agreement of goals and tasks, and the quality of interpersonal bond. It consists of 12 items. An example item from this scale is "___ and I are working towards mutually agreed upon goals" (participants were instructed to substitute their coach's name for '___'). Items are scored from 1 (never) to 7 (always). Higher scores indicate stronger alliance. The internal consistency reliability coefficient of this scale in the current sample was good (Cronbach's alphas: .92 at Time 2, .96 at Time 3 and .96 at Time 4). No measure of working alliance could be taken at baseline (Time 1), as it is not

possible to measure working alliance before the coaching relationship has been established. Therefore, data for this measure were collected at Time 2, Time 3, and Time 4 only.

Intervention.

The ACT-informed coaching intervention was designed and delivered face-to-face by the researcher. The researcher had undertaken coaching-specific and ACT-specific training in advance of designing and delivering the intervention. Throughout the experimental period, two practitioners, experienced in both ACT and coaching, provided supervision. The ACT-informed coaching intervention consisted of three face-to-face 90-minute coaching sessions, spread over a period of nine weeks. A protocol for the coaching intervention was developed using a range of ACT-based resources (Blonna, 2011; Flaxman et al., 2013; Harris, 2009). (See Appendix E for the coaching intervention protocol for this study.) Particular attention was paid to ensure that the intervention was entirely consistent with the ACT model: For example, using a values clarification exercise, use of metaphors in the coaching, and inclusion of experiential mindfulness practices. To ensure the fidelity of the intervention, a practitioner experienced in both ACT and coaching reviewed the protocol prior to delivery. Protocols for this study built upon and extended the brief coaching intervention protocol developed for the preliminary study (reported in full in Chapter 5).

The core aims of the first coaching session were to (a) introduce the coachee to ACT-informed coaching, and the strategies the ACT approach uses, (b) identify core work values for the coachee, (c) identify goals for the coachee to work on during the coaching programme, and (d) introduce the coachee to mindfulness practice. The three main exercises used in the session were a values clarification exercise, goal-setting process, and a short mindfulness practice. Coachees were asked to practice

mindfulness between coaching sessions, and two mindfulness practices were discussed in the coaching session and then emailed to coachees following the session. (See Appendix F for the hand-outs used in this study.)

The core aims of the second coaching session were to (a) review progress towards the coachee's goals, (b) review the use of mindfulness since the previous session, and (c) introduce defusion and acceptance as ways of moving past psychological blocks to progress. There were three main exercises used in the session: A mindfulness exercise focused on defusing the coachee from thoughts, feelings and physical sensations; a defusion and acceptance exercise focused on moving beyond psychological barriers to coachees goal progress; and a metaphor designed to increase the coachees willingness to experience difficult thoughts and emotions in relation to their goals. Coachees were asked to use mindfulness practices between sessions, and practice using the defusion and acceptance, and willingness exercises if they noticed psychological blocks to progress. Copies of these exercises were emailed to participants after the coaching session.

The core aims of the final session were to (a) review progress towards the coachee's goals, (b) introduce the observing perspective (i.e. self-as-context perspective), and (c) encourage coachees to keep working towards their goals and increase their values consistent actions. There were two main exercises used in the session: A mindfulness exercise focusing on the observing perspective; and a values consistency exercise, which asked coachees to reflect on what they are doing day-to-day to live their values, where the inconsistencies with their values are, and what else they might be able to do to bring their values to life. Copies of these exercises were emailed to participants after the coaching session. Following completion of the final survey, participants were emailed a handout with information to help participants move forward with their goals and values following the coaching programme. This

included (a) a short mindfulness practice; (b) a life values clarification exercise; (c) tips and suggestions for facilitating values-based living; (d) a resilience enhancing exercise; and (e) resources for learning more about ACT.

Procedure.

The study was given ethical approval by the Institute of Management Studies internal ethical standards review process. Participants were recruited from the UK Civil Service via internal communications from the centralised Civil Service Learning (CS Learning) function. Participants were recruited from a range of UK Civil Service departments: Cabinet Office; Crown Prosecution Service; Department for Business, Innovation & Skills; Department for Communities and Local Government; Department for Transport; Department of Health; Department for Work and Pensions; Education Funding Agency; Foreign and Commonwealth Office; Government Office for Science; Her Majesty's Prison and Probation Service; HM Revenue and Customs; Home Office; Ministry of Defence; Ministry of Justice; The Insolvency Service; Official Solicitor and Public Trustee; and UK Exports Finance.

A two-stage recruitment process was used. In stage one, CS Learning distributed a short brief for the research across Civil Service departments. Interested individuals were asked to express their interest in the study. At this stage, 287 individuals expressed an interest in the study. At stage two, researchers contacted interested individuals with detailed information on the study, and individuals were asked to contact the researchers to confirm their participation in the study. Individuals were selected on a first come, first served basis until an initial sample size of 137 participants was reached (i.e. 69 participants in the experimental condition, and 68 participants in the control condition). An online research randomiser tool (www.randomizer.org) was used to randomly allocate participants to either the

experimental group or the waitlist control group. This study uses data from the experimental group.

Data were collected through online surveys sent to participants by email. For logistical purposes, participants in the experimental condition were split into four equal sets. Specifically, we calculated that it would be possible for the researcher to coach up to 17 people per week. We split the experimental group into four sets of 17 people. These sets determined the date surveys were sent to participants, and the week in which participants received coaching. By allocating participants to the same week for survey administration and coaching delivery during three consecutive months, this ensured that coaching was received at the same point in each month for each coachee, and that all coachees had the same amount of time between coaching sessions. Table 7 shows a schedule of the study survey administration and coaching sessions by set for participants in the ACT group. (Refer to Chapter 6 for the full schedule of survey administrations and coaching session by condition and set.) This shows time points for every survey administered in the study, and when coaching sessions were delivered to participants.

Table 7 *RCT Study Schedule of Survey Administrations and Coaching Sessions for the ACT Group by Set*

Date	Set 1	Set 2	Set 3	Set 4
23rd Mar	T1			
30th Mar	C1	T1		
6th Apr		C1	T1	
13th Apr			C1	T1
20th Apr	T2			C1
27th Apr	C2	T2		
4th May		C2	T2	
11th May			C2	T2
18th May	T3			C2
25th May	C3	T3		
1st Jun		C3	T3	
8th Jun			C3	T3
15th Jun				C3
22nd Jun	T4			
29th Jun		T4		
6th Jul			T4	
13th Jul				T4

Note: T1 = Time 1 survey; T2 = Time 2 survey; T3 = Time 3 survey; T4 = Time 4 survey; C1 = Coaching session 1; C2 = Coaching session 2; C3 = Coaching session 3.

No participants were allowed to change set once the experimental period began. This process ensured consistent time intervals in between survey completion and coaching sessions across study participants. Participants were invited to express a preference for set based on their availability (e.g. to avoid pre-booked annual leave dates). Of the 195 coaching sessions delivered to 65 study participants, 144 (74%) took place at the participant's workplace, 47 (24%) at the Goldsmiths campus, and 4 (2%) at another location of the participant's choice (i.e. public café).

Results

Outcomes included in this analysis are those that showed a significant group by time interaction in the RCT of ACT-informed coaching. The number of participants in the study met the sample size recommended by Cohen (1988) for sufficient power to detect a medium effect (i.e. 64 participants to detect a *P* value of .05). For details on data cleaning and screening prior to analyses, please refer to

Chapter 6. Table 8 presents the means and standard deviations for study and

biographical variables at Time 1, Time 2, Time 3, and Time 4.

Table 8 *ACT Group Means and Standard Deviations for Study and Biographical Variables*

Variable	M	SD
Self-rated performance		
Time 1	3.46	0.76
Time 2	3.38	0.65
Time 3	3.41	0.72
Time 4	3.51	0.66
Wellbeing		
Time 1	2.01	0.37
Time 2	2.11	0.44
Time 3	2.20	0.38
Time 4	2.27	0.34
Self-efficacy		
Time 1	3.26	0.35
Time 2	3.25	0.32
Time 3	3.33	0.32
Time 4	3.41	0.31
Goal-directed thinking		
Time 1	5.79	1.08
Time 2	5.92	1.00
Time 3	6.09	1.02
Time 4	6.29	0.96
Goal Attainment		
Time 1	15.02	5.18
Time 2	19.65	5.12
Time 3	26.28	7.81
Time 4	30.20	7.07
Psychological flexibility		
Time 1	4.96	0.83
Time 2	4.91	0.86
Time 3	5.25	0.87
Time 4	5.40	0.83
Working alliance		
Time 2	5.20	0.86
Time 3	5.69	0.98
Time 4	5.89	0.95
Age	40.55	8.08
Years in role	3.71	4.33

Note: M = mean; SD = standard deviation. No measure of working alliance could be taken at baseline (Time 1) because it is not possible to measure working alliance before the coaching relationship has been established.

Bivariate Correlations

The means, standard deviations, and zero-order correlations for the Time 1 study and biographical variables are presented in Table 9. Where study variables correlated with biographical variables at Time 1, these were controlled for in subsequent analyses. No measure of working alliance could be taken at baseline (Time 1) because it is not possible to measure working alliance before the coaching relationship has been established.

Table 9 *ACT Group Correlations for Study and Biographical Variables at Time 1.*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Self-rated performance	-															
2. General mental health	.21	-														
3. Generalised self-efficacy	.22	.28*	-													
4. Goal-directed thinking	.17	.51**	.40**	-												
5. Goal attainment	.07	.31*	.15	.18	-											
6. Psychological flexibility	.47**	.37**	.60**	.44**	.25*	-										
7. Working alliance (Time 2)	.18	.00	-.09	.17	-.17	.09	-									
8. Age	.03	.01	-.01	-.07	.03	.08	-.18	-								
9. Gender	-.06	.03	-.12	-.04	.04	-.07	.02	.14	-							
10. Ethnicity	-.14	.11	.05	-.00	.16	.01	-.00	.11	.18	-						
11. Years in role	-.21	.08	.08	-.05	.23	.05	-.14	.25*	.11	.22	-					
12. Current role	-.09	-.16	-.04	-.08	-.04	-.13	-.24	-.19	-.12	-.12	-.01	-				
13. Employment status	-.08	-.08	.12	.16	-.06	.02	-.08	.26*	-.14	-.14	-.03	-.04	-			
14. Education 1	-.21	.04	.07	.09	-.03	-.00	-.22	.17	-.14	-.08	.17	-.04	.44*	-		
15. Education 2	-.01	.19	.19	-.04	-.22	.28*	-.08	.19	-.14	-.00	.17	-.03	-.05	-.05	-	
16. Education 3	.22	-.07	.03	.03	-.13	.01	.37*	-.05	.11	-.00	-.12	-.02	-.13	-.19	-.19	-
17. Education 4	-.06	-.14	.00	.03	-.03	-.08	-.02	.15	.03	.35**	-.07	-.23	.37**	-.05	-.05	-.19

Note. N = 65, *p* <.05, ** *p* <.01. For Working Alliance, Time 2 data is presented because no measure of working alliance could be taken at baseline (Time 1) because it is not possible to measure working alliance before the coaching relationship has been established. Education coding: 1 = GSCE or equivalent vs. postgraduate degree; 2 = A level or equivalent vs. postgraduate degree; 3 = Bachelor's degree vs. postgraduate degree; 4 = Other vs. postgraduate degree.

Intervention Analysis.

A repeated measures multivariate analysis of variance (MANOVA) was carried out to test whether ACT-based coaching would lead to significant changes in self-rated performance, general mental health, generalised self-efficacy, goal-directed thinking, goal attainment, psychological flexibility, and working alliance. (Full findings from the RCT with comparisons to control group data for self-rated performance, general mental health, generalised self-efficacy, goal-directed thinking, goal attainment, and psychological flexibility are reported in Chapter 6). As there was no Time 1 measure for working alliance, the within-subjects factor of time in the MANOVA was modelled using Time 2 vs. Time 3 vs. Time 4. No biographical variables correlated with any study variables at Time 2. This analysis showed a significant overall group by time interaction when all dependent and mediator variables were included ($F(2, 63) = 88.88$, $p = <.001$, $\eta^2 = .74$). As the overall MANOVA analysis was significant, repeated measures MANOVA's were carried out for each of the variables. Where significant main effects were found, within-groups simple contrasts were conducted to identify the time intervals where significant change occurred. Analyses for self-rated performance, general mental health, generalised self-efficacy, goal-directed thinking, goal attainment, and psychological flexibility were carried out for six time intervals, specifically Time 1 to Time 2, Time 1 to Time 3, Time 1 to Time 4, Time 2 to Time 3, Time 2 to Time 4 and Time 3 to Time 4. A Bonferroni corrected p value of .008 was applied for within-subjects simple contrasts.

A repeated measures MANOVA was conducted for working alliance using Time 2 vs. Time 3 vs. Time 4. Analyses for working alliance were carried out for three time intervals, specifically Time 2 to Time 3, Time 2 to Time 4, and Time 3 to

Time 4. A Bonferroni corrected p value of .017 was applied for simple contrasts for working alliance.

Self-rated performance. The analysis for self-rated performance indicated no significant changes over time (F (3, 62) = 0.74, p = .534, η^2 = .03). No further analyses were performed on this variable.

General mental health. The analysis for general mental health indicated significant changes over the six time intervals (F (3, 62) = 7.88, p = <.001, η^2 = .28). Simple effects tests showed a significant increase in mental health between T1 to T3 (F (1, 64) = 10.11, p = .002, η^2 = .14), T1 to T4 (F (1, 64) = 18.97, p = <.001, η^2 = .23), and T2 to T4 (F (1, 64) = 8.96, p = .004, η^2 = .12).

Generalised self-efficacy. The analysis indicated significant changes over the six time intervals for generalised self-efficacy (F (3, 62) = 6.85, p < .001, η^2 = .25). Simple effects tests showed a significant increase in generalised self-efficacy between T1 to T4 (F (1, 64) = 14.44, p = <.001, η^2 = .18), T2 to T3 (F (1, 64) = 6.09, p = .016, η^2 = .09), T2 to T4 (F (1, 64) = 20.11, p < .001, η^2 = .24), and T3 to T4 (F (1, 64) = 6.52, p = .013, η^2 = .09).

Goal-directed thinking. The analysis indicated significant changes over the six time intervals for goal-directed thinking (F (3, 62) = 6.37, p = .001, η^2 = .24). Simple effects tests showed a significant increase in goal-directed thinking between T1 to T4 (F (1, 64) = 18.73, p = <.001, η^2 = .23), T2 to T4 (F (1, 64) = 12.64, p = .001, η^2 = .17).

Goal attainment. The analysis indicated significant changes over the six time intervals for goal attainment (F (3, 62) = 75.87, p < .001, η^2 = .79). Simple effects tests showed a significant increase in goal attainment between T1 to T2 (F (1, 64) = 25.87, p = <.001, η^2 = .29), T1 to T3 (F (1, 64) = 84.20, p = <.001, η^2 = .57), T1 to T4 (F (1, 64) = 187.20, p = <.001, η^2 = .75), T2 and T3 (F (1, 64) = 63.29, p < .001, η^2 =

.50), T2 and T4 (F (1, 64) = 183.19, $p < .001$, $\eta^2 = .74$), and T3 and T4 (F (1, 64) = 22.88, $p < .001$, $\eta^2 = .26$).

Psychological flexibility. The analysis for psychological flexibility (with Education 2 entered as a control) indicated significant changes over the six time intervals (F (3, 61) = 7.42, $p < .001$, $\eta^2 = .27$). Simple effects tests showed a significant increase in psychological flexibility between T1 to T3 (F (1, 64) = 10.49, $p = .002$, $\eta^2 = .14$), T1 to T4 (F (1, 64) = 16.96, $p = <.001$, $\eta^2 = .21$), T2 to T3 (F (1, 64) = 16.23, $p < .001$, $\eta^2 = .20$), and T2 to T4 (F (1, 64) = 22.46, $p < .001$, $\eta^2 = .26$).

Working alliance. The analysis for working alliance (with Education 3 entered as a control) indicated significant changes over the three time intervals (Time 2 to Time 3, Time 2 to Time 4, and Time 3 to Time 4) (F (2,62) = 19.18, $p < .001$, $\eta^2 = .38$). Simple effects tests showed a significant increase in working alliance between T2 to T3 (F (1, 64) = 28.27, $p < .001$, $\eta^2 = .31$), T2 to T4 (F (1, 64) = 61.54, $p < .001$, $\eta^2 = .49$), and T3 to T4 (F (1, 64) = 8.95, $p = .004$, $\eta^2 = .12$).

Mediation Analyses.

We examined the hypothesised mediation relationships using a non-parametric bootstrapping procedure for a parallel multiple mediator model, as outlined in Montoya and Hayes (2016). This analysis tests the direct effect between a predictor variable (*X*) and an outcome variable (*Y*), and specific indirect effects of two or more mediator variables (*M*). The direct effect is the impact of *X* on *Y*. A specific indirect effect is the effect of *X* on *Y* though the indirect effect of a mediator (*M*) whilst controlling for the effect of other proposed mediators included in the model (Montoya & Hayes, 2016). The model compares the size of indirect effects through different mediators, and can be used to establish if data support the prediction of one theory over another (Montoya & Hayes, 2016).

To model effects in a within-subjects repeated measures analysis, the direct effect of X on Y is represented by the difference in scores in the outcome between the time points used in the analysis, and the indirect effects are represented by the difference in scores in the mediator variables between the same time points as the direct effects. In this analysis, the direct effect of the X variable (ACT-informed coaching) is modelled using the difference in scores in the outcome variable Y between two time points (e.g. T2 to T4; *Y4-Y2*), and the indirect effects of the X variable are modelled using the difference in scores in the mediator variables *M1* and *M2* (e.g. T2 to T4; *M14-M12*, and *M24-M22*). The analysis uses bootstrapping (sampling data with replacement) to generate a distribution of the direct and indirect effects. The 95% confidence intervals indicate whether the indirect effect is different to zero (i.e. a significant mediation effect is indicated) if the 2.5% and 97.5% limits exclude zero.

As there was no Time 1 measure of working alliance, mediation analyses were conducted using time intervals that showed a significant increase in psychological flexibility and a significant increase in working alliance (i.e. between T2 to T3, and T2 to T4) to model the mediator variables. A criterion required for establishing a mediator as a mechanism of change is to establish a timeline of change from which causal relations can be inferred, i.e. causes should precede effects (Kazdin, 2007). To provide a comprehensive analysis of mediation effects in the data, mediation analyses were conducted to test for (1) concomitant changes in the mediator accounting for significant changes in the outcome variable (e.g. increases in the mediators between T2 to T3 mediate increases in outcome between T2 to T3), and (2) preceding changes in the mediator variable accounting for significant changes in the outcome variable (e.g. increases in the mediator between T2 to T3 mediate increases in outcome between T2 to T4). The results of these analyses are shown in Table 10.

Table 10 *Bootstrapped Parallel Mediation Analysis for Detecting Mediation Effects*

Outcome Variable	Mediator Variables	Bootstrap Estimate		BCa 95% CI	
		Effect	*SE*	Lower	Upper
General mental health	Psychological Flexibility				
T2 – T4	T2 – T3	-.0194	.0307	-.0720	.0501
T2 – T4	T2 – T4	-.0425	.0356	-.1231	.0170
	Working Alliance				
	T2 – T3	.0263	.0333	-.0400	.0924
	T2 – T4	-.0383	.0418	-.1222	.0406
Generalised self-efficacy	Psychological Flexibility				
T2 – T3	T2 – T3	-.0290	.0156	-.0676	-.0043
T2 – T4	T2 – T3	.0453	.0158	.0170	.0792
T2 – T4	T2 – T4	-.0690	.0235	-.1229	-.0302
T3 – T4	T2 – T3	.0163	.0148	-.0139	.0454
T3 – T4	T2 – T4	.0517	.0238	.0114	.1046
	Working Alliance				
	T2 – T3	.0006	.0199	-.0385	.0401
	T2 – T3	.0242	.0182	-.0161	.0571
	T2 – T4	-.0468	.0254	-.0977	.0039
	T2 – T3	.0248	.0185	-.0128	.0614
	T2 – T4	.0490	.0251	-.0060	.0943
Goal-directed thinking	Psychological Flexibility				
T2 – T4	T2 – T3	.1329	.0653	.0331	.2821
T2 – T4	T2 – T4	-.2787	.0730	-.4501	-.1563
	Working Alliance				
	T2 – T3	-.0352	.0792	-.2072	.1092
	T2 – T4	-.0575	.0870	-.2368	.0991
Goal attainment	Psychological Flexibility				
T2 – T3	T2 – T3	-.3535	.3377	-1.0943	.2427
T2 – T4	T2 – T3	.8356	.5447	.0381	2.1028
T2 – T4	T2 – T4	-1.1322	.6245	-2.6741	-.1562
T3 – T4	T2 – T3	.4821	.5835	-.4588	1.8341
T3 – T4	T2 – T4	.1754	.6450	-.9980	1.5562
	Working Alliance				
	T2 – T3	-.7683	.6180	-2.0199	.4361
	T2 – T3	-.2494	.4979	-1.2756	.6996
	T2 – T4	-.0487	.6764	-1.2209	.4180
	T2 – T3	-1.0178	.6325	-2.3744	.1213
	T2 – T4	-.3851	.6867	-1.8476	.8723

Note: BCa = bias corrected and accelerated bootstrapping confidence intervals that contain corrections for both median bias and skew. Confidence intervals containing zero are interpreted as non-significant. 5000 bootstrap samples.

General mental health. Intervention analysis indicated that general mental health increased significantly between T2 to T4. However, significant increases in psychological flexibility and working alliance between T2 to T3, and T2 to T4 did not mediate the increase in general mental health at this time interval.

Generalised self-efficacy. Intervention analysis indicated that generalised self-efficacy increased significantly between T2 to T3, T2 to T4, and T3 to T4. The mediation analyses for generalised self-efficacy showed that significant increases in psychological flexibility between T2 to T3, and T2 to T4 mediated concomitant significant increases in generalised self-efficacy between T2 to T3, and T2 to T4 respectively. (We were unable to test for concomitant mediation effects for T3 to T4 increases in generalised self-efficacy as psychological flexibility did not increase significantly during this interval). The significant T2 to T3 increase in psychological flexibility mediated the significant T2 to T4 increase in generalised self-efficacy; and, the significant T2 to T4 increase in psychological flexibility mediated the significant T3 to T4 increase in generalised self-efficacy. No mediation effect was shown for the T2 to T3 increase in psychological flexibility for significant T3 to T4 increase in generalised self-efficacy. The significant increases in working alliance between T2 to T3, and T2 to T4, showed no mediation effect for increases in generalised self-efficacy at any time intervals.

Goal-directed thinking. Intervention analysis indicated that goal-directed thinking increased significantly between T2 to T4. The mediation analyses for goal-directed thinking showed that significant increases in psychological flexibility between T2 to T4 mediated concomitant significant increases in goal-directed thinking between T2 to T4. The significant T2 to T3 increase in psychological flexibility mediated the significant T2 to T4 increase in goal-directed thinking. The

significant increases in working alliance between T2 to T3, and T2 to T4, showed no mediation effect for increases in goal-directed thinking at any time intervals.

Goal attainment. Intervention analysis indicated that goal attainment increased significantly between T2 to T3, T2 to T4, and T3 to T4. The mediation analyses for goal attainment showed that significant increases in psychological flexibility between T2 to T4 mediated concomitant significant increases in goal attainment between T2 to T4. No mediation effect was shown for the T2 to T3 increase in psychological flexibility for the concomitant significant increase in goal attainment between T2 to T3. (We were unable to test for concomitant mediation effects for T3 to T4 increases in goal attainment as psychological flexibility did not increase significantly during this interval). The significant T2 to T3 increase in psychological flexibility mediated the significant T2 to T4 increase in goal attainment. No mediation effect was shown for the T2 to T3 or the T2 to T4 increases in psychological flexibility for the significant T3 to T4 increase in goal attainment. The significant increases in working alliance between T2 to T3 and T2 to T4 showed no mediation effect for increases in goal attainment at any time intervals.

Summary of Findings

To summarise, the findings in this study partially supported our first hypothesis. Results indicated significant increases in general mental health, generalised self-efficacy, goal-directed thinking, and goal attainment over time. General mental health increased between T2 to T4. Generalised self-efficacy increased between T2 to T3, T2 to T4, and T3 to T4. Goal-directed thinking increased between T2 to T4. Goal attainment increased between T2 to T3, T2 to T4, and T3 to T4. However, no changes were observed in the self-rated performance outcome over time. Hypothesis 2 was supported as results indicated significant increases in psychological flexibility between T2 to T3, and T 2 to T4.

Hypothesis 3 was supported for generalised self-efficacy, goal-directed thinking, and goal attainment. The mediation analyses for generalised self-efficacy indicated that psychological flexibility mediated concomitant increases in generalised self-efficacy between T2 to T3, and T2 to T4. The T2 to T3 increase in psychological flexibility mediated the T2 to T4; and T2 to T4 increase in psychological flexibility mediated the T3 to T4 increase in generalised self-efficacy. The mediation analyses for goal-directed thinking indicated that psychological flexibility mediated concomitant increases in goal-directed thinking between T2 to T4. The T2 to T3 increase in psychological flexibility mediated the T2 to T4 increases in goal-directed thinking. The mediation analyses for goal attainment indicated that psychological flexibility mediated concomitant increases in goal attainment between T2 to T4. The T2 to T3 increase in psychological flexibility mediated the T2 to T4 increases in goal attainment.

Discussion

This study focused on further investigation of the processes of change in ACT-informed performance and development coaching in work, career and personal domains. This study compared the indirect effects of more than one mediator, which allows researchers to start ruling out possible mediators, and strengthens the case for those that remain (Johansson & Høglend, 2007; Kazdin, 2007). The aim of the present study was to compare the indirect effects of two theoretically derived mediators of workplace coaching outcomes, (1) psychological flexibility as the theoretically derived and empirically supported process of change in ACT-informed coaching, and (2) working alliance as a plausible mediator derived from the Contextual Model.

The results of this study indicate that increases in psychological flexibility alone mediated changes in study outcomes as a result of ACT-informed workplace

performance and development coaching. These findings provide empirical support for the conceptual explanation of the relationship in the ACT literature: That the impact of the relationship occurs not as a result of properties of the relationship (i.e. working alliance), but through the function of interpersonal interactions increasing psychological flexibility by reinforcing specific targeted behaviours. These findings are a novel contribution to the ACT literature, as no other empirical studies have tested the conceptual explanation provided by ACT for relationship factors. Further research is required to establish the robustness of these findings and to test whether these findings generalise to other ACT-informed interventions.

Theoretical Implications

These results contribute to coaching research in three main ways. Firstly, the findings offer support for psychological flexibility as a mediator in ACT-informed work-related performance and development coaching interventions over working alliance. Johansson and Høglend (2007) advocate that research studies should investigate more than one potential mediator, as evidence from these studies allows researchers to begin ruling out plausible mediators, strengthening the case for those that remain. The findings from this study indicate that increases in psychological flexibility alone account for improvements in ACT-informed coaching outcomes, therefore strengthening the case for psychological flexibility as a mediator in ACT coaching.

Secondly, we are unaware of any other coaching-specific or coaching-related studies that have directly compared the impact of two mediators in this way, and so we believe this study has the potential to inform the methodologies used in coaching research to investigate multiple and competing processes of change. We hope this study contributes a replicable methodology that is of use to other coaching

researchers, facilitating further investigation of multiple mediators in future coaching studies.

Finally, our findings provide empirical support for the ACT Model over the Contextual Model in ACT-informed coaching interventions. These empirical findings represent an important and novel contribution to the coaching literature. No other studies have tested theoretically derived mediators in a coaching intervention. While these findings require further research to explore their robustness, at this early stage of analysis of mediators in coaching interventions these findings offer insight into how an approach-specific factor (psychological flexibility) compares to a general factor (working alliance) in coaching. These results suggest that in ACT-informed coaching, the ACT Model may have greater explanatory power over the Contextual Model, and the impact of the relationship is through the function of interpersonal interactions increasing psychological flexibility. If that is the case, the credibility of the Contextual Model is brought into question. Certainly, these early results do much to undermine the common factors explanation as an explanation for change in coaching.

Practical Implications

The aim of analyses of mediators is to identify which factors to target to enhance the impact of an intervention (Kazdin, 2007). The empirical data this study contributes suggests that for ACT coaching practitioners to be most effective they should develop a psychologically flexible relationship with their coachees. This is a relationship based on the processes underlying psychological flexibility, i.e. values, committed action, present moment awareness, self-as-context perspective, acceptance and defusion. Developing a relationship that is values-led, committed, conscious, alive, open, accepting, and creative leads to effective behaviour change in ACT interventions. ACT practitioners should foster this type of relationship, as it will

facilitate increased psychological flexibility in coachees, and help coachees increase self-efficacy, increase goal-directed thinking, and achieve greater goal attainment. This is in contrast to a focus on the form of coaching relationship (i.e. developing alliance-related features of the relationship) which may be advocated by other coaching approaches.

Limitations

Whilst we believe these findings offer valuable insights into the mediators in ACT-informed coaching interventions, there are three main limitations in this study, (1) the inherent limitations in mediation analyses, (2) the lack of generalisability of these data, and (3) low attrition in the study. Firstly, there are logical limitations of mediation analyses, as outlined in Fiedler, Schott, and Meiser (2011). A mediation analysis tests the significance and possible effect size of a hypothesised mediator. However, it does not establish causal relationships, or distinguish between causal models. These findings show that psychological flexibility is a mediator of coaching outcomes in ACT-informed coaching, but further analysis is required before psychological flexibility can confidently be said to be a causal factor in ACT-informed coaching. There are a number of requirements that should be met before a mediator can be said to be a mechanism of change, namely (a) strength of association between mediator and outcome, (b) specificity of effect, (c) replication of results across intervention studies, (d) response to experimental manipulation, (e) timeline of change to infer causal relations, (f) gradient of change due to greater activation, and (g) theoretical coherence of explanation (Kazdin, 2007). The analyses presented in this study show strength of association, specificity, response to experimental manipulation, replication of results from other ACT intervention studies, a timeline of change, greater change following greater activation, and a theoretically coherent explanation. However, further studies would be beneficial to establish a more detailed

timeline of change in the mediator and outcome variables, consistency of these results in other ACT-informed coaching intervention studies, and additional evidence of the gradient of change (e.g. a dose-response relation comparing conditions with different levels of activation of ACT processes). Based on recommendations for establishing a mechanism of change, further investigation of ACT-informed coaching would be valuable to conclude psychological flexibility is a mechanism of change in ACT-informed coaching.

Secondly, it may not be considered possible to generalise directly from the present study, which investigated ACT-informed work-related performance and development coaching, to more diverse forms of coaching, coaching contexts and ACT-informed interventions. Future research may need to explore if these findings generalise to more diverse forms of coaching (such as skills coaching), coaching contexts (such as health coaching), and other ACT-informed interventions (such as training). Further investigation of the processes of change in other coaching approaches would also be a welcome endeavour for the coaching research evidence-base.

Finally, as with the other studies in this research project, there was comparatively low attrition in the study. As with the other studies, this may have been due to the nature of the intervention and a strong psychological contract between the coach and participant. If individuals value the coaching experience, and have a connection to the researcher, they may be less likely to not complete the required activities for the research. As with the other studies, participants were also high in generalised self-efficacy at baseline, and had high education levels (91% of participants were educated to degree level or above). Samples of high functioning individuals may be less likely to leave a study than studies using clinical samples, which could partly explain the low attrition.

Directions for Future Research

Recommendations for future research indicated by this study are (a) to replicate these findings using an ACT-informed coaching approach to determine the robustness of these findings, (b) to replicate this type of analysis with other theoretically underpinned coaching approaches, (c) explore the impact of coach levels of psychological flexibility on these findings, and (d) to replicate the analysis in other ACT-informed interventions to determine if data from other samples support the conceptual argument proposed by ACT theory. Firstly, as these findings are the first analysis of this kind in coaching-specific research, it would be beneficial to replicate them with other samples using a similar methodology and intervention to determine their robustness. Secondly, a similar approach could be taken to studies investigating processes of change in other coaching approaches. It is our hope that the methodology used in this study provides a useful example of how to design a study exploring multiple mediators. It would be beneficial to the coaching evidence base to replicate this type of study using different theoretical approaches or different types of coaching (i.e. health coaching). These studies would inform how generalizable these results are beyond ACT-informed performance and development coaching.

Thirdly, future studies could explore whether levels of coach psychological flexibility have an impact on coaching outcomes. Based on ACT theory, engaging with the processes of psychological flexibility generates an effective and transformative interpersonal relationship (Vilardaga & Hayes, 2010). This is true of the coach as well as the coachee. Consequently, the level of psychological flexibility of the coach could be a moderating factor in ACT-informed coaching. That is, improvements in coachee outcomes may be greater for coaches with higher levels of psychological flexibility at the outset of coaching, compared to those with lower levels of psychological flexibility. Future studies could explore the impact of coach

psychological flexibility on coaching outcomes to determine if empirical evidence supports this hypothesis.

Finally, future studies could aim to replicate the findings of this study with other ACT-informed interventions (e.g., workplace training), to determine if data from other samples support the conceptual argument proposed by ACT theory. To date, we are unaware of any studies that have empirically explored the ACT perspective on the relationship (i.e. that the impact of the relationship occurs not as a result of properties of the relationship, but through interpersonal interactions increasing psychological flexibility by reinforcing specific targeted behaviours). The analysis in this study suggests this might be the case in ACT-informed coaching. However, there is an ongoing debate in the psychotherapy literature around theory-specific factors and common factors as processes of change in therapy. Studies comparing psychological flexibility and common factors like working alliance would be beneficial to determine the comparative roles these variables as mediators, and the explanatory power of their corresponding theories.

Chapter 8: General Discussion

8.1 A Theoretically and Methodologically Rigorous Approach to Coaching Research

      This programme of research consists of three studies. A preliminary study explores the impact of ACT-informed coaching on outcomes from a contemporary framework of coaching outcome categories and psychological flexibility. A RCT study investigates the impact of ACT-informed coaching on outcomes (related to the same contemporary framework of coaching outcome categories), and tests whether psychological flexibility mediates the change in outcomes. Finally, a parallel mediation study compares the mediation effects of psychological flexibility and working alliance. This research aims to respond to four main limitations in the coaching evidence base identified by coaching meta-research. These are (a) the lack of theoretical underpinning in coaching interventions, (b) the lack of methodologically rigorous coaching-specific studies, (c) inconsistency and lack of rigour in outcome measurement in coaching studies, and (d) limited exploration of processes of change in coaching interventions.

      In response to the first limitation, this programme of research used coaching interventions informed by ACT theory. An ACT-informed coaching approach aims to increase the coachee's psychological flexibility using the six processes of the ACT Model. Coaching interventions help coachees identify their values, and take committed action towards those values. Coachees are given mindfulness practices to help them to enhance present moment awareness, and experience a self-as-context perspective. Finally, coaching interventions help coachees learn how to defuse from unhelpful thoughts, feelings, and sensations; and increase their acceptance of, and willingness to experience, the unhelpful experiences that may have resulted from

taking committed action. In ACT theory, psychological flexibility is the factor that underpins behavior change in ACT-informed interventions (Hayes et al., 2012).

In response to the second limitation, we conducted a preliminary within-subjects repeated measure study to test the impact of a brief coaching intervention using ACT principles. The coaching outcomes we investigated were identified using a framework of outcome categories proposed by Theeboom et al. (2014). The results of this preliminary study helped to inform a subsequent RCT study of ACT-informed coaching. The RCT study took into account sample size recommendations for the design used, and randomly allocated participants to either an ACT-informed coaching intervention or a waitlist control group. In both the preliminary and RCT studies, participant responses were measured at multiple time points. Coaching interventions in both studies were standardised, and protocols are provided to facilitate replication in other research studies. Conducting two studies allowed us to test ACT-informed coaching with both a general adult population and work-specific population. The first study used performance and development coaching with a general adult sample. In this study participants worked towards general work, career, and personal goals. The second study used performance and development coaching with a sample of senior managers from the UK Civil Service. In this study, participants worked towards work and career goals; and some participants chose goals that could be described as work-related personal goals, such as improving work-life balance.

In response to the third limitation, we aimed to increase the consistency in outcomes measured in relation to other coaching studies by using a contemporary framework of coaching outcome categories (Theeboom et al., 2014) to identify study outcomes. This framework grouped coaching outcomes into five categories; performance and skills, wellbeing, coping, attitudes, and goal-directed self-regulation. Coaching outcomes were measured using validated self-report measures. We also

collected independent (i.e., supervisor) ratings of participant's performance, but due to a low response rate it was not possible to analyse these data. Repeated measures of all variables were taken at four time points during the experimental period. As well as coaching outcomes from the framework of outcome categories, we measured psychological flexibility, as the core outcome that ACT-informed coaching is hypothesised to increase.

In response to the fourth limitation, we conducted mediation analyses on the RCT data to explore theoretically derived processes of change in ACT-informed coaching. We investigated if increases in psychological flexibility, the hypothesised mechanism of change in ACT-informed interventions, mediated increases in coaching outcomes. The final study in this programme of research compared the indirect effects of psychological flexibility to another plausible mediator, working alliance, derived from the Contextual Model (Wampold, 2015; Wampold & Budge, 2012; Wampold & Imel, 2015).

8.2 Summary of Findings

Results from the preliminary and RCT studies indicating the impact of ACT-informed coaching interventions on each of the study outcomes are summarised below. Then, the findings from mediation analyses conducted for psychological flexibility singly, and the parallel multiple mediator model comparing the mediation effects of psychological flexibility and working alliance, are summarised.

The impact of ACT-informed coaching on performance. Only the RCT study examined performance outcomes. The RCT study tested whether ACT-informed coaching would improve individual performance. Individual performance was measured as a self-report and an independent rating by participants' supervisors; however, due to a low response rate it was not possible to analyse the supervisor ratings. It was expected that participants who took part in an ACT-informed coaching

intervention would improve their individual performance. The results of the RCT study were not as anticipated. There were no significant increases in individual performance in the intervention group, but the control group showed a significant decrease in individual performance between T1 to T3, and T1 to T4. Between-subjects analyses indicated a significant difference between the ACT group and the control group at T4. These results indicate the ACT-informed coaching intervention may have helped the ACT group to maintain performance, while performance in the control group decreased. These results are not consistent with ACT theory; which predicted increases in psychological flexibility would enhance performance, as greater psychological flexibility activates defusion and acceptance of thoughts that might hinder performance, encourages valued-led action, and allows individuals to better respond to goal-related opportunities. Findings from coaching-specific evidence (David et al., 2016; MacKie, 2014; Ogbuanya et al., 2017; Ratiu et al., 2017) and ACT-informed coaching-related evidence (Bond & Bunce, 2000; Burton et al., 2010; Luoma et al., 2007; Varra et al., 2008) also suggested ACT-informed coaching would improve performance.

These results could be the side effect of an organisation wide event that generated a decrease in performance in the control group. Following an unexpected change of government in the 2015 general election, many study participants changed role, project, team, or department during the experimental period of the RCT study. This organisational event could have had an overall impact on performance, such that performance decreased in the control group. Overall, these results suggest that ACT-informed coaching had a positive impact on individual performance, but in the form of a maintenance effect.

The impact of ACT-informed coaching on wellbeing. Both the preliminary study and RCT study tested whether ACT-informed coaching would improve coachee

wellbeing using the specific outcome of general mental health. It was expected that participation in an ACT-informed coaching intervention would improve general mental health. As expected, results indicated that ACT-informed coaching improved general mental health over time in both the preliminary study (between T1 to T4) and RCT study (between T1 to T3, and T1 to T4). The RCT study showed no change in general mental health in the control group over time, and between-subjects analyses indicated a significant difference between the ACT group and the control group at T3 and T4.

These findings are consistent with ACT theory, which predicts general mental health will increase as a result of clarifying and constructing values, and through developing greater mindful awareness of the desired balance individuals have across things that are meaningful and important to them. The findings of this research are consistent with evidence from coaching-specific research (Collard & Walsh, 2008; David et al., 2016; Hultgren et al., 2016; Ogbuanya et al., 2017; Weinberg, 2016), and ACT-informed coaching-related research (Bond & Bunce, 2000; Biglan et al., 2013; Brinkborg et al., 2011; Burton et al., 2010; Hayes et al., 2004; Jeffcoat & Hayes, 2012; Lloyd et al., 2013, 2017; Noone & Hastings, 2009, 2010; Stafford-Brown & Pakenham, 2012) that show improvements in wellbeing outcomes following interventions. Overall, these results suggest that ACT-informed coaching had a positive impact on general mental health.

The impact of ACT-informed coaching on coping. Both the preliminary and RCT studies tested whether ACT-informed coaching would improve coping using the specific outcome of generalised self-efficacy. It was expected that participation in an ACT-informed coaching intervention would increase generalised self-efficacy. Results from the preliminary study showed a change in generalised self-efficacy over time, however could not identify the time intervals where this change

took place (possibly due to low power in the study analsyis). The RCT study indicated that generalised self-efficacy improved in the ACT group between T1 to T4, and T2 to T4. There was no change in self-efficacy in the control group over time, and between-subjects analyses indicated a significant difference between the ACT group and the control group at T4.

The findings from the RCT study align with results from other coaching studies using theoretically underpinned interventions, which have shown improvements in self-efficacy (Braunstein & Grant, 2016; Ebner et al., 2017; Evers et al., 2006; Grant, 2012; McDowall & Butterworth, 2014; Mosteo et al., 2016). They also replicate results from ACT-informed coaching-related studies that showed an increase in self-efficacy as a result of ACT-informed interventions (Biglan et al., 2013; Satfford-Brown & Pakenham, 2012). The theoretical explanation of how ACT interventions increase self-efficacy suggests that an activation of mindfulness and acceptance accounts for changes in this outcome. It is also possible that the brief coaching intervention was not substantial enough to effect detectable changes in coachees' generalised self-efficacy at specific time intervals if the coaching intervention did not sufficiently activate mindfulness and acceptance processes. Overall, these results suggest that ACT-informed coaching had a positive impact on generalised self-efficacy.

The impact of ACT-informed coaching on attitudes. Both the preliminary and RCT studies tested whether ACT-informed coaching would improve coachee attitudes: The preliminary study explored the general attitude outcomes of life satisfaction and situational intrinsic motivation; and the RCT study explored the work-related attitude outcomes of job satisfaction and intrinsic job motivation. It was expected that participation in an ACT-informed coaching intervention would improve

these satisfaction and motivation outcomes. The findings across the preliminary study and RCT study are particularly interesting for this category of outcomes.

Results from the preliminary study indicated a significant increase in life satisfaction over time (between T1 to T2, and T1 to T4) following a brief ACT-informed coaching intervention. The increase in life satisfaction aligns with ACT theory as the coaching session aimed to increase coachees' understanding of their values, and facilitated committed action towards those values. However, there were no significant increases in job satisfaction observed in the RCT study over time or compared to the control group. It is possible that the difference in the type of satisfaction being measured (i.e. life satisfaction as opposed to job satisfaction) plays a role in the explanation for these different findings. ACT processes may increase life satisfaction through increased values alignment and committed action resulting from ACT coaching. In contrast, to increase job satisfaction, changes in organisational processes, procedures, and structures may also be required. As coaching interventions operate at the individual rather than the organisational level, they are unlikely to be able to effect all of the changes required to enhance job satisfaction. If this is the case, then a coaching intervention more closely aligned to the participant's job role might have a greater impact on job satisfaction. Overall, these results suggest that ACT-informed coaching had a positive impact on life satisfaction but not job satisfaction.

The preliminary study showed an initial significant increase in situational intrinsic motivation, though this was not enduring (results showed an increase between T1 to T2, and a decrease between T2 to T3 such that this outcome reverted to baseline levels). Using the coaching as the activity referred to in the situational intrinsic motivation scale may have meant that once the brief coaching session was finished participants no longer had situational intrinsic motivation towards the

coaching. There were no significant increases in intrinsic job motivation observed in the RCT study over time or compared to the control group. As with job satisfaction, to increase job motivation, changes in organisational processes, procedures, and structures may be required alongside psychological changes; and as this coaching intervention operated at the individual rather than the organisational level, it was unlikely to be able to effect all of the changes required to enhance intrinsic job motivation. Overall, these results suggest that ACT-informed coaching does not affect intrinsic job motivation; and the impact of ACT-informed coaching on situational intrinsic motivation is temporary, though further research may show whether the focus of the scale influenced this effect.

The impact of ACT-informed coaching on goal-related self-regulation. Both the preliminary study and RCT study tested whether ACT-informed coaching would improve coachee goal-directed self-regulation using the specific outcomes of goal-directed thinking and goal attainment. It was expected that participation in an ACT-informed coaching intervention would increase goal-directed thinking. Results from the preliminary study indicated a significant increase in goal-directed thinking over time (between T1 to T2, and T1 to T4) following a brief ACT-informed coaching intervention. This finding was replicated in the RCT study, which showed increases in goal-directed thinking between T1 to T4, and T2 to T4. No changes in goal-directed thinking were observed in the control group over time, and between-subjects analyses showed higher goal-directed thinking in the ACT group at T3 and T4.

These findings align with results from coaching studies using theoretically underpinned interventions, which have shown that coaching interventions increase goal-directed thinking (Mosteo et al., 2016; Sherlock-Storey et al., 2013). ACT theory predicts that goal-directed outcomes increase following an ACT-informed

intervention, due to increased psychological flexibility, and increases in commitment and behavioural activation processes in particular. Overall, these results suggest that ACT-informed coaching had a positive impact on goal-directed thinking. These findings represent a novel contribution to the ACT literature, as no other ACT-informed intervention studies have included measures of goal-directed thinking.

It was expected that participation in an ACT-informed coaching intervention would increase goal attainment. Results from the preliminary study indicated a significant increase in goal attainment between T2 to T3, T2 to T4, and T3 to T4 following a brief ACT-informed coaching intervention. This finding was replicated in the RCT study, as the ACT group showed increased goal attainment between T1 to T2, T1 to T3, T 1 to T4, T2 to T3, T2 to T4, and T3 to T4. However, the control group also showed significant increases in goal attainment over time (between T1 to T3, T1 to T4, and T2 to T4). This is congruent with goal-setting theory, which posits that goals themselves influence action, as they are directive, energising, activate knowledge and strategies, and influence persistence (Locke & Latham, 2002).

Goal attainment was the only outcome variable in the RCT study to have significant differences between the ACT group and control group at T1, with goal attainment significantly lower in the ACT group at T1 than the control group. However, scores for goal attainment in the ACT and control groups converged, suggesting that despite significantly lower goal attainment at Time 1, goal attainment in the ACT group was equivalent to the control group at Time 4. It is likely that the ACT-informed coaching intervention accounts for the additional gains in the ACT group. These findings represent a novel contribution to the ACT literature, as no other ACT-informed intervention studies have included measures of goal attainment. The results of the RCT study pose an interesting question around the extent to which ACT

processes account for increases in goal attainment. This is discussed further in relation to findings from the mediation analyses.

The impact of ACT-informed coaching on psychological flexibility. Both the preliminary study and RCT study tested whether ACT-informed coaching would increase coachee psychological flexibility. It was expected that participation in an ACT-informed coaching intervention would increase psychological flexibility, as increasing psychological flexibility is a core aim of ACT-informed coaching. Results from the preliminary study showed no change in psychological flexibility over time. However, the RCT study showed increased psychological flexibility in the ACT group over time. No changes in psychological flexibility were observed in the control group over time, and between-subjects analyses showed higher psychological flexibility in the ACT group compared to the control group at T3 and T4.

Findings from the RCT align with findings from ACT-informed intervention studies that showed an increase in psychological flexibility (Burton et al., 2010; Jeffcoat & Hayes, 2012; Lloyd et al., 2013, 2017; Stafford-Brown & Pakenham, 2012; Varra et al., 2008). It is uncertain at this stage of research why the preliminary study did not show increases in general psychological flexibility. However, it is possible that a brief coaching intervention may not have been substantial enough to effect detectable changes in coachees' psychological flexibility. Wicksell, Olsson, and Hayes. (2010) suggest that self-efficacy and psychological flexibility may have an overlap as both involve the ability of individuals to perform actions despite the presence of difficult or interfering thoughts or experiences. Therefore, as with generalised self-efficacy, the lack of significant change in psychological flexibility in the preliminary study may be due to insufficient activation of mindfulness and acceptance processes. Overall, these results suggest that ACT-informed coaching had

a positive impact on psychological flexibility, but only when a more substantial coaching intervention was implemented.

Mediation analyses. It was expected that psychological flexibility would mediate the changes observed in the coaching outcome variables. Mediation analyses were conducted for the RCT data for outcomes that showed significant increases over time in the ACT group, using time intervals that showed a significant increase in psychological flexibility to model the mediator variable (i.e. between T1 to T3, T1 to T4, T2 to T3, and T2 to T4). A criterion required for establishing a mediator as a mechanism of change is to establish a timeline of change from which causal relations can be inferred, i.e. causes should precede effects (Kazdin, 2007). To provide a comprehensive analysis of mediation effects in the data, mediation analyses were conducted to test for (a) concomitant changes in the mediator accounting for significant changes in the outcome variable (e.g. increases in the mediator between T1 to T4 mediate increases in outcome between T1 to T4), and (b) preceding changes in the mediator variable accounting for significant changes in the outcome variable (e.g. increases in the mediator between T1 to T3 mediate increases in outcome between T1 to T4).

The final study compared the indirect effects of psychological flexibility to the indirect effects of working alliance in a parallel multiple mediator model using data from the ACT coaching arm only. As there was no Time 1 measure of working alliance, mediation analyses were conducted using time intervals that showed a significant increase in psychological flexibility and a significant increase in working alliance (i.e. between T2 to T3, and T2 to T4) to model the mediator variables. Again, to provide a comprehensive analysis of the mediation effects in the data, mediation analyses were conducted to test for (a) concomitant changes in the mediator accounting for significant changes in the outcome variable (e.g. increases in the

mediators between T2 to T3 mediate increases in outcome between T2 to T3), and (b) preceding changes in the mediator variable accounting for significant changes in the outcome variable (e.g. increases in the mediator between T2 to T3 mediate increases in outcome between T2 to T4). The findings of the mediation analyses for each outcome are summarised below.

Results from the RCT study showed a mediation effect of psychological flexibility for increases in general mental health over time compared to the control group at three time intervals: Between T1 to T3, T1 to T4, and T2 to T4. The significant T1 to T3 increase in psychological flexibility mediated the significant T1 to T4 increase in general mental health. The parallel mediation analysis comparing the indirect effects of psychological flexibility and working alliance using data from the coaching arm only showed no significant mediation effect of psychological flexibility or working alliance for increases in general mental health between T2 to T4. The main mediation analyses support the hypothesis suggested by ACT theory that improvements in general mental health from ACT interventions arise from increases in psychological flexibility. However, the mediation effect of psychological flexibility on general mental health was not replicated in the parallel multiple mediator model comparing the indirect effects of psychological flexibility and working alliance. This is possibly because parallel multiple mediator model used only time intervals after T2, and the effect size for the increase in general mental health between T2 to T4 ($\eta^2 = .12$) was relatively small compared to the T1 to T3, and T1 to T4 increases ($\eta^2 = .14$ and $\eta^2 = .23$ respectively). With a smaller effect size at this time interval, the parallel multiple mediator model may not have detected a mediation effect. However, further investigation of the interaction between psychological flexibility and working alliance would be beneficial to determine if this is the case.

Results from the RCT study showed a mediation effect of psychological flexibility for increases in generalised self-efficacy over time compared to the control group at two time intervals: Between T1 to T4, and T2 to T4. The significant T1 to T3 increase in psychological flexibility mediated the significant T1 to T4, and T2 to T4 increases in generalised self-efficacy; and, the significant T2 to T3 increase in psychological flexibility mediated the significant T2 to T4 increase in generalised self-efficacy. The parallel mediation analysis comparing the indirect effects of psychological flexibility and working alliance, using data from the coaching arm only, revealed a mediation effect of psychological flexibility for generalised self-efficacy at two time intervals: Between T2 to T3 and T2 to T4. The significant T2 to T3 increase in psychological flexibility mediated the significant T2 to T4 increase in generalised self-efficacy; and, the significant T2 to T4 increase in psychological flexibility mediated the significant T3 to T4 increase in generalised self-efficacy. There was no mediation effect of working alliance at any time intervals. These findings support the hypothesis suggested by ACT theory that improvements in self-efficacy arise from increases in psychological flexibility. They also suggest psychological flexibility is more likely to be a mechanism of change than working alliance for increases in self-efficacy following an ACT-informed coaching intervention.

Results from the RCT study showed a mediation effect of psychological flexibility for increases in goal-directed thinking over time compared to the control group at two time intervals: Between T1 to T4, and T2 to T4. The significant T1 to T3 increase in psychological flexibility mediated the significant T1 to T4, and T2 to T4 increases in goal-directed thinking; and, the significant T2 to T3 increase in psychological flexibility mediated the significant T2 to T4 increase in goal-directed thinking. The parallel mediation analysis comparing the indirect effects of

psychological flexibility and working alliance, using data from the coaching arm only, revealed a mediation effect of psychological flexibility for goal-directed thinking between T2 to T4. The significant T2 to T3 increase in psychological flexibility mediated the significant T2 to T4 increase in goal-directed thinking. There was no mediation effect of working alliance at any time intervals. These findings support the hypothesis suggested by ACT theory that improvements in goal-directed thinking arise from increases in psychological flexibility. They also suggest psychological flexibility is more likely to be a mechanism of change than working alliance for increases in goal-directed thinking following an ACT-informed coaching intervention.

Results from the RCT study showed a mediation effect of psychological flexibility for increases in goal attainment over time compared to the control group at four time intervals: Between T1 to T3, T1 to T4, T2 to T3, and T2 to T4. The significant T1 to T3, T1 to T4, and T2 to T3 increases in psychological flexibility were each shown to mediate the significant T2 to T4 increase in goal attainment. The parallel mediation analysis comparing the indirect effects of psychological flexibility and working alliance, using data from the coaching arm only, revealed a mediation effect of psychological flexibility for goal attainment between T2 to T4. The significant T2 to T3 increase in psychological flexibility mediated the significant T2 to T4 increase in goal attainment. There was no mediation effect of working alliance at any time intervals. These results are particularly interesting given the significant changes in the control group shown in the RCT study. Although the significant T2 to T3 increase in psychological flexibility mediated the significant T2 to T4 increase in goal attainment, there were significant increases in goal attainment between all possible time intervals. Therefore, psychological flexibility is not accounting exclusively for increases in goal attainment. There were two other possible

mechanisms through which change occurred (a) the act of setting goals, and (b) constructing goals with the support of a coach. Based on these findings, we conclude that psychological flexibility accounts for increases in goal attainment to some extent, but it is likely that other processes, such as goals-setting processes, also account for increases in this outcome.

Taken together, the results of these mediation analyses show that the most plausible mechanism of change underlying the positive impact of ACT-informed workplace performance and development coaching is increases in psychological flexibility. The indirect effect of increases in psychological flexibility for increases in generalised self-efficacy and increases in goal-directed thinking were consistent and clear. The indirect effect of increases in psychological flexibility on general mental health were evident in the RCT data comparing the ACT group to the control group; however this effect disappeared in the parallel multiple mediator model comparing the indirect effects of increases in psychological flexibility and increases in working alliance. This could be because the analysis failed to detect a mediation effect if the effect size at this time interval was not sufficiently large. Further investigation by future studies could determine if this is the case.

The indirect effect of increases in psychological flexibility on goal attainment provides insight into the extent to which psychological flexibility accounts for changes in goal attainment. Psychological flexibility mediated concomitant increases in goal attainment consistently. However, prior increases in psychological flexibility only mediated the T2 to T4 increases in goal attainment. Therefore, psychological flexibility accounts for increases in goal attainment to some extent, but other processes, such as goals-setting processes, also account for increases in this outcome. It would be beneficial to investigate the interaction between ACT processes and other potential mechanisms in future research.

Finally, the findings from the parallel multiple mediator analyses provide empirical support for the conceptual explanation of the relationship in the ACT literature: That the impact of the relationship occurs not as a result of properties of the relationship (i.e. working alliance), but through the function of interpersonal interactions increasing psychological flexibility. These findings are a novel contribution to the ACT literature; as no other empirical studies have tested this conceptual explanation for relationship factors in ACT.

8.3 Implications of Results

Theoretical implications. Taken together, these findings suggest that ACT coaching has a positive impact on a range of coaching outcomes. Consequently, it can be concluded that ACT-informed coaching interventions represent an effective approach to performance and development coaching in work, career, and personal domains. These findings make novel contributions to both the coaching literature and the ACT intervention literature. These findings are the first empirical data demonstrating the effectiveness of ACT-informed coaching for improving coaching outcomes, and increasing psychological flexibility. These data also show increases in psychological flexibility account for improvements in general mental health, generalised self-efficacy, goal-directed thinking, and to some extent in goal attainment. Additionally, the mediation effect of psychological flexibility accounts for increases in generalised self-efficacy, goal-directed thinking, and goal attainment when compared to another plausible mediator.

The results of this programme of research suggest that mindfulness and acceptance-based approaches to coaching warrant further research and provide a sound basis for coaching interventions. These approaches are currently under researched compared to other approaches to coaching, such as SFC and CBC. Virgili (2003) argues that both ACT and MBSR are particularly relevant to coaching.

However, other mindfulness and acceptance-based approaches, such as MBCT and DBT could also be effective in coaching, and further research using interventions based on these approaches would be advantageous.

This programme of research has implications for the coaching evidence base. Many previous research studies have used interventions that were either atheoretical or integrated different theoretical approaches (e.g. solution-focused cognitive-behavioural coaching). However, there is great benefit in using interventions based on a single theory in research. Interventions based on single theories target specific processes of change, and hypothesise specific mechanisms of change. Research can test whether hypothesised mechanisms account for changes in coaching outcomes. This facilitates our understanding of why an approach works and why, and consequently how to improve coaching interventions. This is a firm foundation for developing coaching theory across contexts, population and behaviours (Michie et al., 2008). Taking this systematic approach to research is likely to move coaching theory forward more effectively than an eclectic or unstructured approach.

The findings from this programme of research have implications for the development of ACT theory in performance and development contexts. The evidence base for the effectiveness of ACT interventions with non-clinical populations is growing. This research shows that coaching is an effective mode for delivering ACT. A key theoretical contribution of this research is the comparison of the ACT Model's prediction for the mechanism of change in ACT coaching (i.e. increased psychological flexibility) to the Contextual Model's prediction (i.e. that working alliance will mediate outcomes). By comparing the effects of psychological flexibility and working alliance in a parallel multiple mediator model, it was possible to establish that the data support the prediction of the ACT Model over the Contextual Model. These findings support the conceptual argument that the impact of the

relationship occurs through the function of interpersonal interactions increasing psychological flexibility, and this could have implications for ACT interventions in psychotherapeutic contexts as well as coaching. The debate around the comparative impact of theoretically specific techniques and common factors originates in psychotherapy, and these data imply the ACT Model may have a superior prediction for the mechanisms of change in psychotherapeutic interventions to the Contextual Model. It may be constructive to explore this in studies of psychotherapy interventions to establish if these findings are replicated.

This research extends our understanding of how ACT-informed interventions may interact with goal-related processes. This is the first ACT-informed intervention study to explore goal-related outcomes (goal-directed thinking and goal attainment specifically). There are indicators in the findings that suggest psychological flexibility may not be the only process accounting for increases in goal attainment, i.e. the RCT data for the control group showed significant increases in goal attainment over time. Goal-setting theory predicts that goals themselves are directive, energising, activate knowledge and strategies, and influence persistence (Locke & Latham, 2002), which might account for the significant increase in goal attainment in the control group. In addition to this, the context in which goals are set (i.e. if are they constructed with a coach or not) seems to have an effect on the extent to which participants had already achieved their goals at baseline, and how difficult they perceived their goals to be. It is possible that these effects are specific to coaching interventions, but other ACT intervention studies should investigate whether similar patterns of results occur in other contexts, and how goal-related processes interact with committed action processes in ACT interventions.

The findings of this research provide partial support for the framework of coaching outcomes proposed by Theeboom et al. (2014). This programme of research

indicates that ACT-informed coaching maintained performance, improved wellbeing (i.e. general mental health), improved coping (i.e. generalised self-efficacy), and increased goal-related self-regulation (i.e. goal-directed thinking, and goal attainment). There was limited evidence that ACT-informed coaching improved attitudinal outcomes (improvements were shown for life satisfaction, and there was a temporary increase in situational intrinsic motivation, but no change was shown for job satisfaction or intrinsic job motivation). However, using this framework of coaching outcomes led to some useful insight into the characteristics that would be required of an outcome framework if it were to be commonly accepted by coaching researchers. Firstly, the outcome categories would need to be flexible enough to encapsulate multiple coaching contexts and domains (e.g. career coaching, health coaching, work-related coaching, etc.), and differing developmental levels (i.e. skills coaching, performance coaching, developmental coaching, and transformational coaching). Secondly, outcome categories would need to be able to capture outcomes at different levels (i.e. individual outcomes, organisational outcomes, and societal outcomes). Finally, as argued by Jones et al. (2016), the framework of coaching outcomes proposed by Theeboom et al. (2014) lacks a theoretical underpinning. If coaching researchers are to adopt a common framework of coaching outcome categories, it should ideally be theory driven.

Finally, this study contributes a methodologically rigorous investigation into the mechanisms of change in ACT coaching. Findings offer empirical support for increases in psychological flexibility, as the hypothesised mechanism of change in ACT theory, accounting for increases in general mental health, generalised self-efficacy, goal-directed thinking, and goal attainment resulting from the coaching intervention. We also compared the effects of psychological flexibility to a second plausible mediator in ACT-informed coaching. Testing more than one mediator in

outcome studies provides a parsimonious approach to investigating processes of change in coaching (Johansson & Høglend, 2007; Kazdin, 2007). The findings from mediation analyses in the present study undermine findings from other less rigorous studies that argue working alliance is a common factor that accounts for changes resulting from coaching interventions across coaching approaches.

To move coaching theory forward it is essential to empirically test theoretically derived mechanisms of change in coaching; and it is beneficial to compare the effects of multiple mediators to establish factors that best explain change resulting from coaching interventions. This programme of research offers a template for how that can be done. Future studies should explore other processes of change in coaching, such as goal-related processes that might account for changes in goal attainment; and contextual factors that might moderate the effects of coaching, such as coach characteristics (i.e. does higher coach psychological flexibility enhance the effects of ACT-informed coaching?). Future research could also use other mediational models to explore mediators and mechanisms of change in other ways, such as the Actor-Partner Interdependence Model (Ledermann, Macho, & Kenny, 2011) to explore the interaction of psychological flexibility across coaching dyads.

Methodological implications. We believe that our RCT study represents the most methodologically rigorous study of a theoretically underpinned performance and development coaching intervention in work, career, or personal domains conducted to date. Key methodological criteria included: Randomly allocating participants to conditions; comparing the intervention group to a waitlist control group; standardising the intervention; using a sufficiently large sample size; using a framework of coaching outcomes to derive outcome variables; using valid and reliable measures for study variables; taking repeated measures of outcomes at multiple time points throughout the study; investigating mediational effects in

experimental data; and establishing a logical timeline for the mediation effects of mediator variables relative to outcome variables.

What the meta-research highlights as missing from the coaching evidence base is good quality RCT studies showing the impact of coaching interventions on outcomes. Without studies of this type, researchers cannot make claims about causal relationships between variables. Other study designs can help to extrapolate relationships, provide insight into experiences of coachees, and highlight potential processes of change in coaching. However, only experimental designs can establish causal relationships. We hope the present study provides a useful template for future coaching researchers to replicate and generate the high quality RCT's needed to make coaching an evidence-based practice. Experimental designs are able to produce generalisable data, but researchers will still need to consider the coaching context (i.e. the specific domain), the level of development the coaching is aimed at (skill, performance, development, or transformation), and the population being coached. Nevertheless, more good quality studies with experiential designs will have a positive impact on the quality of subsequent meta-research; especially as good quality, generalisable research will improve the overall quality of meta-analytic studies of the efficacy of coaching.

The coaching evidence base will also benefit from additional studies looking at the effectiveness of coaching interventions, as well as the efficacy of them. Effectiveness studies are concerned with how effective an intervention in its real world application (Chambless & Ollendick, 2001). (See Chapter 3 for a more detailed discussion of efficacy studies vs. effectiveness studies). Effectiveness studies present an opportunity for collaborations between coaching academic researchers and practitioners. Collaborations for this type of study are advantageous by combining methodological rigour with practices that reflect the real world application of

coaching. The methodological requirements of effectiveness studies are less stringent than efficacy studies, reducing some of the barriers to conducting experimental research in coaching. Good quality research in this area will complement efficacy studies and give a more rounded perspective on the impact of coaching interventions.

This programme of research had the intention of offering consistency in the outcomes measured. We explored the available frameworks for coaching outcomes, many of which identified different levels of outcomes: Individual, organisational, and societal. The framework of coaching outcomes used in this study focused on outcomes at the individual level. This might have been influenced by the outcome categories in Theeboom et al. (2014) being derived from existing coaching research studies that had tended to explore individual outcomes. Other coaching outcome frameworks suggest more explicitly that researchers explore outcomes at the organisational level and societal level as well as the individual level (e.g. Blackman et al., 2016). Exploring outcomes across different levels will provide a view of the impact on coaching across a whole system.

A challenge that coaching researchers need to address is how to identify or design meaningful measures at the organisational or societal levels. Examples of organisational outcomes might include achievement of strategic goals linked to the coaching intervention, or changes in productivity and output following coaching interventions. Examples of societal outcomes could include improvements in work-life balance, or the impact of improvements on customers of the organisation. The challenge is to link the impact of the coaching interventions to these types of distal outcomes, and control for confounding variables. Outcomes at these levels will need to be appropriate to the type of coaching being investigated, the coaching context, and measures used will need to reflect the level of outcome (individual, organisational, or societal). It may be useful for coaching researchers to align with best practice in other

research areas that evaluate the impact of interventions on whole systems (e.g. advice on measuring the impact of health and wellbeing intervention; NHS England, 2015).

Practical implications. The key practical implication of this research is that ACT-informed coaching represents an effective approach to performance and development coaching in work, career and personal domains. Whilst more research is required to replicate these results and further explore the effectiveness of ACT-informed coaching, the results of this programme of research suggest how coaches can use the ACT Model to improve the impact of their coaching. The ACT Model guides coaches to techniques and activities that will generate positive change in their clients by increasing their psychological flexibility. This research also suggests that coaches should focus on creating a relationship that is values-led, committed, conscious, alive, open, and creative to be more effective, rather than focusing on the form of the relationship (i.e. working alliance, as suggested by the Contextual Model).

The methodological rigour in the present research is good for studies in occupational psychology. Yet, greater methodological rigour is achieved in clinical studies to reduce issues of researcher bias, such as employing stronger fidelity checks (e.g. recording of sessions for expert review, or an intervention fidelity checklist), and blinding of therapists, clients, and outcome assessors (see Munder, Brütsch, Leonhart, Gerger, & Barth, 2013, for a discussion of the impact of researcher allegiance in psychotherapy research). Recommendations for reducing researcher bias in psychotherapy research include working as collaborative teams with mixed allegiances, and therapists in all conditions being motivated to learn and deliver all respective treatments (Munder et al., 2013). Coaching researchers could adapt these recommendations to reduce researcher bias in coaching research, resulting in even greater methodological rigour in coaching studies. Increasing the use of collaborative

research teams highlights again the benefits of academic researchers and practitioners collaborating to produce research. Academic researchers can help improve the quality and methodological rigour in coaching intervention studies, for example by helping practitioners to develop skills in applied research design and analysis. Practitioners can help academic researchers to conduct studies that are authentic and relevant to real world coaching interventions. More collaborations of this type could improve the overall quality and scope of coaching research.

This research highlights implications for coaching research policy and the role of professional bodies. For coaching to become an evidence-based practice, challenges in producing and disseminating coaching research need to be addressed (see Ellam-Dyson & Palmer, 2008, for a discussion of the practical challenges in conducting coaching research). This programme of research and the RCT study particularly, offer a replicable format for future methodologically sound coaching research; future research would also be able to respond to some of the limitations in the present research. However, research on this scale was made possible only through funding from an academic institution.

Professional coaching bodies could support the production and dissemination of good quality evidence from coaching research. There are a number of opportunities for professional bodies to do this: By providing a network across the coaching research community; increasing methodological rigour in research through supporting research training for coaching practitioners; disseminating information and research findings across the coaching community; encouraging and facilitating research collaborations; and providing financial support for research projects.

Finally, there are implications from this research for the consumers of coaching services. Without an adequate evidence base, purchasers of coaching do not know if coaching works. A stronger evidence base for coaching, that shows what

works in coaching and why, better informs the buyers of coaching services. It allows them to make a judgement around whether the coaching they are buying is right for them; whether it is effective overall; and how best to evaluate it. Collaborations of academic researchers, practitioners, and purchasers of coaching (especially in organisational contexts) could help to shape the outcomes measured in research studies (e.g. the organisational outcomes that coaching is expected to impact). Coaching researchers can support organisations in evaluating coaching in the workplace, and encourage buyers of coaching services to think in a more evidence-based way, i.e. which is the most appropriate coaching approach for the coaching context and required developmental level, and which outcomes will result in the success of the coaching programme?

8.4 Research Limitations

  Theoretical limitations. There are two main theoretical limitations of note in this research, (a) the generalisability of the findings to other coaching contexts, and (b) issues arising from the study design. Each of these issues is discussed in turn. Firstly, there may be limitations to how generalisable these findings are to other coaching contexts. This research focuses on performance and development coaching in work, career, and personal domains. Therefore, these results may not generalise to coaching at other developmental levels, such as skills coaching. Similarly, these results may not be generalisable to other coaching contexts such as health coaching. Additional research may be required to determine if these results are replicable in these other coaching contexts.

  This study faces two main challenges in terms of design. Firstly, this study aims to explore the specific effects of ACT-informed coaching on coaching outcomes. However, there may be non-specific intervention effects that have not been accounted for. Non-specific factors are "… elements of the intervention not specific

or directed by the theory" (Donovan, Kwekkeboom, Rosenzweig, & Ward, 2009, p.2). This study measured a commonly cited non-specific factor, as working alliance was included as an outcome measure in the RCT study. Other non-specific factors in this study could include participant outcome expectations, credibility of the coach, and credibility of the coaching intervention. Participant outcome expectations could be controlled for in future studies by including a placebo or CAU condition for comparison to the experimental condition. Participant's perceptions of coach and intervention credibility could be measured and used as a control variable to reduce any confounding effects.

Lastly, the intervention was intentionally standardised for purposes of fidelity. This standardisation ensures high internal validity in the study. However, it can be argued that this standardisation affects the extent to which research demonstrates external validity and can be generalised to ordinary environments. The high internal validity of this research may have come at some cost to the generalisability of findings to ordinary workplace coaching (i.e. the effectiveness of coaching); but we felt it was important that this research, as the first exploration of ACT-informed coaching, investigate the efficacy of ACT-informed coaching.

Methodological limitations. There are four methodological limitations of note in this research, (a) the framework of outcome categories used to identify study variables, (b) measurement issues of outcomes in the study, (c) exclusive use of self-report measures, (d) length of time for the follow up measures, (e) isues relating to participant characteristics. Each of these issues will be discussed in turn. Firstly, at the time of designing this research, only one framework of coaching outcomes was available. Whilst using this framework was desirable over not using a framework, there were issues in replicating the framework used. The category descriptions for coping and work attitudes lacked detail, and were too vague to ensure a truly

consistent replication of the framework categories. In addition, the categories were inductively derived, rather than theoretically derived, meaning there is little theoretical justification for the categories. There were also issues in adapting this framework to a non-work context, as the definitions of some outcome categories were work-specific (i.e. the performance outcome category was defined as work-related performance, and therefore it was difficult to see what the performance outcomes would be in a personal domain). However, this framework was the first to be proposed and we are grateful to the authors for their early work in this area. Our recommendation for a framework of outcomes for coaching research to ensure consistency across research studies is that (a) it needs to be theory-driven as well as pragmatic, (b) outcome categories need to be outlined in sufficient detail to facilitate replication by other researchers, and (c) the framework should be flexible and adaptable to a range of coaching contexts.

Secondly, there were issues relating to the measurement of goal attainment, working alliance, and motivational outcomes. The measurement of goal attainment was the most problematic. In the RCT study, there were significant differences in goal attainment scores between the ACT group and the control group at T1, and scores converged at T4. Two factors are likely to have affected this measure. First, the method used to collect the Time 1 measure was different for the ACT group and the control group. Since the ACT group constructed goals with the coach in the first coaching session, they may have generated challenging goals that they had made less progress towards compared to the control group. Future studies should aim to keep the data collection method the same for all conditions as far as possible. The second factor is that the act of setting goals is likely to have had an intervention effect on the study participants. It would be beneficial for future coaching studies to isolate the processes involved in goal attainment. Options could include (a) a control group that

do not set goals to provide a non-goal-setting baseline, (b) standardising the goal-setting process used with the intervention group and control group, and (c) include a non-coaching intervention condition to isolate the effects attributable to processes activated in the coaching specifically.

There were some issues relating to the measurement of working alliance in this study. As working alliance is a measure of the quality of relationship between a coach and coachee, it was not possible to measure this outcome prior to the start of the coaching (i.e. we could not take a baseline measure at Time 1). This meant no Time 1 measure of working alliance could be included in the RCT study. Similarly, as the RCT study used a waitlist control condition, no control measure of working alliance was included. Future coaching research could include a CAU condition that would allow researchers to compare the quality of alliance in the intervention condition to a control intervention. This could be a useful comparison of working alliance in future studies, and facilitate a between-subjects meditational analysis of different mediators in coaching interventions.

There were issues with the motivation measures used in this research. The instructions for the measure of situational intrinsic motivation in the preliminary study seemed unclear to study participants. In this scale, participants are instructed to identify '… the number that best describes the reason why you are currently engaged in this activity' Guay et al., 2000, p.210). Some participants asked for clarification when completing this scale, and so it might have been unclear to participants which activity they were being asked to think of. Researchers in another coaching intervention study used the SIMS scale and adapted the scale wording to focus specifically on situational intrinsic motivation towards the participant's goals (Mühlberger & Traut-Mattausch, 2015). Future coaching researchers should be clear which activity best represents the form of situational intrinsic motivation that is of

interest in the study. Researchers using this scale may benefit from rewording the scale to be more specific and explicitly identify the activity being referred to (e.g. coaching vs. goal achievement) than the original scale wording allows. In addition, the reliability of the job motivation scale used in the RCT study was low. This may have been an issue with our study sample, as the scale reported good validity in its construction (Warr et al., 1979). Nevertheless, many work-related motivational measures are available as an alternative (e.g. the Work Extrinsic and Intrinsic Motivation Scale; Tremblay, Blanchard, Taylor, Pelletier, & Villeneuve, 2009).

Thirdly, this study only included one non-self-report measure. Self-report measures are well suited to measuring people's feelings and perceptions (e.g. work motivation, or wellbeing) but less suited to measuring the objective job environment, so as part of a study design process, researchers should consider what the most appropriate measure for a particular variable is (Spector, 1994). Performance can be measured in different ways; as a self-report, as an independent rating, and objectively. In our RCT study, participants came from a range of UK governmental departments, meaning it was not possible to collect comparable data on an objective performance outcome. Therefore, we collected a self-report and a supervisor rating of coachee individual performance. Unfortunately, a low response rate meant the supervisor rating of performance was not analysable and only the self-report data is reported. Future coaching studies should identify common performance outcomes across study participants and ideally measure performance at both the individual and organisational level. We used a self-report of goal attainment, based the methodology of previous coaching research: However, it may be possible (and given the issues in measurement of goal attainment experienced in the RCT study, preferable) to measure goal attainment using independent ratings and/or objective measures.

Fourthly, there was a relatively short period between the final coaching session and the follow up measures being collected (4-weeks). This was a pragmatic decision influenced by the time needed to coach the control group after the experimental period ended. Ideally, future research would extend the period between the final coaching session and measuring outcomes at follow up. This would be valuable, as it will show if the impact of the coaching intervention is enduring at later time points, such as three months or six months after the coaching intervention ends.

Finally, there were some issues in the research related to participant characteristics. These included high self-efficacy levels at baseline and high education levels across the participant groups. These characteristics may have had an impact of attrition rates. They may also limit the generalisability of the research findings to other populations who may have lower education levels and lower naturally occurring levels of self-efficacy. Another noticeable particiant characteristic was the higher number of female participants. It is possible that this is due to a greater likelihood that women will volunteer for developmental initatives in their personal and work lives. However, the disproportionate number of female participants does question whether the results would generalise to male populations adequately. Further research could investigate if this is the case.

Practical issues. The impact of an organisation-wide event in the RCT study had unanticipated repercussions in the study. Following an unexpected change of government in the 2015 general election, many study participants changed either role, project, team, or department during the experimental period of the RCT study. This impacted the study in two ways. Firstly, many of our study participants changed supervisor during the experimental period, which meant we were unable to collect sufficient supervisor ratings of study participants to analyse this outcome. Secondly, these changes may have had an impact on reported performance scores in the study.

The individual performance outcome showed no change in the ACT group, but decreased over time in the control group; which suggests the ACT-informed coaching intervention buffered the detrimental impact of the organisation-wide changes in the ACT group.

8.5 Opportunities for Future Research

There are three proposed opportunities for future coaching research, (a) to replicate this research approach and design with other coaching approaches, (b) to extend this research into ACT-informed coaching interventions, and (c) to further explore the processes of change in coaching.

Firstly, it is our hope that other coaching researchers will be able to use this research to design methodologically sound studies investigating other theoretically underpinned coaching approaches. As outlined in the coaching meta-research, more methodologically rigorous studies exploring the impact of theoretically underpinned coaching interventions are needed to establish the evidence base for coaching. This programme of research aimed to respond to the limitations identified in the present evidence base; and our analysis of the limitations in the present research aims to summarise where future coaching research can improve methodologically further still.

Secondly, there are a number of questions raised in this programme of research that could be explored further. It would be interesting to see if the maintenance of performance in the ACT group compared to the control group indicated in the RCT study translates to improvements in performance in another study sample. It would be ideal to explore this using an objective measure of performance, or an independent performance rating. It would also be useful to explore further the effect of ACT-informed coaching on attitudinal outcomes like satisfaction and motivation. The results from this programme of research show improvements in

life satisfaction, and temporary increases in situational intrinsic motivation; however, if a coaching programme is more closely linked to an individual's job, then future studies could test if the coaching increases job satisfaction and job motivation. Future studies could be designed to explore further the extent to which psychological flexibility acts as a mechanism of change in goal attainment. The findings from the RCT study seem to indicate that goal-related processes play a part in increases in goal attainment, and future research could isolate these effects and determine to what extent psychological flexibility accounts for changes compared to goal-setting practices.

This programme of research could be extended to explore the impact of ACT-informed coaching on organisational and societal level outcomes, as well as individual level outcomes. ACT research has begun to explore theoretical links between psychological flexibility and organisational behaviour, and cultural practices. Bond et al. (2016) propose a model of organisational flexibility that takes ACT principles and applies them to organisational level behaviours. The Organisational Flexibility Model could be useful to ACT-informed coaching researchers in identifying organisational level indicators for ACT-informed coaching research, and hypothesising the effect of ACT-informed coaching on organisational outcomes. Likewise, ACT research at the cultural level could be insightful in determining the potential impact of ACT-informed coaching for both organisational cultures, and wider societal outcomes. Biglan (2009) argues that increasing psychological flexibility can lead to individuals becoming more caring and developing beneficial cultural practices, such as reducing prejudice and conflict, and increasing sustainability. If these cultural practices are developed at an organisational level, they could help organisations enhance their sustainable business practices and increase diversity within the organisation. These advantages could have a consequent

benefit in terms of the performance of an organisation. This hypothesis could be tested in future coaching research.

Finally, future studies could further explore the processes of change in theoretically underpinned approaches to coaching, including ACT-informed coaching. The meditational analyses in this programme of research may be helpful to other coaching researchers to design studies investigating theoretically derived mediators and mechanisms of change in coaching interventions. Our results show the mediation effects of increases in psychological flexibility for improvements in coaching outcomes. These analyses highlight where preceding increases in psychological flexibility account for increases in outcomes; indicating the logical timeline of change required for increases in psychological flexibility to be considered a causal factor. More detailed analysis of these results would be beneficial to establish psychological flexibility as a mechanism of change in ACT-informed coaching. In addition, this study did not analyse any possible moderators of coaching, and future coaching studies could include an analysis of this type, e.g. does the psychological flexibility of the coach moderate changes in psychological flexibility of the coachee? An understanding of the moderators of ACT-informed coaching would enhance our understanding of the contextual factors that impact the effectiveness of coaching interventions.

8.6 General Conclusion

This research tested a theoretically underpinned approach to performance and development coaching in work, career and personal domains using an ACT-based intervention. This programme of research aimed to respond to four main limitations in the coaching evidence base, (a) a lack of theoretical underpinning in coaching research, (b) a lack of methodologically rigorous studies, (c) inconsistency in the

outcomes measured, and (d) limited explanation for the processes of change in coaching interventions.

Overall, these findings suggest that ACT-informed coaching is an effective approach to performance and development coaching in work, career and personal domains. Mindfulness- and acceptance-based approaches have been under-researched in coaching, so the main theoretical contribution of this research is to provide a good quality quantitative study testing a theoretically underpinned ACT-informed coaching approach. The key theoretical implication and practical implication of this research is that ACT-informed coaching represents an effective approach to performance and development coaching in work, career, and personal domains. This research was designed as a methodologically rigorous investigation of ACT-informed performance and development coaching, and we believe that this RCT study represents the most methodologically rigorous study of a theoretically underpinned performance and development coaching intervention in work, career, or personal domains conducted to date. The results of the mediation analyses in the RCT study have provided the first empirical findings revealing increases of psychological flexibility as the mechanism of change in ACT-informed coaching. The processes of the ACT Model guide coaches to techniques and activities that will effectively generate positive change with their clients through increasing psychological flexibility. Coaches who create a coaching relationship that is values-led, committed, conscious, alive, open, and creative are also likely to have a positive impact on their coachees. It is our hope that this programme of research will help and inspire other coaching researchers to conduct high quality quantitative studies into the effectiveness of this and other coaching approaches, to the overall benefit of the coaching evidence-base.

References

Anderson, M. C. (2001). Executive briefing: Case study on the return on investment of executive coaching. Retrieved March, 12, 2008, from http://www.positiveculture.org/uploads/7/4/0/7/7407777/metrix_global_2001 _roi.pdf

Antonakis, J., Bendahan, S., Jacquart, P., & Lalive, R. (2014). Causality and endogeneity: Problems and solutions. In D.V. Day (Ed.), *The Oxford Handbook of Leadership and Organizations* (pp.93-117) . New York, NY: Oxford University Press.

A-Tjak, J. G., Davis, M. L., Morina, N., Powers, M. B., Smits, J. A., & Emmelkamp, P. M. (2015). A meta-analysis of the efficacy of acceptance and commitment therapy for clinically relevant mental and physical health problems. *Psychotherapy and Psychosomatics*, 84(1), 30-36. doi:10.1159/000365764.

Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. (2011). Meta-analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. *Human Resource Development Quarterly*, 22(2), 127-152.

Bachkirova, T., Cox, E., & Clutterbuck, D. (2010). Introduction. *The Complete Handbook of Coaching* (pp.2-20). London: Sage Publications Ltd.

Baldwin, T. T., & Ford, J. K. (1988). Transfer of training: A review and directions for future research. *Personnel Psychology*, 41(1), 63-105.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215.

Bandura, A. (1984). Recycling misconceptions of perceived self-efficacy. *Cognitive Therapy and Research*, 8(3), 231-255.

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes*, 50(2), 248-287.

Banks, M. H., Clegg, C. W., Jackson, P. R., Kemp, N. J., Stafford, E. M., & Wall, T. D. (1980). The use of the General Health Questionnaire as an indicator of mental health in occupational studies. *Journal of Occupational and Organizational Psychology*, 53(3), 187-194.

Barber, J. P., Khalsa, S. R., & Sharpless, B. A. (2010). The validity of the alliance as a predictor of psychotherapy outcome. In Muran, J. C., & Barber, J. P. (Eds.). *The Therapeutic Alliance: An Evidence-Based Guide to Practice* (pp. 29-43). New York, NY: Guilford Press.

Barber, J. P., Muran, J. C., McCarthy, K. S., & Keefe, J. R. (2013). Research on dynamic therapies. In Lambert, M. J. (Ed). *Bergin and Garfield's Handbook of Psychotherapy and Behavior Change* (pp. 443-494). Hoboken, NJ: John Wiley & Sons.

Baron, L., & Morin, L. (2009). The coach- coachee relationship in executive coaching: A field study. *Human Resource Development Quarterly*, 20(1), 85-106.

Bethay, J. S., Wilson, K. G., Schnetzer, L. W., Nassar, S. L., & Bordieri, M. J. (2013). A controlled pilot evaluation of acceptance and commitment training for intellectual disability staff. *Mindfulness*, 4(2), 113-121.

Biglan, A. (2009). Increasing psychological flexibility to influence cultural evolution. *Behavior and Social Issues*, 18, 15-24.

Biglan, A., Layton, G. L., Jones, L. B., Hankins, M., & Rusby, J. C. (2013). The value of workshops on psychological flexibility for early childhood special education staff. *Topics in Early Childhood Special Education*, 32(4), 196-210.

Biron, M., & van Veldhoven, M. (2012). Emotional labour in service work: Psychological flexibility and emotion regulation. *Human Relations*, 65(10), 1259-1282.

Blackman, A., Moscardo, G., & Gray, D. E. (2016). Challenges for the theory and practice of business coaching: A systematic review of empirical evidence. *Human Resource Development Review*, 15(4), 459-486.

Blonna, R. (2011). *Maximize Your Coaching Effectiveness with Acceptance and Commitment Therapy*. Oakland, CA: New Harbinger Publications.

Bolier, L., Haverman, M., Westerhof, G. J., Riper, H., Smit, F., & Bohlmeijer, E. (2013). Positive psychology interventions: a meta-analysis of randomized controlled studies. *BMC Public Health*, 13, 119.

Bond, F. W., & Bunce, D. (2000). Mediators of change in emotion-focused and problem-focused worksite stress management interventions. *Journal of Occupational Health Psychology,* 5(1), 156-163.

Bond, F. W., & Bunce, D. (2003). The role of acceptance and job control in mental health, job satisfaction, and work performance. *Journal of Applied Psychology*, 88(6), 1057-1067.

Bond, F. W., & Flaxman, P. E. (2006). The ability of psychological flexibility and job control to predict learning, job performance, and mental health. *Journal of Organizational Behavior Management*, 26(1-2), 113-130.

Bond, F. W., Flaxman, P. E., & Bunce, D. (2008). The influence of psychological flexibility on work redesign: mediated moderation of a work reorganization intervention. *Journal of Applied Psychology*, 93(3), 645-654.

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., … & Zettle, R. D. (2011). Preliminary psychometric properties of the

Acceptance and Action Questionnaire–II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior Therapy*, 42(4), 676-688.

Bond, F. W., Lloyd, J., Flaxman, P. E., & Archer, R. (2016). Psychological flexibility and ACT at work. In Zettle, R. D., Hayes, S. C., Barnes-Holmes, D., & Biglan, A. (Eds.) *The Wiley Handbook of Contextual Behavioral Science* (pp. 459-482). Hoboken, NJ: John Wiley & Sons.

Bond, F. W., Lloyd, J., & Guenole, N. (2013). The work-related acceptance and action questionnaire: initial psychometric findings and their implications for measuring psychological flexibility in specific contexts. *Journal of Occupational and Organizational Psychology*, 86(3), 331-347.

Bordin, E. S. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy: Theory, Research & Practice*, 16(3), 252.

Boud, D. (1994). Conceptualising learning from experience: Developing a model for facilitation. In *Proceedings of the 35th Adult Education Research Conference*. 49-54.

Boyatzis, R. E. (2006). An overview of intentional change from a complexity perspective. *Journal of Management Development*, *25*(7), 607-623.

Boyce, L. A., Jackson, R. J., & Neal, L. J. (2010). Building successful leadership coaching relationships: Examining impact of matching criteria in a leadership coaching program. *Journal of Management Development*, 29(10), 914-931.

Bozer, G., & Sarros, J. C. (2012). Examining the Effectiveness of Executive Coaching on Coachees' Performance in the Israeli Context. *International Journal of Evidence Based Coaching & Mentoring*, 10(1), 14-32.

Braunstein, K., & Grant, A. M. (2016). Approaching solutions or avoiding problems? The differential effects of approach and avoidance goals with solution-focused

and problem-focused coaching questions. *Coaching: An International Journal of Theory, Research and Practice*, 9(2), 93-109.

Briner, R. B. (2012). Does coaching work and does anyone really care. *OP Matters*, 16(17), 4-12.

Briner, R. B., & Rousseau, D. M. (2011). Evidence-based I–O psychology: Not there yet. *Industrial and Organizational Psychology*, 4(1), 3-22.

Brinkborg, H., Michanek, J., Hesser, H., & Berglund, G. (2011). Acceptance and commitment therapy for the treatment of stress among social workers: A randomized controlled trial. *Behaviour Research and Therapy*, 49(6), 389-398.

Brown, K. W. (2015). Mindfulness training to enhance positive functioning. In Brown, K. W., Creswell, J. D., & Ryan, R. M. (Eds.) *Handbook of Mindfulness: Theory, Research, and Practice* (pp. 311-325). New York, NY: Guilford Publications.

Brown, K. W., Ryan, R. M., & Creswell, J. D. (2007). Mindfulness: Theoretical foundations and evidence for its salutary effects. *Psychological Inquiry*, 18(4), 211-237.

Buckingham, M., & Clifton, D. O. (2001). *Now, Discover Your Strengths*. London: Pocket Books, Simon & Schuster UK Ltd.

Burton, N. W., Pakenham, K. I., & Brown, W. J. (2010). Feasibility and effectiveness of psychosocial resilience training: a pilot study of the READY program. *Psychology, Health and Medicine*, 15(3), 266-277.

Carver, C. S., & Scheier, M. F. (1982). Control theory: A useful conceptual framework for personality–social, clinical, and health psychology. *Psychological Bulletin*, 92(1), 111-135.

Castonguay, L., Barkham, M., Lutz, W., & McAleavey, A. (2013). Practice-Oriented Research: Approaches and Applications. In Lambert, M. J. (Ed.) *Bergin and Garfield's Handbook of Psychotherapy and Behavior Change* (pp. 85-133). Hoboken, NJ: John Wiley & Sons.

Castro, M., Rehfeldt, R. A., & Root, W. B. (2016). On the role of values clarification and committed actions in enhancing the engagement of direct care workers with clients with severe developmental disorders. *Journal of Contextual Behavioral Science*, 5(4), 201-207.

Cavanagh, M. J., & Grant, A. M. (2010). The solution-focused approach to coaching. In Cox, E., Bachkirova, T., & Clutterbuck, D. A. (Eds.). *The Complete Handbook of Coaching* (pp. 54-67). London: Sage Publishing Ltd.

Chambless, D. L., & Ollendick, T. H. (2001). Empirically supported psychological interventions: Controversies and evidence. *Annual Review of Psychology*, 52(1), 685-716.

Chartered Institute of Personnel and Development. (2012). *Coaching: The Evidence Base.* Retrieved from https://www.cipd.co.uk/Images/coaching-the-evidence-base_2012_tcm18-10979.pdf

Chartered Institute of Personnel and Development. (2015). *Learning and Development Annual Survey Report 2015.* Retrieved from https://www.cipd.co.uk/Images/learning-development_2015_tcm18-11298.pdf

Cronbach, L. J., & Gleser, G. C. (1957). *Psychological tests and personnel decisions.* Champaign, IL: University of Illinois Press.

Chulef, A. S., Read, S. J., & Walsh, D. A. (2001). A hierarchical taxonomy of human goals. *Motivation and Emotion*, 25(3), 191-232.

Ciarrochi, J., Bilich, L., & Godsell, C. (2010). Psychological flexibility as a mechanism of change in acceptance and commitment therapy. In Baer, R. (Ed.) *Assessing Mindfulness and Acceptance Processes in Clients: Illuminating the Theory and Practice of Change* (pp. 51-75). Oakland, CA: New Harbinger Publications.

Cilliers, F. (2012). Leadership coaching experiences of clients with Alexithymia. *SA Journal of Industrial Psychology*, 38(2), 127-137.

Cilliers, F., & Terblanche, L. (2010). The systems psychodynamic leadership coaching experiences of nursing managers. *Health SA Gesondheid*, 15(1), 1-9.

Clutterbuck, D. (2010). Team coaching. In Cox, E., Bachkirova, T., & Clutterbuck, D. A. (Eds.). *The Complete Handbook of Coaching* (pp. 271-283). London: Sage Publications Ltd.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. London: Academic Press Inc.

Collard, P., & Walsh, J. (2008). Sensory awareness mindfulness training in coaching: Accepting life's challenges. *Journal of Rational-Emotive & Cognitive-Behavior Therapy,* 26(1), 30-37.

Comer, J. S., & Kendall, P. C. (2013). Methodology, design, and evaluation in psychotherapy research. In Lambert, M., J. (Ed) *Bergin and Garfield's Handbook of Psychotherapy and Behavior Change* (pp. 21-48). Hoboken, NJ: John Wiley & Sons.

Cox, E. (2006). An adult learning approach to coaching. In Stober, D. R., & Grant, A. M. (Eds.). *Evidence Based Coaching Handbook: Putting Best Practices to Work for Your Clients* (pp. 193-218). New York, NY: John Wiley & Sons.

Cox, E., Bachkirova, T., & Clutterbuck, D. A. (Eds.). (2010) *The Complete Handbook of Coaching*. London: Sage Publications Ltd.

Cox, E., & Jackson, P. (2010). Developmental coaching. In Cox, E., Bachkirova, T., & Clutterbuck, D. A. (Eds.). *The Complete Handbook of Coaching* (pp. 217-230). London: Sage Publications Ltd.

Crits-Christoph, P., Gibbons, M. C., & Mukherjee, D. (2013). Psychotherapy process-outcome research. In Lambert, M., J. (Ed) *Bergin and Garfield's Handbook of Psychotherapy and Behavior Change* (pp. 298-340). Hoboken, NJ: John Wiley & Sons.

Curran, P. J., West, S. G., & Finch, J. F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods*, 1(1), 16-29.

Dahl, J., Wilson, K. G., & Nilsson, A. (2004). Acceptance and commitment therapy and the treatment of persons at risk for long-term disability resulting from stress and pain symptoms: A preliminary randomized trial. *Behavior Therapy*, 35(4), 785-801.

Dahling, J. J., Taylor, S. R., Chau, S. L., & Dwight, S. A. (2016). Does coaching matter? a multilevel model linking managerial coaching skill and frequency to sales goal attainment. *Personnel Psychology*, 69(4), 863-894.

David, O. A., Ionicioiu, I., Imbăruş, A. C., & Sava, F. A. (2016). Coaching banking managers through the financial crisis: effects on stress, resilience, and performance. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, 34(4), 267-281.

Day, A. (2010). Coaching at relational depth: a case study. *Journal of Management Development,* 29(10), 864-876.

De Haan, E. (2008). I doubt therefore I coach: Critical moments in coaching practice. *Consulting Psychology Journal: Practice and Research*, 60(1), 91-105.

De Haan, E., & Duckworth, A. (2012). The coaching relationship and other'common factors' in executive coaching outcome. De Haan, E., & Sills, C. (Ed.). *Coaching Relationships: The Relational Coaching Field Book* (pp. 185-196). Faringdon, Oxfordshire: Libri Publishing.

De Haan, E., Duckworth, A., Birch, D., & Jones, C. (2013). Executive coaching outcome research: The contribution of common factors such as relationship, personality match, and self-efficacy. *Consulting Psychology Journal: Practice and Research*, 65(1), 40-57.

De Haan, E., Grant, A. M., Burger, Y., & Eriksson, P. O. (2016). A large-scale study of executive and workplace coaching: The relative contributions of relationship, personality match, and self-efficacy. *Consulting Psychology Journal: Practice and Research,* 68(3), 189-207.

De Meuse, K. P., Dai, G., & Lee, R. J. (2009). Evaluating the effectiveness of *executive coaching: Beyond ROI? Coaching*: An international journal of theory, research and practice, 2(2), 117-134.

Deci, E. L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology*, 18(1), 105-115.

Dewey, J. (1938). *The theory of inquiry*. New York, NY: Holt, Rinehart & Wiston.

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75.

Dodge, R., Daly, A. P., Huyton, J., & Sanders, L. D. (2012). The challenge of defining wellbeing. *International Journal of Wellbeing*, 2(3), 222-235.

Donaldson-Feilder, E. J., & Bond, F. W. (2004). The relative importance of psychological acceptance and emotional intelligence to workplace well-being. *British Journal of Guidance & Counselling*, 32, 187–203.

Donovan, H. S., Kwekkeboom, K. L., Rosenzweig, M. Q., & Ward, S. E. (2009). Non-specific effects in psycho-educational intervention research. *Western Journal of Nursing Research*, 31(8), 983-998.

Ebner, K., Schulte, E.-M., Soucek, R., & Kauffeld, S. (2017, January 23). Coaching as Stress- Management Intervention: The Mediating Role of Self-Efficacy in a Framework of Self- Management and Coping. *International Journal of Stress Management*. Advance online publication. doi.org/10.1037/str0000058

Ellam-Dyson, V., & Palmer, S. (2008). The challenges of researching executive coaching. *The Coaching Psychologist*, 4(2), 79-84.

Ellinger, A. D., Beattie, R. S., & Hamlin, R. G. (2010). The 'Manager as coach'. In Cox, E., Bachkirova, T., & Clutterbuck, D. A. (Eds.). *The Complete Handbook of Coaching* (pp. 257-270). London: Sage Publishing Ltd.

Elliott, R., Greenberg, L. S., Watson, J. C., Timulak, L., & Freire, E. (2013). Research on humanistic experiential psychotherapies. In Lambert, M. J. (Ed.) *Bergin and Garfield's Handbook of Psychotherapy and Behavior Change* (pp.495-538). Hoboken, NJ: John Wiley & Sons.

Ellis, A. (1991). Using RET effectively: Reflections and Interview. In Bernard, M. E. (Ed.). *Using Rational-Emotive Therapy Effectively: A Practitioner's Guide* (pp. 1-34). New York, NY: Plenum Press.

Elston, F., & Boniwell, I. (2011). A grounded theory study of the value derived by women in financial services through a coaching intervention to help them identify their strengths and practice using them in the workplace. *International Coaching Psychology Review*, 6(1), 16-32.

Ely, K., Boyce, L. A., Nelson, J. K., Zaccaro, S. J., Hernez-Broome, G., & Whyman, W. (2010). Evaluating leadership coaching: A review and integrated framework. *The Leadership Quarterly*, 21(4), 585-599.

Evers, W. J., Brouwers, A., & Tomic, W. (2006). A quasi-experimental study on management coaching effectiveness. *Consulting Psychology Journal: Practice and Research,* 58(3), 174-182.

Fiedler, K., Schott, M., & Meiser, T. (2011). What mediation analysis can (not) do. *Journal of Experimental Social Psychology*, 47(6), 1231-1236.

Flaxman, P. E., & Bond, F. W. (2010). A randomised worksite comparison of acceptance and commitment therapy and stress inoculation training. *Behaviour Research and Therapy*, 48(8), 816-820.

Flaxman, P. E., Bond, F. W., & Livheim, F. (2013). *The Mindful and Effective Employee: An Acceptance and Commitment Therapy Training Manual for Improving Well-Being and Performance.* Oakland, CA: New Harbinger Publications.

Follette, W. C., Naugle, A. E., & Callaghan, G. M. (1996). A radical behavioral understanding of the therapeutic relationship in effecting change. *Behavior Therapy*, 27(4), 623-641.

Fusco, T., O'Riordan, S., & Palmer, S. (2015). Authentic Leaders are… Conscious, Competent, Confident, and Congruent: A Grounded Theory of Group Coaching and Authentic Leadership Development. *International Coaching Psychology Review*, 10(2), 131-148.

Gagnon, L-H., & Abbasi, N. (2017). Systematic review of randomized controlled trials on the role of coaching in surgery to improve learner outcomes. *The American Journal of Surgery*. doi: 10.1016/j.amjsurg.2017.05.003.

Gagnon, J., Dionne, F., & Pychyl, T. A. (2016). Committed action: An initial study on its association to procrastination in academic settings. *Journal of Contextual Behavioral Science*, 5(2), 97-102.

Gardiner, M., Kearns, H., & Tiggemann, M. (2013). Effectiveness of cognitive

behavioural coaching in improving the well-being and retention of rural

general practitioners. *Australian Journal of Rural Health*, 21(3), 183-189.

Gardner, F. L., & Moore, Z. E. (2004). A Mindfulness-Acceptance-Commitment-

Based Approach to Athletic Performance Enhancement: Theoretical

Considerations. *Behavior Therapy*, 35, 707-723.

Gattellari, M., Donnelly, N., Taylor, N., Meerkin, M., Hirst, G., & Ward, J. E. (2005).

Does 'peer coaching'increase GP capacity to promote informed decision

making about PSA screening? A cluster randomised trial. *Family Practice*,

22(3), 253-265.

Gloster, A. T., Meyer, A. H., & Lieb, R. (2017). Psychological flexibility as a

malleable public health target: Evidence from a representative sample.

Journal of Contextual Behavioral Science, 6(2), 166-171.

Goldberg, D. P. (1992). *General Health Questionnaire* (GHQ-12). Swindon,

Wiltshire: Nfer-Nelson.

Govindji, R., & Linley, P. A. (2007). Strengths use, self-concordance and well-being:

Implications for strengths coaching and coaching psychologists. *International

Coaching Psychology Review,* 2(2), 143-153.

Grant, A. M. (2003). The impact of life coaching on goal attainment, metacognition

and mental health. *Social Behavior and Personality: An International Journal*,

31(3), 253-263.

Grant, A. M. (2005). What is evidence-based executive, workplace and life coaching.

In Cavanagh, M., Grant, A. M., & Kemp, T. (Eds). *Evidence-based coaching

Volume 1: Theory, research and practice from the behavioural sciences* (pp.

1-12). Bowen Hills, QLD: Australian Academic Press.

Grant, A. M. (2006). A personal perspective on professional coaching and the development of coaching psychology. *International Coaching Psychology Review*, 1(1), 12-22.

Grant, A. M. (2012a). An integrated model of goal-focused coaching: An evidence-based framework for teaching and practice. *International Coaching Psychology Review*, 7(2), 146-165.

Grant, A. M. (2012b). Making positive change: A randomized study comparing solution-focused vs. problem-focused coaching questions. *Journal of Systemic Therapies*, 31(2), 21-35.

Grant, A. M. (2012c). ROI is a poor measure of coaching success: towards a more holistic approach using a well-being and engagement framework. *Coaching: An International Journal of Theory, Research and Practice*, 5(2), 74-85.

Grant, A. M. (2016). What constitutes evidence-based coaching? A two-by-two framework for distinguishing strong from weak evidence for coaching. *International Journal of Evidence Based Coaching and Mentoring*, 14(1), 74.

Grant, A. M., & Cavanagh, M. J. (2007). Evidence-based coaching: Flourishing or languishing? *Australian Psychologist*, 42 (4), 239-254.

Grant, A. M., & Cavanagh, M. J. (2010). Life coaching. In Cox, E., Bachkirova, T., & Clutterbuck, D. A. (Eds.). *The Complete Handbook of Coaching*. London: Sage Publishing Ltd, 297-310.

Grant, A. M., Curtayne, L., & Burton, G. (2009). Executive coaching enhances goal attainment, resilience and workplace well-being: A randomised controlled study. *The Journal of Positive Psychology*, 4(5), 396-407.

Greene, J., & Grant, A. M. (2003). *Solution-Focused Coaching: Managing People in a Complex World*. Cambridge: Pearson Education.

Green, S., Grant, A., & Rynsaardt, J. (2007). Evidence-based life coaching for senior high school students: Building hardiness and hope. *International Coaching Psychology Review*, 2(1), 24-32.

Green, L. S., Oades, L. G., & Grant, A. M. (2006). Cognitive-behavioral, solution-focused life coaching: Enhancing goal striving, well-being, and hope. *The Journal of Positive Psychology*, 1(3), 142-149.

Griffin, M. A., Neal, A., & Parker, S. K. (2007). A new model of work role performance: Positive behavior in uncertain and interdependent contexts. *Academy of Management Journal*, 50(2), 327-347.

Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits: A meta-analysis. *Journal of Psychosomatic Research*, 57(1), 35-43.

Grover, S., & Furnham, A. (2016). Coaching as a developmental intervention in organisations: A systematic review of its effectiveness and the mechanisms underlying it. *PloS One*, 11(7). doi.org/10.1371/journal.pone.0159137

Guay, F., Vallerand, R. J., & Blanchard, C. (2000). On the assessment of situational intrinsic and extrinsic motivation: The Situational Motivation Scale (SIMS*). Motivation and Emotion*, 24(3), 175-213.

Hackman, J. R., & Oldham, G. R. (1975). Development of the job diagnostic survey. *Journal of Applied Psychology*, 60(2), 159-170.

Harris, R. (2009). *ACT made simple: An Easy-To-Read Primer on Acceptance and Commitment Therapy*. Oakland, CA: New Harbinger Publications.

Hart, V., Blattner, J., & Leipsic, S. (2001). Coaching versus therapy: A perspective. *Consulting Psychology Journal: Practice and Research*, 53(4), 229-237.

Harvey, M. T., May, M. E., & Kennedy, C. H. (2004). Nonconcurrent multiple baseline designs and the evaluation of educational systems. *Journal of Behavioral Education*, 13(4), 267-276.

Hatcher, R. L., & Gillaspy, J. A. (2006). Development and validation of a revised short version of the Working Alliance Inventory. *Psychotherapy Research*, 16(1), 12-25.

Hawkins, P., & Smith, N. (2010). Transformational coaching. In Cox, E., Bachkirova, T., & Clutterbuck, D. A. (Eds.). *The Complete Handbook of Coaching* (pp. 231-244). London: Sage Publishing Ltd.

Hayes, S. C., Barnes-Holmes, D., & Roche, B. (Eds.). (2001). *Relational Frame Theory: A Post-Skinnerian Account of Human Language and Cognition*. New York, NY: Kluwer Academic/Plenum Publishers.

Hayes, S. C., Bissett, R., Roget, N., Padilla, M., Kohlenberg, B. S., Fisher, G., … Niccolls, R. (2004). The impact of Acceptance and Commitment training and multicultural training on the stigmatizing attitudes and professional burnout of substance abuse counsellors. *Behavior Therapy*, 35, 821-835.

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour Research and Therapy*, 44(1), 1-25.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2012). *Acceptance and Commitment Therapy: The Process and Practice of Mindful Change*. New York, NY: The Guilford Press. 2nd ed.

Hayes, S. C., Villatte, M., Levin, M., & Hildebrandt, M. (2011). Open, aware, and active: contextual approaches as an emerging trend in the behavioral and cognitive therapies. *Annual Review of Clinical Psychology*, 7, 141-168.

Hazen, B., & Steckler, N. A. (2010). Career coaching. In Cox, E., Bachkirova, T., & Clutterbuck, D. A. (Eds.). *The Complete Handbook of Coaching* (pp. 311-323). London: Sage Publishing Ltd.

Horvath, A. O., & Greenberg, L. S. (1989). Development and validation of the Working Alliance Inventory. *Journal of Counseling Psychology*, 36(2), 223-233.

Hughes, S., & Barnes-Holmes, D. (2016). Relational frame theory: The basic account. In Zettle, R. D., Hayes, S. C., Barnes-Holmes, D., & Biglan, A. (Eds.) *The Wiley Handbook of Contextual Behavioral Science* (pp. 129-178). Hoboken, NJ: John Wiley & Sons.

Hultgren, U., Palmer, S., & O'Riordan, S. (2016). Developing and evaluating a virtual coaching programme: A pilot study. *The Coaching Psychologist*, 12(2), 67-75

International Coach Federation. (2016). *2016 ICF Global Coaching Study: Executive Summary.* Retrieved from https://coachfederation.org/files/FileDownloads/2016ICFGlobalCoachingStudy_ExecutiveSummary.pdf

Jarosz, J. (2016). What is life coaching? An integrative review of the evidence-based literature. *International Journal of Evidence Based Coaching & Mentoring*, 14(1), 34-56.

Jeffcoat, T., & Hayes, S. C. (2012). A randomized trial of ACT bibliotherapy on the mental health of K-12 teachers and staff. *Behaviour Research and Therapy*, 50(9), 571-579.

Johansson, P., & Høglend, P. (2007). Identifying mechanisms of change in psychotherapy: Mediators of treatment outcome. *Clinical Psychology & Psychotherapy*, 14(1), 1-9.

Jones, R. J., Woods, S. A., & Guillaume, Y. R. (2016). The effectiveness of workplace coaching: A meta-analysis of learning and performance outcomes from coaching. *Journal of Occupational and Organizational Psychology*, 89(2), 249-277.

Joseph, S., & Bryant-Jefferies, R. (2008), Person-centred coaching psychology. In Palmer, S., & Whybrow, A. (Eds.) *Handbook of Coaching Psychology: A Guide for Practitioners* (pp. 211-228). London: Routledge.

Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction–job performance relationship: A qualitative and quantitative review. *Psychological Bulletin.* 127(3), 376-407.

Juncos, D. G., & Markman, E. J. (2016). Acceptance and Commitment Therapy for the treatment of music performance anxiety: A single subject design with a university student. *Psychology of Music*, 44(5), 935-952.

Kabat-Zinn, J. (1982). An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results. *General Hospital Psychiatry*, 4(1), 33-47.

Kashdan, T. B. (2010). Psychological Flexibility as a Fundamental Aspect of Health. *Clinical Psychology Review,* 30(7), 865–878. doi.org/10.1016/j.cpr.2010.03.001

Kazdin, A. E. (2007). Mediators and mechanisms of change in psychotherapy research. *Annual Review of Clinical Psychology*, 3, 1-27.

Kendall, P. C., Comer, J. S., & Chow, C. (2013). The randomized controlled trial: Basics and beyond. Comer, J. S., & Kendall, P. C. (Eds.) *The Oxford Handbook of Research Strategies for Clinical Psychology* (pp. 40-61). Oxford: Oxford University Press.

Khoury, B., Lecomte, T., Fortin, G., Masse, M., Therien, P., Bouchard, V., … Hofmann, S. G. (2013). Mindfulness-based therapy: A comprehensive meta-analysis. *Clinical Psychology Review*, 33, 763-771.

Kilburg, R. R. (2004). When shadows fall: Using psychodynamic approaches in executive coaching. *Consulting Psychology Journal: Practice and Research*, 56(4), 246-268.

Kim, J. S. (2008). Examining the effectiveness of solution-focused brief therapy: A meta-analysis. *Research on Social Work Practice*, 18(2), 107-116.

Kiresuk, T. J., & Sherman, R. E. (1968). Goal attainment scaling: A general method for evaluating comprehensive community mental health programs. *Community Mental Health Journal*, 4(6), 443-453.

Kirkpatrick, D. L. (1967). Evaluation of training. In R. L. Craig & L. R. Bittel (Eds.) *Training and Development Handbook* (pp. 87-112)*.* New York, NY: McGraw-Hill.

Knowles, M. (1970). *The Modern Practice of Adult Education, From Pedagogy to Andragogy* (pp. 40-62). Cambridge: The Adult Education Company.

Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning and Education*, 4(2), 193-212.

Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., Schaufeli, W. B., de Vet Henrica, C. W., & van der Beek, A. J. (2011). Conceptual frameworks of individual work performance: a systematic review. *Journal of Occupational and Environmental Medicine,* 53(8), 856-866.

Kraemer, H. C., Wilson, G. T., Fairburn, C. G., & Agras, W. S. (2002). Mediators and moderators of treatment effects in randomized clinical trials. *Archives of General Psychiatry*, 59(10), 877-883.

Kraiger, K., Ford, J. K., & Salas, E. (1993). Application of cognitive, skill-based, and affective theories of learning outcomes to new methods of training evaluation. *Journal of Applied Psychology*, 78(2), 311-328.

Ladyshewsky, R. (2010). Peer coaching. In Cox, E., Bachkirova, T., & Clutterbuck, D. A. (Eds.). *The Complete Handbook of Coaching* (pp. 284-296). London: Sage Publishing Ltd.

Lai, Y., & McDowall, A. (2014). A systematic review (SR) of coaching psychology: Focusing on the attributes of effective coaching psychologists. *International Coaching Psychology Review*, 9(2), 118-134.

Laska, K. M., Gurman, A. S., & Wampold, B. E. (2014). Expanding the lens of evidence-based practice in psychotherapy: a common factors perspective. *Psychotherapy*, 51(4), 467-481.

Ledermann, T., Macho, S., & Kenny, D. A. (2011). Assessing mediation in dyadic data using the actor-partner interdependence model. *Structural Equation Modeling: A Multidisciplinary Journal*, 18(4), 595-612.

Lee, G. (2010). The psychodynamic approach to coaching. In Cox, E., Bachkirova, T., & Clutterbuck, D. A. (Eds.). *The Complete Handbook of Coaching* (pp. 23-36). London: Sage Publishing Ltd.

Leiper, R., & Maltby, M. (2004). *The Psychodynamic Approach to Therapeutic Change*. London: Sage Publishing Ltd.

Levinson, D. J. (1978). *The Seasons of a Man's Life*. London: Random House Digital.

Linley, P. A., Nielsen, K. M., Gillett, R., & Biswas-Diener, R. (2010). Using signature strengths in pursuit of goals: Effects on goal progress, need satisfaction, and well-being, and implications for coaching psychologists. *International Coaching Psychology Review*, 5(1), 6-15.

Lloyd, J., Bond, F. W., & Flaxman, P. E. (2013). The value of psychological

flexibility: Examining psychological mechanisms underpinning a cognitive

behavioural therapy intervention for burnout. *Work & Stress*, 27(2), 181-199.

Lloyd, J., Bond, F. W., & Flaxman, P. E. (2017). Work-Related Self-Efficacy as a

Moderator of the Impact of a Worksite Stress Management Training

Intervention: Intrinsic Work Motivation as a Higher Order Condition of

Effect. *Journal of Occupational Health Psychology*, 22(1), 115-127.

doi.org/10.1037/ocp0000026

Locke, E. A. (1978). The ubiquity of the technique of goal setting in theories of and

approaches to employee motivation. *Academy of Management Review*, 3(3),

594-601.

Locke, E. A., & Latham, G. P. (1990). Work motivation and satisfaction: Light at the

end of the tunnel. *Psychological Science*, 1(4), 240-246.

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal

setting and task motivation: A 35-year odyssey. *American Psychologist*,

57(9), 705-717.

Lowman, R. L. (2005). Executive Coaching: The Road to Dodoville Needs Paving

With More Than Good Assumptions. *Consulting Psychology Journal:

Practice and Research*, 57(1), 90-96.

Lucas, R. E., & Diener, E. (2002). The happy worker: Hypotheses about the role of

positive affect in worker productivity. In M. R. Barrick & A. M. Ryan (Eds.),

*Personality and Work: Reconsidering the Role of Personality in

Organizations* (pp. 30-59). San Francisco, CA: Jossey-Bass Inc.

Luoma, J. B., Twohig, M. P., Waltz, T., Hayes, S. C., Roget, N., Padilla, M., &

Fisher, G. (2007). An investigation of stigma in individuals receiving

treatment for substance abuse. *Addictive Behaviors*, 32(7), 1331-1346.

Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). *Psychological capital: Developing the human competitive edge*. Oxford: Oxford University Press.

Lyle, J. (2002). *Sports Coaching Concepts: A Framework for Coaches' Behaviour*. London: Routledge.

MacKie, D. (2014). The effectiveness of strength-based executive coaching in enhancing full range leadership development: A controlled study. *Consulting Psychology Journal: Practice and Research*, 66(2), 118-137. doi.org/10.1037/cpb0000005

Mansell, W., & Taylor, J. L. (2012). What is CBT and what isn't CBT. In W. Dryden, & R. Branch (Eds.), *The CBT Handbook* (pp. 5-24). London: Sage Publishing Ltd.

Mantler, T., Irwin, J. D., Morrow, D., Hall, C., & Mandich, A. (2015). Assessing motivational interviewing via co-active life coaching on selected smoking cessation outcomes. *Addiction Research & Theory,* 23(2), 131-142.

Marianetti, O., Passmore, J., Linley, P. A., Harrington, S., & Garcea, N. (2010). Mindfulness at work: Paying attention to enhance well-being and performance. In Linley, P. A., Harrington, S., & Garcea, N. (Eds.) *Oxford Handbook of Positive Psychology and Work* (pp. 189-200). Oxford: Oxford University Press.

Martin, D. J., Garske, J. P., & Davis, M. K. (2000). Relation of the therapeutic alliance with outcome and other variables: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 68(3), 438-450.

Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *MBI Maslach Burnout Inventory*. Washington, DC: Consulting Psychologists Press, Incorporated.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-396.

McCracken, L. M., & Yang, S. Y. (2008). A contextual cognitive-behavioral analysis of rehabilitation workers' health and well-being: Influences of acceptance, mindfulness, and values-based action. *Rehabilitation Psychology*, 53(4), 479-485.

McDowall, A., & Butterworth, L. (2014). How does a brief strengths-based group coaching intervention work? *Coaching: An International Journal of Theory, Research and Practice*, 7(2), 152-163.

McGovern, J., Lindemann, M., Vergara, M., Murphy, S., Barker, L., & Warrenfeltz, R. (2001). Maximizing the impact of executive coaching. *The Manchester Review*, 6(1), 1-9.

McKenna, D. D., & Davis, S. L. (2009). Hidden in plain sight: The active ingredients of executive coaching. *Industrial and Organizational Psychology*, 2(3), 244-260.

Medical Research Council. (2006). *Developing and Evaluating Complex Interventions: New Guidance*. London: MRC. Retrieved from https://www.mrc.ac.uk/documents/pdf/complex-interventions-guidance/

Mezirow, J. (1991). *Transformative Dimensions of Adult Learning*. San Francisco, CA: Jossey-Bass Inc.

Michie, S., Johnston, M., Francis, J., Hardeman, W., & Eccles, M. (2008). From theory to intervention: mapping theoretically derived behavioural determinants to behaviour change techniques. Applied Psychology, 57(4), 660-680.

Miller, W. R., & Rollnick, S. (1991). *Motivational Interviewing*. New York, NY: Guildford Press.

Miller, W. R., & Rollnick, S. (2002). *Motivational interviewing: Preparing people for change*. New York, NY: Guildford Press.

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Prisma Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Medicine*, 6(7), e1000097. doi.org/10.1371/journal.pmed.1000097

Montero, I., & León, O. G. (2007). A guide for naming research studies in Psychology. *International Journal of Clinical and Health Psychology*, 7(3), 847-862.

Montoya, A. K., & Hayes, A. F. (2016). Two condition within-participant statistical mediation analysis: A path-analytic framework. *Psychological Methods*. Advance online publication. doi.org/10.1037/met0000086

Mosteo, L. P., Batista-Foguet, J. M., Mckeever, J. D., & Serlavós, R. (2016). Understanding cognitive-emotional processing through a coaching process: The influence of coaching on vision, goal-directed energy, and resilience. *The Journal of Applied Behavioral Science*, 52(1), 64-96.

Motsoaledi, L., & Cilliers, F. (2012). Executive coaching in diversity from the systems psychodynamic perspective. *SA Journal of Industrial Psychology*, 38(2), 32-43.

Mühlberger, M. D., & Traut-Mattausch, E. (2015). Leading to effectiveness: Comparing dyadic coaching and group coaching. *The Journal of Applied Behavioral Science*, 51(2), 198-230.

Munder, T., Brütsch, O., Leonhart, R., Gerger, H., & Barth, J. (2013). Researcher allegiance in psychotherapy outcome research: an overview of reviews. *Clinical Psychology Review*, 33(4), 501-511.

Newnham-Kanas, C., Irwin, J. D., Morrow, D., & Battram, D. (2011). The quantitative assessment of motivational interviewing using co-active life

coaching skills as an intervention for adults struggling with obesity. *International Coaching Psychology Review*, 6(2), 211-228.

NHS England. (2015). *How to understand and measure impact.* Retrieved from https://www.england.nhs.uk/wp-content/uploads/2015/06/bcf-user-guide-04.pdf.pdf

Noone, S. J., & Hastings, R. P. (2009). Building psychological resilience in support staff caring for people with intellectual disabilities: Pilot evaluation of an acceptance-based intervention. *Journal of Intellectual Disabilities*, 13(1), 43-53.

Noone, S. J., & Hastings, R. P. (2010). Using acceptance and mindfulness-based workshops with support staff caring for adults with intellectual disabilities. *Mindfulness*, 1(2), 67-73.

O'Connell, B., & Palmer, S. (2007) Solution-focused coaching. In Palmer, S. & Whybrow, A. (Eds). *Handbook of Coaching Psychology: A Guide for Practitioners* (pp. 278-292). London: Routledge.

Ogbuanya, T. C., Eseadi, C., Orji, C. T., Anyanwu, J. I., Ede, M. O., & Bakare, J. (2017). Effect of rational emotive behavior therapy on negative career thoughts of students in technical colleges in Nigeria. *Psychological Reports*, 1-19. doi.org/10.1177/0033294117724449

Ogles, B. M. (2013). Measuring change in psychotherapy research. In Lambert, M., J. (Ed) *Handbook of Psychotherapy and Behaviour Change* (pp. 134-166). Hoboken, NJ: John Wiley & Sons Inc.

Olsen, J. M., & Nesbitt, B. J. (2010). Health coaching to improve healthy lifestyle behaviors: an integrative review. *American Journal of Health Promotion*, 25(1), e1-e12. doi: 10.4278/ajhp.090313-LIT-101

Onwezen, M. C., van Veldhoven, M. J. P. M., & Biron, M. (2014). The role of psychological flexibility in the demands–exhaustion–performance relationship. *European Journal of Work and Organizational Psychology*, 23(2), 163-176.

Osborne, J. W., & Overbay, A. (2004). The power of outliers (and why researchers should always check for them). *Practical Assessment, Research & Evaluation*, 9(6), 1-12. Retrieved July 22, 2016 from http://PAREonline.net/getvn.asp?v=9&n=6

Öst, L. G. (2008). Efficacy of the third wave of behavioral therapies: A systematic review and meta-analysis. *Behaviour Research and Therapy*, 46(3), 296-321.

Palmer, S. (2007). PRACTICE: A model suitable for coaching, counselling, psychotherapy and stress management. *The Coaching Psychologist*, 3(2), 71-77.

Palmer, S., & Szymanska, K. (2008). Cognitive behavioural coaching: An integrative approach. In S. Palmer and A. Whybrow (Eds.), *Handbook of Coaching Psychology: A Guide for Practitioners* (pp. 86-117). London: Routledge.

Palmer, S., Tubbs, I., & Whybrow, A. (2003). Health coaching to facilitate the promotion of healthy behaviour and achievement of health-related goals. *International Journal of Health Promotion and Education*, 41(3), 91-93.

Palmer, S., & Whybrow, A. (2005). The proposal to establish a Special Group in Coaching Psychology. *The Coaching Psychologist*, 1(1), 5-12.

Palmer, S., & Whybrow, A. (Eds.). (2008). *Handbook of Coaching Psychology: A Guide for Practitioners*. London: Routledge.

Park, N., Peterson, C., & Seligman, M. E. (2004). Strengths of character and well-being. *Journal of Social and Clinical Psychology,* 23(5), 603-619.

Passmore, J., & Rehman, H. (2012). Coaching as a learning methodology: A mixed methods study in driver development using a randomized controlled trial and thematic analysis. *International Coaching Psychology Review*, 7(2), 166-184.

Passmore, J., & Theeboom, T. (2015). Coaching psychology: A journey of development in research. In Van Zyl, L. E., Stander, M. W., & Odendaal, A. (Eds.) *Coaching Psychology: Meta-Theoretical Perspectives and Applications in Multicultural Contexts* (pp. 27-46). Switzerland: Springer International Publishing.

Passmore, J., & Whybrow, A. (2008). Motivational interviewing: A specific approach for coaching. In Palmer, S., & Whybrow, A. (Eds.) *Handbook of Coaching Psychology: A Guide for Practitioners* (pp. 160-173). London: Routledge.

Peterson, R. A. (2001). On the use of college students in social science research: Insights from a second-order meta-analysis. *Journal of Consumer Research*, 28(3), 450-461.

Pierson, H., & Hayes, S. C. (2007). Using acceptance and commitment therapy to empower the therapeutic relationship. In Gilbert, P. & Leahy, R. L. (Eds.) *The Therapeutic Relationship in the Cognitive Behavioral Psychotherapies* (pp. 205-228). London: Routledge.

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63(1), 539-569. doi:10.1146/annurev-psych-120710-100452

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers,* 36(4), 717-731. doi.org/10.3758/BF03206553

Price, J. (2009). The coaching/therapy boundary in organizational coaching. *Coaching: An International Journal of Theory, Research and Practice*, 2(2), 135-148.

Prochaska, J. O., & Velicer, W. F. (1997). The transtheoretical model of health behavior change. *American Journal of Health Promotion*, 12(1), 38-48.

Pürçek, K. I. (2014). Coach and coaching in Education. *Journal of Education and Future*, (6), 1-14.

Ratiu, L., David, O. A., & Baban, A. (2017). Developing Managerial Skills Through Coaching: Efficacy of a Cognitive-Behavioral Coaching Program. *Journal of Rational-Emotive and Cognitive-Behavior Therapy*, 35(1), 88-110.

Roberts, V. Z., & Brunning, H. (2008). Psychodynamic and systems-psychodynamic coaching. In Palmer, S., & Whybrow, A. (Eds.). (2008). *Handbook of Coaching Psychology: A Guide for Practitioners* (pp. 253-277). London: Routledge.

Roeden, J. M., Maaskant, M. A., & Curfs, L. M. (2012). The Nominal Group Technique as an Evaluation Tool for Solution-focused Coaching. *Journal of Applied Research in Intellectual Disabilities*, 25(6), 588-593.

Roeden, J. M., Maaskant, M. A., & Curfs, L. M. G. (2014). Processes and effects of Solution-Focused Brief Therapy in people with intellectual disabilities: a controlled study. *Journal of Intellectual Disability Research*, 58(4), 307-320.

Ruiz, F. J. (2010). A review of Acceptance and Commitment Therapy (ACT) empirical evidence: Correlational, experimental psychopathology, component and outcome studies. *International Journal of Psychology and Psychological Therapy*, 10(1), 125-162.

Ruiz, F. J., & Luciano, C. (2012). Improving international-level chess players' performance with an acceptance-based protocol: preliminary findings. *The Psychological Record*, 62(3), 447-462.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54-67.

Schmit, E. L., Schmit, M. K., & Lenz, A. S. (2016). Meta-analysis of solution-focused brief therapy for treating symptoms of internalizing disorders. *Counseling Outcome Research and Evaluation*, 7(1), 21-39.

Schwarzer, R., & Jerusalem, M. (1995). Generalized self-efficacy scale. In J. Weinman, S. Wright, & M. Johnston, *Measures in Health Psychology: A User's Portfolio* (pp. 35-37). Windsor, UK: Nfer-Nelson.

Scoular, A., & Linley, P. A. (2006). Coaching, goal-setting and personality type: what matters?. *The Coaching Psychologist*, 2(1), 9-11.

Seligman, M. E. (2007). Coaching and positive psychology. *Australian Psychologist*, 42(4), 266-267.

Seligman, M. E., & Csikszentmihalyi, M. (2000). Special issue on happiness, excellence, and optimal human functioning. *American Psychologist*, 55(1), 5-183.

Sheldon, K. M., Ryan, R. M., Deci, E. L., & Kasser, T. (2004). The independent effects of goal contents and motives on well-being: It's both what you pursue and why you pursue it. *Personality and Social Psychology Bulletin*, 30(4), 475-486.

Sherlock-Storey, M., Moss, M., & Timson, S. (2013). Brief coaching for resilience during organisational change: An exploratory study. *The Coaching Psychologist*. 9(1), 19-26.

Smith, I. M., Borneman, M. J., Brummel, B. J., & Connelly, B. S. (2009). The criterion problem in executive coaching. *Industrial and Organizational Psychology*, 2(3), 288-292.

Smither, J. W. (2011). Can psychotherapy research serve as a guide for research about executive coaching? An agenda for the next decade. *Journal of Business and Psychology*, 26(2), 135-145.

Snyder, C. R., Sympson, S. C., Ybasco, F. C., Borders, T. F., Babyak, M. A., & Higgins, R. L. (1996). Development and validation of the State Hope Scale. *Journal of Personality and Social Psychology*, 70(2), 321-335.

Sonesh, S. C., Coultas, C. W., Lacerenza, C. N., Marlow, S. L., Benishek, L. E., & Salas, E. (2015). The power of coaching: a meta-analytic investigation. *Coaching: An International Journal of Theory, Research and Practice*, 8(2), 73-95.

Sonesh, S. C., Coultas, C. W., Marlow, S. L., Lacerenza, C. N., Reyes, D., & Salas, E. (2015). Coaching in the wild: Identifying factors that lead to success. *Consulting Psychology Journal: Practice and Research*, 67(3), 189-217.

Spector, P. E. (1994). Using self-report questionnaires in OB research: A comment on the use of a controversial method. *Journal of Organizational Behavior*, 15(5), 385-392.

Spence, G. B. (2007). GAS powered coaching: Goal Attainment Scaling and its use in coaching research and practice. *International Coaching Psychology Review*, 2(2), 155-167.

Spence, G. B., Cavanagh, M. J., & Grant, A. M. (2008). The integration of mindfulness training and health coaching: An exploratory study. *Coaching: An International Journal of Theory, Research and Practice*, 1(2), 145-163.

Spence, G. B., & Grant, A. M. (2007). Professional and peer life coaching and the enhancement of goal striving and well-being: An exploratory study. *The Journal of Positive Psychology*, 2(3), 185-194.

Stafford-Brown, J., & Pakenham, K. I. (2012). The effectiveness of an ACT informed intervention for managing stress and improving therapist qualities in clinical psychology trainees. *Journal of Clinical Psychology*, 68(6), 592-513.

Stevenson, H. (2016). Coaching at the Point of Contact: A Gestalt Approach. *Gestalt Review*, 20(3) 260-278.

Stober, D. R., & Grant, A. M. (2006a). Toward a contextual approach to coaching models. Stober, D. R., & Grant, A. M. (Eds.) *Evidence Based Coaching Handbook: Putting Best Practices to Work for Your Clients* (pp. 355-366). Hoboken, NJ: John Wiley & Sons Inc.

Stober, D. R., & Grant, A. M. (Eds.) (2006b). *Evidence Based Coaching Handbook: Putting Best Practices to Work for Your Clients*. Hoboken, NJ: John Wiley & Sons Inc.

Sue-Chan, C., & Latham, G. P. (2004). The Relative Effectiveness of External, Peer, and Self-Coaches. *Applied Psychology*, *53* (2), 260-278.

Sutcliffe, K. M., Vogus, T. J., & Dane, E. (2016). Mindfulness in organizations: A cross-level review. *Annual Review of Organizational Psychology and Organizational Behavior*, 3, 55-81.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using Multivariate Statistics*. Cambridge: Pearson Publishing.

Taris, T. W. (2006). Burnout and objectively recorded performance: A critical review of 16 studies. *Work & Stress*, 20, 316-334.

Taris, T. W., & Schaufeli, W. (2014). Individual well-being and performance at work: A conceptual and theoretical overview. In Van Veldhoven, M., & Peccei, R.

(Eds.). (2014). *Well-being and Performance at Work: The Role of Context* (pp. 15-34). London: Psychology Press.

Taris, T. W., & Schreurs, P. J. (2009). Well-being and organizational performance: An organizational-level test of the happy-productive worker hypothesis. *Work & Stress*, 23(2), 120-136.

Theeboom, T., Beersma, B., & van Vianen, A. E. (2014). Does coaching work? A meta-analysis on the effects of coaching on individual level outcomes in an organizational context. *The Journal of Positive Psychology*, 9(1), 1-18.

Theeboom, T., Beersma, B., & Van Vianen, A. E. (2016). The differential effects of solution-focused and problem-focused coaching questions on the affect, attentional control and cognitive flexibility of undergraduate students experiencing study-related stress. *The Journal of Positive Psychology*, 11(5), 460-469.

Tremblay, M. A., Blanchard, C. M., Taylor, S., Pelletier, L. G., & Villeneuve, M. (2009). Work Extrinsic and Intrinsic Motivation Scale: Its value for organizational psychology research. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, 41(4), 213-226. doi: 10.1037/a0015167

Tschannen-Moran, B. (2010). Skills and performance coaching. In Cox, E., Bachkirova, T., & Clutterbuck, D. A. (Eds.). *The Complete Handbook of Coaching* (pp. 203-217). London: Sage Publishing Ltd.

Varra, A. A., Hayes, S. C., Roget, N., & Fisher, G. (2008). A randomized control trial examining the effect of acceptance and commitment training on clinician willingness to use evidence-based pharmacotherapy. *Journal of Consulting and Clinical Psychology*, 76(3), 449-458.

Vilardaga, R., & Hayes, S. C. (2010). Acceptance and Commitment Therapy and the therapeutic relationship stance. *European Psychotherapy*, 9, 117-139.

Virgili, M. (2013). Mindfulness-based coaching: Conceptualisation, supporting evidence and emerging applications. *International Coaching Psychology Review*, 8(2), 40-57.

Viswesvaran, C., Schmidt, F. L., & Ones, D. S. (2005). Is there a general factor in ratings of job performance? A meta-analytic framework for disentangling substantive and error influences. *Journal of Applied Psychology*, 90(1), 108-131.

Wampold, B. E. (2015). How important are the common factors in psychotherapy? An update. *World Psychiatry*, 14(3), 270-277.

Wampold, B. E., & Budge, S. L. (2012). The 2011 Leona Tyler Award Address: The relationship—And its relationship to the common and specific factors of psychotherapy. *The Counseling Psychologist*, 40(4), 601-623.

Wampold, B. E., & Imel, Z. E. (2015). *The Great Psychotherapy Debate: The Evidence for What Makes Psychotherapy Work*. London: Routledge.

Warr, P., Cook, J., & Wall, T. (1979). Scales for the measurement of some work attitudes and aspects of psychological well-being. *Journal of Occupational and Organizational Psychology*, 52(2), 129-148.

Weinberg, A. (2016). The preventative impact of management coaching on psychological strain. *International Coaching Psychology Review*, 11(1), 93-105.

Weinstein, N., Brown, K. W., & Ryan, R. M. (2009). A multi-method examination of the effects of mindfulness on stress attribution, coping, and emotional well-being. *Journal of Research in Personality*, 43(3), 374-385.

Wesson, K., & Boniwell, I. (2007). Flow theory–its application to coaching psychology. *International Coaching Psychology Review*, 2(1), 33-43.

Whetten, D. A. (1989). What constitutes a theoretical contribution? *Academy of Management Review*, 14(4), 490-495.

Wicksell, R. K., Olsson, G. L., & Hayes, S. C. (2010). Psychological flexibility as a mediator of improvement in Acceptance and Commitment Therapy for patients with chronic pain following whiplash. *European Journal of Pain*, 14(10), 1059-3801. doi:10.1016/j.ejpain.2010.05.001

Wood, A. M., Linley, P. A., Maltby, J., Kashdan, T. B., & Hurling, R. (2011). Using personal and psychological strengths leads to increases in well-being over time: A longitudinal study and the development of the strengths use questionnaire. *Personality and Individual Differences*, 50(1), 15-19.

Worgan, T. (2013). Hope theory in coaching: How clients respond to interventions based on Snyder's theory of hope. *International Journal of Evidence Based Coaching and Mentoring*, 7, 100-114.

Zarecky, A. (2014). How strengths-focussed coaching can help military personnel in their transition to'civvy street'. *International Journal of Evidence Based Coaching & Mentoring*.8, 54-66.

Appendix A: Coaching Intervention Protocol for Preliminary Study

Thank you for agreeing to take part in this study and completing the survey prior to our session today. As you already know, this project is part of my thesis in coaching psychology at Goldsmiths, University of London.

As we were discussing, our inner voice or chatter in our minds can be helpful and positive sometimes, but can also be a source of doubt or difficult thoughts.

We are going to come back to mindfulness once we have spent some time on the things that are important to you and your goals. You completed an exercise prior to our session which asked you to think about 3 things which were important to you and what exactly you valued about them.

We are now going to do a short exercise with those values.

Exercise 1 – Values & Goals

We can think about values as like seeing a point on the horizon, a place you want to move towards. This exercise is going to start to think about how you can move towards a point on the horizon.

If your values are like a point on the horizon, then goals are like heading towards a tree on the journey towards the horizon. It doesn't matter how close or far away from the horizon the trees are, just that they are helping you move towards that spot on the horizon where you would like to be.

Using the values from the area you feel is most important to you now, let's develop a goal that will help you move closer towards that value.

I would like you to think of a goal you would like to work towards related to this value. Then write three measurable objectives related to this goal. Think about who will be involved, where it is going to happen, when you're going to do it, what will be involved and how you're going to do it.

Discussion point - What could you be doing that will help you to move towards that goal? Use the SMART principles to make sure your objectives at specific, measurable, achievable, realistic and time-bound.

Once you're happy with that goal and those objectives, think about another goal you could work towards that is related to this value, or a different value. Then write three measurable objectives related to this goal. Remember to use the SMART principles when you're thinking of your objectives.

(Both goals and objectives are developed through a facilitated discussion between the coach and the coachee).

Discussion point - Have you heard of mindfulness or come across it before?

Mindfulness is something that can be helpful for focusing on what is important to you. We will do a short mindfulness exercise together so you get a sense and experience of mindfulness.

Then we will think about the values you wrote before our session. We will start to think about which of these values might be most important to you right now.

Finally we will discuss how you can use mindfulness when you're working towards those goals.

So, let's start by thinking about mindfulness and how that can be helpful. Most people find they have an inner voice in their mind which may say some helpful things and some not so helpful things. Have you ever noticed that sometimes you can hear an inner voice that tells you things about yourself or other people? Often our natural reaction is to struggle against or avoid the difficult or challenging things your inner voice says.

Have you ever tried to do that? How have you found that? In general, telling yourself to ignore something or not think about something makes you think about it more! A good example is "whatever you do, don't think about a white bear". Did a white bear pop into your mind? It often does.

It can be difficult to block out or ignore this inner voice, and we are going to talk about another, different way we can respond to that inner voice.

Think about what happens if you get stuck in quicksand. The immediate impulse is to struggle and fight to get out. But that's exactly what you mustn't do in quicksand – because as you put weight down on one part of your body (your foot), it goes deeper. So the more you struggle, the deeper you sink – and the more you struggle. Very much a no-win situation. With quicksand, there's only one option for survival. Spread the weight of your body over a large surface area – lay down. It goes against all our instincts to lay down in the quicksand, but that's exactly what we have to do. So it is with difficult thoughts. We struggle and fight against it, but we've perhaps never considered just letting it be, and being with the difficult thoughts and feelings, but if we did, we'd find that we get through it and survive – more effectively than if we'd fought and struggled.

Mindfulness is a good way of practicing being with difficult or challenging thoughts, instead of fighting against them. We are going to try a quick mindfulness practice now.

Exercise 2 – Just sitting

We are going to spend the next five minutes sitting quietly (straight-backed chair) with your feet flat on the floor, eyes closed, back straight, and your hands folded gently in your lap.

Be mindful of what this feels like, starting with your breathing. Follow the course of your breathing from the inspiration of air into your nose all the way down to your lungs and then out again. What does this feel like?

Next, note any other body sensations. What's going on in your arms, legs, chest, back, and other parts of your body?

Now be mindful of your thoughts and emotions. What are you thinking and feeling?

Don't judge your sensations, thoughts, and feelings; merely note their presence.

Try to keep your focus on the present moment. When your mind drifts into the future or past, gently remind yourself to return to the present, using phrases like *There goes my mind drifting off again. It's okay, but now I'm going to get back to the present moment and what's going on in my mind and body.*

Discussion point - How did you find that exercise? Did you find you were able to bring your attention to your breathing, then your body and finally your thoughts and feelings? Did you notice any reactions you had to these thoughts or feelings?

Going back to the first exercise we did, where we were just sitting and experiencing our body and how we felt, and what our mind was saying, you might find that while you are working towards those goals that you hear some of your inner voice. Sometimes it might be encouragement and positive things, but sometimes it might be challenging or difficult things. You can use the following mindful image to help you when you're working towards your goals and some of those difficult thoughts or feelings come up for you.

Working towards your goals can feel like climbing a mountain. Often, because the mountain is so steep, there are lots of switchbacks in the path and it winds its way up the mountain rather than going straight. To reach the top of the mountain requires going in directions that seem wrong, but in fact are the best way to the top. The road isn't straight or easy: sometimes you might walk down the wrong path on the mountain, other times you might make more progress. On the path up the mountain you might be convinced you are never going to get there and that you're not making progress towards your goals. But a person across the valley with binoculars can see you are going in precisely the right direction. It might be helpful to think of this when you're working towards your own goals, especially if you feel like you're not making progress. And even if you feel like you're not making any progress, if the goal is linked to your values then it is worth persevering, as you are on the right path and you will get there.

I wish you the best of luck working towards your goals.

This is the end of our session. There are now three surveys to complete over the next two weeks. You will complete one now, and then receive a survey in one week and the final survey in four weeks. It is critical to the research that you complete these on the day you receive them.

To help you working towards your goals, after the final survey is complete I will send you some additional exercises that can help you to progress in taking action towards the goals that we have identified today. This is purely for your own benefit and is not

part of the study. But if you found our session today helpful, then the additional exercises might be a useful resource.

COMPLETE THE SURVEY

Appendix B: Values Exercise for Preliminary Study Coaching Intervention

What are your values?

Please complete this exercise prior to our coaching session. The exercise is designed to provide some clarity on the things that are important to you before we meet. You may find spending some time reflecting on this is beneficial. Please send me a copy of your complete exercise at least 24 hours before our session.

Firstly, think about the things you value related to your performance at work, in education or another area of your personal development. This could be things like your career, learning, progressing, contributing, finance, friends, reputation, colleagues or health.

There will be lots of things that are important, but for the purposes of our session please choose 3 categories of values which feel most important to you.

Then, for each category answer the following question:

What exactly do I value about _____?

You can have more than one value for each category. An example is provided below:

What exactly do I value about <u>my career</u>?
- *I value having a job I feel fulfilled in.*
- *I value having a good work-life balance.*
- *I value having the opportunity to progress and develop.*
- *I value having autonomy and managing my own work.*

Make a list of things for each category. The list can be as long as you would like it to be.

Value 1 - What exactly do I value about _____?

Value 2 - What exactly do I value about _____?

Value 3 - What exactly do I value about _____?

Please send me your completed values exercise at least 24 hours before our session.
ex203rs@gold.ac.uk

Appendix C: Recruitment Materials for Preliminary Study

Thank you for offering to get involved in this study.

This is part of my doctorial research in coaching psychology at the Institute of Management Studies at Goldsmiths.

The information below is intended to inform you of the aims of this study and the background to my coaching approach. If you have questions or concerns, please ask and I will try my best to provide all the information you need.

About the Research

The study involves you taking part in an individual face to face coaching session (focusing on improving your performance and working towards your goals in work, education or personal development activities) and responding to four online surveys (one prior to the coaching session and three follow up surveys).

Our coaching session will be in person and will last for one hour. In the session we will be working towards developing some performance goals which will be individual and personal to you.

In order to get the most out of your coaching session, I will send you a short exercise prior to our session so you can spend some time thinking about what you would like to work on when we meet.

The surveys collect important information on a variety of things I am looking at in my research. Your commitment to completing the series of surveys is crucial to this research. It is important that you complete this survey on the day it is sent to you.

I anticipate each survey will take you approximately 15 minutes to complete.

To say thank you for taking part and to help you keep working towards your goals, at the end of the study I will send you some additional self-coaching exercises.

Confidentiality

All your survey responses, verbal communication and my coaching notes are strictly confidential. I will report data for this research only in an aggregate form and you will not be identifiable from any information reported. Any notes I take during our session will not be part of the research, but are just for my use during our session.

Right to Withdraw

You have the right to withdraw from this study at any point. You will be asked to provide an anonymity number unique to you as part of this study. If you would like to withdraw at any point, I can identify your information through this.

Next Steps

If you would like to take part in this study, then email back to arrange a time and location for our coaching session. I will send you the link to the first online survey a week before our session.

I will try to be flexible about where and when the coaching takes place. I can offer space at Goldsmiths campus in New Cross, or we can conduct the coaching session at another location of your choice.

I look forward to working with you!

Best regards,

Rachael

Appendix D: Survey 1 of the Preliminary Study

Informed Consent
Thank you for agreeing to take part in this study. This study will use performance coaching to help you work towards your goals in work, education or personal development activities.

This is the first survey in the study. It is important that you complete this survey on the day it is sent to you. I anticipate this survey will take around 15 minutes to complete.
If you see an error message while you are completing the survey, this indicates you may have missed a question on the page. Should you wish to intentionally leave a response blank then ignore the error message and click 'next' at the bottom of the page.

The study has been apporved by the Goldsmiths ethics committee. As previously mentioned, all your data will be kept confidentially and anonymously throughout this study, and you are free to withdraw from this study at any time.

If you are happy to proceed with the study, please read the informed consent statement below and click 'submit'.

Informed Consent Statement
I confirm that I have been briefed to my satisfaction on the research for which I have volunteered. I understand what is required of me when I consent to participate in this project. I understand that I have the right to withdraw from the research at any point and to have the data returned to me if requested. I understand that my rights to anonymity and confidentiality will be respected.*

◯ Submit

Please provide an anonymity number. Please do this by using your initials and the day you were born, for example if your name is John Smith and you were born on the 27th of October your anonymity number would be JS27.

1) Anonymity Number*

[ ]

2) Age

[ ]

3) Are you currently:
◯ Working full-time

◯ Working part-time

◯ Self-employed

◯ Studying full-time

◯ Unemployed

◯ Retired

○ Other

4) Please select the job function which best describes your current or most recent role:

○ Accounting / Finance / Banking

○ Administration / Clerical / Reception

○ Advertisement / PR

○ Architecture / Design

○ Arts/Leisure / Entertainment

○ Beauty / Fashion

○ Buying / Purchasing

○ Construction

○ Consulting

○ Customer Service

○ Distribution

○ Education

○ Health Care (Physical & Mental)

○ Human resources management

○ Management (Senior / Corporate)

○ News / Information

○ Operations / Logistics

○ Planning (Meeting, Events, etc.)

○ Production

○ Real Estate

○ Research

○ Restaurant / Food service

○ Sales / Marketing

○ Science / Technology / Programming

○ Social service

○ Student

○ Other

○ N/A - Unemployed / Retired / Homemaker

5) Please select the job title which best describes your current or most recent role:

○ Top Level Executive

○ Senior Vice President

○ Vice President

○ Director

○ Manager

○ Professional

○ Administrative/Support personnel

○ N/A - Unemployed/Retired/Homemaker

6) Highest level of education:

○ GSCE or equivalent

○ A level or equivalent

○ Bachelor's degree

○ Post-graduate degree

○ Other

7) How would you describe your gender identity?

[   ]

8) How would you describe your ethnicity?

[   ]

We should like to know if you have had any medical complaints and how your health has been in general, over the last few weeks. Please answer ALL the questions simply by indicating the answer which you think most nearly applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past.
It is important that you try and answer ALL the questions.
Have you recently:

Been able to concentrate on whatever you're doing?

○ Better than usual

○ Same as usual

○ Rather more than usual

○ Much more than usual

Lost much sleep over worry?

○ Not at all

○ No more than usual

○ Rather more than usual

○ Much more than usual

Felt that you are playing a useful part in things?

○ More so than usual

○ Same as usual

○ Less useful than usual

○ Much less useful

Felt capable of making decisions about things?

○ More so than usual

○ Same as usual

○ Less so than usual

○ Much less than usual

Felt constantly under strain?

○ Not at all

○ No more than usual

○ Rather more than usual

○ Much more than usual

Felt you couldn't overcome your difficulties?

○ Not at all

○ No more than usual

○ Rather more than usual

○ Much more than usual

Been able to enjoy your normal day-to-day activities?

○ More so than usual

○ Same as usual

○ Less so than usual

○ Much less than usual

Been able to face up to your problems?

○ More so than usual

○ Same as usual

○ Less so than usual

○ Much less than usual

Been feeling unhappy and depressed?

○ Not at all

○ No more than usual

○ Rather more than usual

○ Much more than usual

Been losing confidence in yourself?

○ Not at all

○ No more than usual

○ Rather more than usual

○ Much more than usual

Been thinking of yourself as a worthless person?

○ Not at all

○ No more than usual

○ Rather more than usual

○ Much more than usual

Been feeling reasonable happy, all things considered?

○ More so than usual

○ Same as usual

○ Less so than usual

○ Much less than usual

We would like to ask you some questions about how you control (that is, regulate and manage) your emotions. Read each of the following statements carefully and indicate to what extent you engaged in the following behaviours today.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
When I wanted to feel more positive emotion (such as joy or amusement), I changed what I was thinking about.	○	○	○	○	○	○	○
I kept my emotions to myself.	○	○	○	○	○	○	○
When I wanted to feel less negative emotion (such as sadness or guilt), I changed what I was thinking about.	○	○	○	○	○	○	○
When I was feeling positive emotions, I was careful not to express them.	○	○	○	○	○	○	○
I controlled my emotions by not expressing them.	○	○	○	○	○	○	○
I controlled my emotions by changing the way I thought about the situation I was in.	○	○	○	○	○	○	○
When I was feeling negative emotions, I made sure not to express them.	○	○	○	○	○	○	○

When I wanted to feel less negative emotion, I changed the way I was thinking about the situation.	○	○	○	○	○	○	○

Below you will find a list of statements. Please rate the truth of each statement as it applies to you.

	Not at all true	Hardly true	Moderately true	Exactly true
I can always manage to solve difficult problems if I try hard enough.	○	○	○	○
If someone opposes me, I can find the means and ways to get what I want.	○	○	○	○
It is easy for me to stick to my aims and accomplish my goals.	○	○	○	○
I am confident that I could deal efficiently with unexpected events.	○	○	○	○
Thanks to my resourcefulness, I know how to handle unforeseen situations.	○	○	○	○
I can solve most problems if I invest the necessary effort.	○	○	○	○
I can remain calm when facing difficulties because I can rely on my coping abilities.	○	○	○	○
When I am confronted with a problem, I can usually find several solutions.	○	○	○	○

If I am in trouble, I can usually think of a solution.	○	○	○	○
I can usually handle whatever comes my way.	○	○	○	○

Below are five statements with which you may agree or disagree. Using the scale below, indicate your agreement with each item by clicking the corresponding answer.

	Strongly disagree	Disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Agree	Strongly agree
In most ways my life is close to my ideal	○	○	○	○	○	○	○
The conditions of my life are excellent	○	○	○	○	○	○	○
I am satisfied with my life	○	○	○	○	○	○	○
So far I have gotten the important things I want in life	○	○	○	○	○	○	○
If I could live my life over, I would change almost nothing	○	○	○	○	○	○	○

Read each item carefully. Using the scale below, please indicate the response that best describes the reason why you are currently engaged in this activity.

	Corresponds not all	Corresponds a very little	Corresponds a little	Corresponds moderately	Corresponds enough	Corresponds a lot	Corresponds exactly
Because I think that this activity is interesting	○	○	○	○	○	○	○
Because I am doing it for my own good	○	○	○	○	○	○	○
Because I am supposed to do it	○	○	○	○	○	○	○
There may be good reasons to do this activity, but personally I don't see any	○	○	○	○	○	○	○
Because I think that this activity is pleasant	○	○	○	○	○	○	○
Because I think that this activity is good for me	○	○	○	○	○	○	○
Because it is something that I have to do	○	○	○	○	○	○	○
I do this activity but I am not sure if it is worth it	○	○	○	○	○	○	○

Because this activity is fun	○	○	○	○	○	○	○
By personal decision	○	○	○	○	○	○	○
Because I don't have any choice	○	○	○	○	○	○	○
I don't know; I don't see what this activity brings me	○	○	○	○	○	○	○
Because I feel good when doing this activity	○	○	○	○	○	○	○
Because I believe that this activity is important for me	○	○	○	○	○	○	○
Because I feel that I have to do it	○	○	○	○	○	○	○
I do this activity, but I am not sure it is a good thing to pursue it	○	○	○	○	○	○	○

Below you will find a list of statements. Please rate the truth of each statement as it applies to you. Use the following scale to make your choice.

	Never true	Very seldom true	Seldom true	Sometimes true	Frequently true	Almost always true	Always true

319

I am able to work effectively in spite of any personal worries that I have	○	○	○	○	○	○	○
I can admit to my mistakes at work and still be successful	○	○	○	○	○	○	○
I can still work very effectively, even if I am nervous about something	○	○	○	○	○	○	○
Worries do not get in the way of my success	○	○	○	○	○	○	○
I can perform as required no matter how I feel	○	○	○	○	○	○	○
I can work effectively, even when I doubt myself	○	○	○	○	○	○	○
My thoughts and feelings do not get in the way of my work	○	○	○	○	○	○	○

Read each item carefully. Using the scale shown below, please select the answer that best describes how you think about yourself right now. Please take a few moments to focus on yourself and what is going on in your life at this moment.

	Definitely False	Mostly False	Somewhat False	Slightly False	Slightly True	Somewhat True	Mostly True	Definitely True
If I should find myself in a jam, I could think of many ways to get out of it.	○	○	○	○	○	○	○	○

At the present time, I am energetically pursuing my goals.	○	○	○	○	○	○	○	○
There are lots of ways around any problem that I am facing now.	○	○	○	○	○	○	○	○
Right now, I see myself as being pretty successful.	○	○	○	○	○	○	○	○
I can think of many ways to reach my current goals.	○	○	○	○	○	○	○	○
At this time, I am meeting the goals that I have set for myself.	○	○	○	○	○	○	○	○

In responding to these questions please try to be as accurate and honest as you can throughout, and try not to let your answers to one question influence your answers to other questions. There are no correct or incorrect answers to these questions.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
In uncertain times, I usually expect the best.	○	○	○	○	○
It's easy for me to relax.	○	○	○	○	○
If something can go wrong for me, it will.	○	○	○	○	○

I'm always optimistic about my future.	○	○	○	○	○
I enjoy my friends a lot.	○	○	○	○	○
It's important for me to keep busy.	○	○	○	○	○
I hardly ever expect things to go my way.	○	○	○	○	○
I don't get upset too easily.	○	○	○	○	○
I rarely count on good things happening to me.	○	○	○	○	○
Overall, I expect more good things to happen to me than bad.	○	○	○	○	○

Below you will find a list of statements. Please rate how true each statement is for you.

	Never true	Very seldom true	Seldom true	Sometimes true	Frequently true	Almost always true	Always true
It's OK if I remember something unpleasant.	○	○	○	○	○	○	○
My painful experiences and memories make it difficult for me to live a life that I would value.	○	○	○	○	○	○	○

I'm afraid of my feelings.	○	○	○	○	○	○	○
I worry about not being able to control my worries and feelings.	○	○	○	○	○	○	○
My painful memories prevent me from having a fulfilling life.	○	○	○	○	○	○	○
I am in control of my life.	○	○	○	○	○	○	○
Emotions cause problems in my life.	○	○	○	○	○	○	○
It seems like most people are handling their lives better than I am.	○	○	○	○	○	○	○
Worries get in the way of my success.	○	○	○	○	○	○	○
My thoughts and feelings do not get in the way of how I want to live my life.	○	○	○	○	○	○	○

Thank you for taking part in this study. The next step in the study is to have your one to one coaching session. Once you have completed this survey, please email me at ex203rs@gold.ac.uk if we have not already organised your coaching session. I will send you a short exercise to complete before we meet. This exercise is designed to help you prepare for the coaching session, so you can get most out of our time together. As previously mentioned, all your data will be kept confidentially and anonymously throughout this study, and you are free to withdraw from this study at any time.

Appendix E: Coaching Intervention Protocol for the RCT Study

ACT Coaching Session 1

Introducing ACT Coaching

This coaching aims to enhance your ability to work with purposeful action and achieve your goals. Firstly we will spend some time clarifying your values. This is because action aligned to your values helps you become more purposeful and less likely to get stuck. Your work values are the things related to your job and performance at work that are most important to you. Taking valued action helps to focus your intent. A tool we will use to create that focus is mindfulness. This helps you to become more in touch with what you're experiencing, thinking and feeling. Overall the coaching will help you make decisions as to how best to work towards your goals. This might involve experiencing discomfort or difficulty on the way, so we will also consider what you are willing to accept in order to reach your goals.

Firstly we'll start by exploring some of the common thinking traps that many people find themselves in, which can create a barrier to them achieving their goals. These are ways of thinking that can be less helpful when you're taking action.

1. Trying to control your thinking – white bear exercise
2. Believing your thoughts actually are the real situation, rather than just thoughts, or believing that the difficult mental images you have are real
3. Thinking all your thoughts have the same value or importance
4. Thinking that you have to do what your thoughts suggest, even if it's unhelpful
5. Believing that your thoughts can actually harm you.
6. Buying into things about yourself that are outdated and no longer represent who you are
7. Believing that temporary conditions will last forever
8. Believing that problems or negative personal attributes are universal, rather than context specific
9. Assigning all the responsibility for problems exclusively to yourself or other people. Problems tend to be a combination of things.

Lots of these thinking traps we can experience as self-talk or mind chatter. Whilst our inner voice or chatter in our minds can sometimes be helpful and positive, it can also be a source of doubt or difficult thoughts. It can be difficult to control or block out this unhelpful thinking.

Think about what happens if you get stuck in quicksand. The immediate impulse is to struggle and fight to get out. But that's exactly what you mustn't do in quicksand – because as you put weight down on one part of your body (your foot), it goes deeper. So the more you struggle, the deeper you sink – and the more you struggle. Very much a no-win situation. With quicksand, there's only one option for survival. Spread the weight of your body over a large surface area – lay down. It goes against all our instincts to lay down in the quicksand, but that's exactly what we have to do. So it is with difficult thoughts. We struggle and fight against it, but we've perhaps never considered just letting it be, and being with the difficult thoughts and feelings, but if we did, we'd find that we get through it and survive – more effectively than if we'd fought and struggled.

This coaching is going to help you to create goals based on your own work values, and also help you to identify and become aware of some of the unhelpful

thoughts or self-talk you may experience. Where this unhelpful thinking or self-talk is creating a barrier to you progressing towards your goals, we're going to work through them together.

Clarifying Values
- If you could plan a perfect day at work, what would it include?
- Let your imagination run free, but be as specific as possible.
- What specific activities would you be involved in?
- Where would you be? Whom would you be with?
- How does your typical day compare to this perfect day?

Setting Goals for the Coaching
We can think about values as like seeing a point on the horizon, a place you want to move towards. This exercise is going to start to think about how you can move towards a point on the horizon. If your values are like points on the horizon, then goals are like a tree on the way to the horizon. It doesn't matter how close or far away from the horizon the trees is, just that it is helping you move towards the point on the horizon where you would like to be.

- I would like you to think of a goal related to one of your highest ranked values.
- Then write three measurable objectives related to this goal.
- Think about who will be involved, where it is going to happen, when you're going to do it, what will be involved and how you're going to do it.
- What could you be doing that will help you to move towards that goal?
- Use the SMART principles to make sure your objectives are; specific, measurable, achievable, realistic and time-bound.
- Rate you previous success in working towards this goal from 1 (0% successful) to 5 (100% successful).
- Rate how difficult you feel this goal is from 1 (very easy) to 4 (very difficult)

Once you're happy with that goal and those objectives, think about another goal you could work towards that is related to this value, or a different value. Then write three measurable objectives related to this goal. Remember to use the SMART principles when you're thinking of your objectives. Rate your goal in terms of previous success and level of difficulty. (Both goals and objectives are developed through a facilitated discussion between the coach and the coachee).

Mindfulness Practice
I mentioned that we will be using mindfulness as a tool to create focus and purposeful action towards your goals. I'd like to do a short mindfulness practice with you now. We are going to spend the next five minutes sitting quietly (straight-backed chair) with your feet flat on the floor, eyes closed, back straight, and your hands folded gently in your lap.

- Start by bringing your attention to your breathing.
- Follow the course of your breathe from the inspiration of air into your nose all the way down to your lungs and then out again. What does this feel like?
- Next, note any other body sensations. What's going on in your arms, legs, chest, back, and other parts of your body?

- Now be mindful of your thoughts and emotions. What are you thinking and feeling?
- Don't judge your sensations, thoughts, and feelings; merely note their presence.
- Try to keep your focus on the present moment.
- When your mind drifts into the future or past, gently remind yourself to return to the present, using phrases like *"I notice my mind is drifting again. Now I'll back to the present moment and what's going on in my mind and body"*.

Discussion of the exercise
- How did it feel to take your attention purposefully to your breathing?
- How did it feel to move your attention consciously from place to place?
- Did you notice any difficult or unhelpful thoughts surface while we did the mindfulness exercise?

We will be using mindfulness and other exercises through the coaching. I'll send you a version of this practice you can do in your own time, and I would suggest engaging in mindful activity ideally 3 times a week. It can be for as little as 5 minutes at a time.

There is another mindfulness practice I would like you to do before our next session. This exercise asks you to do one ordinary work activity in a mindful way. This allows you to practice bringing a mindful focus into your work. (Explain the mindful focus activity.)

Closing the Session
- Working towards your goals can feel like climbing a mountain.
- Often, because the mountain is so steep, there are lots of switchbacks in the path and it winds its way up the mountain rather than going straight.
- The road isn't straight or easy: sometimes you might walk down the wrong path on the mountain, other times you might make more progress.
- To reach the top of the mountain requires going in directions that seem wrong, but in fact are the best way to the top.
- On the path up the mountain you might be convinced you are never going to get there and that you're not making progress towards your goals.
- But a person across the valley with binoculars can see you are going in precisely the right direction.
- It might be helpful to think of this when you're working towards your own goals, especially if you feel like you're not making progress.
- If the goal is linked to your values then it is worth persevering even if you feel like you're not making progress and you will get there.

ACT Coaching Session 2

In this session we are going to review how you found the mindfulness practices we discussed last time, and go through another mindfulness activity. Then we'll look at the progress you've made towards your goals and any aspects of those it would be helpful to work on in our time together today. Finally, we're going to spend some time thinking about the acceptance part of our work together and think about some of the things that may be coming along for the ride on this journey.

Mindful Focus Review

      I asked you in our last session to complete a mindful focus activity between this and our last session. Which activity did you choose to do?

- What did you notice before, during and after performing this activity mindfully?
- How did this compare to when you have done this activity before?
- What were the challenges for you in this exercise?
- What were the benefits?

Thoughts on Screen

      We are now going to do a short focused mindfulness practice. This exercise will ask you to watch your thoughts for a few minutes, taking the stance of a curious and non-judgemental observer noticing passing thoughts as if they are being projected onto a blank screen of awareness. It is likely that during this exercise you may find yourself being sucked into the content of your thoughts, and therefore lose the perspective of being the observer. The focus of this exercise is to feel and experience the difference between these two different ways of relating to your thoughts: as someone immersed in them and as someone observing them. What I would like you to do now is to take the perspective of a non-judgemental observer of your thoughts. The aim here is simply to catch a glimpse of your thoughts as thoughts as they come and go in your awareness.

- Start by getting into a comfortable place, and bringing your attention to your breathing. Now start to imagine you're watching your thoughts as they arise, as if they are being projected, one after another, onto a blank screen of your awareness.
- Some thoughts might appear as words, some might appear as images; some thoughts might be clear; some might be vague.
- Theres' no need to try to control or marshal any of your thoughts, just sit back and notice whatever your mind happens to provide you with.
- Sometimes you'll be sucked into the content of your thinking and lose the perspective of the observer. When that happens, just take a second to acknowledge what has happened, and then notice the next thought being projected onto your screen.
- Practicing being aware of the flow of your minds activity – as if your thoughts are being projected onto your screen.
- You may even notice some thoughts about the exercise itself; and that is just the next thing your mind is giving you.
- You may find that you drift off with thoughts quite often. That's absolutely fine. As soon as you notice you've drifted off, reassume the role of an observer, aware of your thoughts coming and going.
- Just catching a glimpse of a few thoughts as thoughts coming and going in your awareness.
- The aim here is to get a sense of what it is like to drift away with thoughts, and what it is like to take the perspective of an observer, just noticing thoughts coming and going.

      This exercise is showing the difference between looking at rather than looking from thoughts. By creating distance between you as the observer and your thoughts, you can notice things without becoming tangled up in difficult thoughts or feelings. It

is not designed to remove, reduce or change difficult thoughts, but instead strengthen your ability to notice thoughts as thoughts without getting wrapped up in what they are saying or allowing them to dictate our actions. Again you might want to link this to the person's day to day life so that its clear how the mindfulness links to the goals and actions.

- How did it feel to be watching those thoughts?
- We are not expecting this process will remove, reduce or change difficult thoughts – but strengthen our ability to notice thoughts as thoughts.
- By becoming more mindful in general, we can be better placed to notice the difficult or unhelpful thoughts when they arise.

Review of Valued Action

Where progress has been made, review the measurable objectives and see if new ones are required to keep the momentum up. For any goals and measurable objectives where progress has not been made:

- What actions did you intend to perform but didn't?
- Did you notice any external barriers, such as time or opportunity?
- Did you notice any internal barriers, such as unhelpful thoughts or feelings?

Increasing Willingness

In our last session I spoke about how you could see that working towards your goals is like climbing a mountain. The path is not always easy because it is so steep and sometimes you can't see if you're going the right way. Climbing a mountain isn't easy, and you need to be willing to experience and overcome difficulty on the way. It's the same with your goals; your work pushes you and you can expect difficulty and discomfort as well as achievement. This exercise is designed to help you practice and explore your own willingness to experience difficult or uncomfortable thoughts or mind chatter when you're working towards your goals.

- Imagine you are going out for a run. You are all ready to go, so you put your portable MP3 player in your arm holder and insert your earbuds, and you're ready to go.
- This compact player has an up-and-down arrow to regulate the volume. When you want to increase the volume, you press and hold the up arrow. When you want to decrease the volume, you press and hold the down arrow.
- Now imagine that instead of the up-and-down arrow regulating the volume, it regulates your willingness to work towards your goals and your need to control your emotions. The up arrow regulates willingness and the down one regulates control.
- The next time you have an unhelpful thought, narrative, image, or emotion you're trying to control or eliminate, imagine that you're hooked up to your MP3 player and have your thumb on this up-and-down arrow.
- Press and hold the down arrow (the control function) and notice how you increase your desire to control, avoid, or eliminate your unhelpful thoughts, narrative, images, and emotions. As you continue to press and hold the down arrow, you are less and less willing to take action towards the things you value.
- Now press and hold the up arrow (the willingness function), and notice how this begins to reverse. As your willingness increases, you begin to accept your discomfort and become more and more willing to take actions while living with your unhelpful thoughts, narratives, images, and emotions. Notice how

your need to control your pain and suffering decreases as your acceptance and willingness to take valued action despite it increases.

Mountain Metaphor

I'd like to remind you that you're still climbing your mountain. You may have experienced some of the challenges we talked about last session.

- Maybe you have reached some minor peaks, and it's great to celebrate that success. So, now we'll strive for another higher peak.
- Maybe you're feeling like for some of your goals you can't quite see the summit yet
- If your goal is aligned with you values, think about what you're willing to accept to reach that summit or achieve that goal.
- Remember, you don't expect climbing a mountain to be easy and you don't expect working towards challenging goals to be easy. If your goals are aligned with the valued direction you want to take, then it's worth striving for.

There is another willingness activity I would like you to do before our next session. This exercise asks to you reflect on a goal you are feeling stuck with. (Explain the I am Willing to Accept exercise).

ACT Coaching Session 3

Introducing the Resilient Self

Start by taking your attention to your breathing… follow the course of your breath from the inspiration of air into your nose, down into your lungs, and then back out again… Let your shoulders drop and gently push your feet into the floor… and get a sense of the ground beneath you… Now just take a moment to notice how you are sitting… And notice how you are breathing… And notice what you can feel against your skin… And notice what you can taste or sense in your mouth… Notice what you can smell or sense in your nostrils… Notice what you are feeling…. Notice what you are thinking … Notice what you are doing… And as you notice these things, also notice that there are two things going on here. There's your body with all its sensations and there you are, the conscious observer of your body. Your body is constantly changing. It started out as a baby and it will continue to change as you progress though your life… Yet despite all these changes to your body, the part of you that observes you remains a constant presence. There's your body, and there you are, the observer of your body. Take a moment to notice that you have this perspective of being the observer of your bodily sensation… Take a moment to observe the current feeling inside your body… And now turn your attention to the flow of thinking your experiencing, right now… So, you are much more than just your body. These things are the content of your life, while you are the conscious observer of these ever-changing experiences.

I am not communicating anything new here. I am merely pointing out the resilient perspective that is already being cultivated. This is aimed at helping you to build the skills that help you to untangle from internal barriers in the effective and consistent pursuit of personally valued goals and actions.

A Short Mindfulness Practice

There is a short mindfulness practice which I would like to leave you with that is quick and easy to get into with 3 steps to mindfulness:

1. Pull yourself out of automatic pilot and contact the present moment. Take a moment to check in. How are you feeling right now? What sensations are you experiencing in your body right now? What thoughts are you having right now?
2. Narrow your awareness to your breathing. Bring the spotlight of your attention to the physical sensations and movement in your tummy as it rises and falls with each breath.
3. Expand your awareness to the entire body. With a broader awareness, notice all the sensations occurring throughout your entire body; develop a strong sense of your entire body in the here and now.

Review of Valued Action & Values Consistency

- Which do you feel have been your biggest achievements in the coaching programme; which are you most proud of?
- What are you doing differently?
- What do you think you'll take forward?
- What has been the biggest challenge?
- What has been the best or your most favourite thing to come out of this process?

Compass metaphor

Using your values to guide your actions is like using an internal compass to guide your life/work journey. We navigate this journey using our compass, and our values provide the direction. Once you have a sense of your direction, you can identify key landmarks or destinations up ahead. Some will be closer and easier to reach; others further away or more difficult to reach. As long as you know your chosen direction, each and every step you deliberately take in that direction has meaning and purpose. Each of those small steps you're taking one moment to the next are all about heading in that chosen direction. Each step moves you in a direction that you personally care about. We can sometimes feel that all our thoughts are of equal value and lose sight of our values. If this happens, it can be helpful to go back to your compass and think about which thoughts and feelings take you towards your values

Values Consistency

This exercise encourages you to assess how values-consistent you have been over the last few weeks. Having identified the core values at the start of this coaching programme, consider the actions that have been consistent and inconsistent with those values over the last 4 weeks. Have you been bringing your values to life? Reflection points for each value:

- To what extent have your day to day actions been consistent with this value?
- Did your actions move you in a direction consistent with this value?
- To what extent did you purposefully engage in activities that were consistent with this value? Note your actions which were more consistent with this value
- Did you notice any behaviours that felt inconsistent with this value? Note your actions that were less consistent with this value
- On a scale of 1 to 10, how important is this value to you? (1 = not important at all; 10 = very important)

- On a scale of 1 to 10, how value-consistent have your actions been over the last 4 weeks? (1 = not important at all; 10 = very important)

The Tube Train

Think of yourself as a tube driver. Each day you have your route to drive your tube train. As you guide your train along your route each day, you stop at various stations and pick up passengers. Each station has its own unique features that become as familiar to you as the rooms in your home. At each stop, passengers get on and off; some of them are new, some are regulars, some are friendly, some are nasty, and some are troublesome. As your passengers get on and off your train, you keep an eye on them, paying more attention to some than others, but you realize you can't keep them from getting on the train. All you can do is observe them and keep an eye out for trouble. Throughout the day, these different types of people get on and off your train. In time, all the passengers get off, and you finish your route and park the train in the station for the night.

Now think of this route as your to-do list for the day. The activities on your list represent your goals for the day. Each goal represents something you want or need to do to live a life according to your values. Instead of people getting on and off the train, imagine your passengers to be the troubling thoughts, stories, images, and emotions that are related to the goals you set for yourself for the day. The difficult thoughts, personal scripts, pictures, and emotions are related to places you must visit, the people you must interact with, and the tasks you must accomplish. As you did when you visualized actual people on the train, you can step back and observe these troubling thoughts, stories, images, and emotions without having to try to control, avoid, or eliminate them. As with the people on the train, you accept that they'll also come and go, and you continue to follow your route for the day while living with your passengers. You realize that each day brings a new dawn, a new route, and a new set of passengers on the journey of your life.

Appendix F: Hand-outs for the RCT Study Coaching Intervention

Hand-out for Coaching Session 1

Mindful Focus Activity
1. Pick an activity that you usually do without thinking too much about it. This could be any work activity, or something you do outside of the office.
2. Give yourself a minimum of thirty minutes as a cushion of time between the end of your activity and your next activity, so you don't have to rush.
3. Pay attention to every step of the process in your chosen activity, no matter how trivial it may seem initially.
4. Firstly, bring your attention to your body. Are you sitting or standing? Feel the ground or seat beneath you supporting you. Think about whether you are touching anything with your hands. If you're typing or writing, how does the keyboard or pen feel?
5. Looks around at where you are. What kinds of things can you see? Bring your attention to what you can hear. Are there other people near you or other sounds you can hear?
6. Slow the speed of what you're doing. Do it at a comfortable pace; neither too slow or too fast.
7. Tell yourself now, "*I have nowhere else to go and nothing else to do during the next thirty minutes except what I have chosen to do in this time*".
8. Try to notice if your mind drifts to the past or future. When your mind wanders, as it will, tell yourself, "*My mind is telling me … . This is okay, but I will now redirect my focus to the present moment*".
9. Continue in the present moment until your activity is finished. Have a forgiving mind-set when you get distracted.
10. When you are finished, give your accomplishment your full attention. Take a few moments to appreciate what you have done, no matter how big or small.
11. While this may seem a bit extreme to you now, after a few practice runs, you will begin to see how even simple activities can be done in a mindful and appreciative way.

Hand-out for Coaching Session 2

I Am Willing to Accept
     This exercise is designed to help you to focus on some of the things you are willing to accept on your journey towards your goals, even if they are difficult and uncomfortable. Start by thinking of all the unhelpful thoughts, narratives, images, and emotions your mind gives you about a goal around which you feel stuck. Now think about all the things you've tried in the past (e.g. distracting yourself, procrastinating, etc.) to control, eliminate, or avoid your discomfort, and how unhelpful these things may have been. Instead of trying to control, eliminate, or avoid the unhelpful thoughts, personal scripts, mental images, and emotions your mind gives you, try living with them as you take action toward your goal. Complete the following statements.
- I feel stuck regarding the following goal:
- My mind is giving me the following unhelpful thoughts and narratives about this goal:
- My mind is creating the following unhelpful images about this goal:

- My mind is creating the following unhelpful emotions about this goal:
- Trying to control, eliminate, or avoid these unhelpful thoughts, narratives, images, and emotions has resulted in the following consequences:
- I am willing to accept and live with the following unhelpful thoughts, personal scripts, mental images, and emotions as I take action toward my goal:

Hand-out for Coaching Session 3

Values Consistency

Using your values to guide your actions is like using an internal compass to guide your life/work journey. We navigate this journey using our compass, and our values provide the direction.

Once you have a sense of your direction, you can identify key landmarks or destinations up ahead. Some will be closer and easier to reach; others further away or more difficult to reach. As long as you know your chosen direction, each and every step you deliberately take in that direction has meaning and purpose. Each of those small steps you're taking one moment to the next are all about heading in that chosen direction. Each step moves you in a direction that you personally care about. We can sometimes feel that all our thoughts are of equal value and lose sight of our values. If this happens, it can be helpful to go back to your compass and think about which thoughts and feelings take you towards your values

This exercise encourages you to assess how values-consistent you have been over the last few weeks. Having identified the core values at the start of this coaching programme, consider the actions that have been consistent and inconsistent with those values over the last 4 weeks. Have you been bringing your values to life? Reflection points for each value:

- To what extent have your day to day actions been consistent with this value? Did your actions move you in a direction consistent with this value?
- To what extent did you purposefully engage in activities that were consistent with this value? Note your actions which were more consistent with this value
- Did you notice any behaviours that felt inconsistent with this value? Note your actions that were less consistent with this value
- On a scale of 1 to 10, how important is this value to you? (1 = not important at all; 10 = very important)
- On a scale of 1 to 10, how value-consistent have your actions been over the last 4 weeks? (1 = not important at all; 10 = very important)

Moving Forward

1. Whenever you're feeling stuck or that you might have an internal barrier preventing you from reaching one of your goals, identify the actual thoughts, emotions, sensation, personal scripts, and mental images that your mind is giving you about that goal or related action.
2. Use a sheet of paper to write down everything your mind tells you about this.
3. Start with your actual thoughts. Say to yourself, *My mind is having the following thoughts about this goal, objective or action*. Now write down those thoughts.
4. Move on to your personal scripts. Say to yourself, *My mind has created the following dialogue about this goal, objective or action*. Now write down the dialogue.

5. Close your eyes and attend to the specific mental images you see with your mind's eye. Say to yourself, *I see the following scary pictures regarding this goal, objective or action* Write them all down exactly as you see them.

6. Last, attend to your emotions and body sensations. Say to yourself, *I feel the following emotions and body sensations regarding this goal, objective or action*. Write down these emotions and body sensations.

7. Now step away from the paper, putting at least six feet of distance between it and your body. Say to yourself, *My mind really has a lot to say about this goal, objective or action —how interesting*.

8. Do not judge or evaluate what your mind tells you. Instead ask yourself this question: *How helpful is any of this in meeting my goals?* Write your answer on a different part of the paper.

9. Ask yourself, *What am I willing to accept about what my mind is telling me so I can move forward and meet my goals?* Write your answer on a different part of the paper.

Appendix G: Recruitment Materials for the RCT Study

Recruitment Information for Employees – Expression of Interest

The Civil Service is taking part in a research programme in coaching psychology with the Institute of Management Studies at Goldsmiths. This programme will offer individuals taking part access to three 90 minute work performance coaching sessions over a three month period. All London-based employees at grade 6 and 7 are eligible to take part in these coaching programmes.

About the Coaching

The coaching programmes consist of three individual face to face coaching sessions (focusing on improving your performance at work) and responding to four online surveys (one prior to your first coaching session and three follow up surveys). The coaching sessions will last for up to 90 minutes. In the session you will be working towards developing work-related performance goals which will be individual and personal to you. The online surveys you will be expected to complete collect important information on a variety of factors the research is exploring. Your commitment to completing the series of surveys is crucial to this research. It is important that you complete this survey on the day it is sent to you. It is expected that each survey will take approximately 15 minutes to complete.

Confidentiality

All survey responses, verbal communication and coaching notes will be strictly confidential. Any data reported in this research will be in an aggregate form only and neither you as an individual or your civil service department will be identifiable from any information reported. Any notes taken during the coaching session will not be part of the research.

Right to Withdraw

You will have the right to withdraw from the study at any point. You will be asked to provide an anonymity number unique to you for the online surveys. If you would like to withdraw at any point, your information can be identified through this.

Expression of Interest

If you would like to take part in the coaching, then please express your interest by contacting Rachael Skews at r.skews@gold.ac.uk. Following this, you will be sent additional information on the coaching and what taking part will entail. You will be asked to respond to this information with a request for inclusion after which you will be considered for the coaching programme.

Recruitment Information for Employees – Request for Inclusion

About the Research

The Civil Service is taking part in a research programme in coaching psychology with the Institute of Management Studies at Goldsmiths. This programme will offer you access to three 90 minute psychological coaching sessions over a three month period. This research is focused on two main questions in coaching psychology; dis coaching effective, and if so then how does it work? This research

uses a specific approach (acceptance and commitment coaching) to inform the coaching practice.

What is Acceptance & Commitment Coaching?

Acceptance and commitment coaching is a mindfulness-focussed coaching approach that encourages coachees to reflect on and clarify their work-related and performance values, and use these values to identify goals for the future. In addition to this, acceptance and commitment coaching encourages individuals to reflect on their own thinking patterns, where they may have become stuck and how they may overcome any barriers to purposeful engagement in their work and personal lives. Techniques such as mindfulness, imagery, metaphor and between-session exercises will help to develop more helpful thinking styles and more goal-focussed behaviour.

About the Coaching

Your coaching programme will aim to facilitate a more productive approach to your work-related and/or performance goals. In addition to increased performance, we believe the coaching may also improve health and reduce stress. Your coaching programmes will consist of three individual face to face coaching sessions with a coaching psychologist. Sessions will focus on improving your performance at work and achieving your personal performance goals. The coaching sessions will last for up to 90 minutes. In the session you will be working towards developing work-related performance goals which will be individual and personal to you. In return you will be asked to respond to four online surveys, either during your coaching programme or prior to starting the programme. The online surveys that we ask you to complete are designed to collect important information on a variety of outcomes the research is exploring. **Your commitment to completing the series of surveys is crucial to this research and it is important that you complete this survey on the day it is sent to you.** It is expected that each survey will take approximately 15 minutes to complete.

Timetable for Coaching

There will be two cohorts in the programme. Coaching for cohort 1 will commence from 30th March 2015 and coaching for cohort 2 will commence from 29th June 2015. Please note **you will not be able to determine your cohort allocation** as this will be a randomised process. You will be asked to complete the surveys sent regardless of whether you are receiving coaching at that time. A timetable for surveys and coaching sessions below. You are able to indicate any preference you have for your **group allocation** based on the timetable below.

	Date for Survey Completion	Coaching Sessions
Group 1	23rd March 20th April 18th May 22nd June	Either: • Cohort 1 = Weeks commencing 30th March, 27th April & 25th May • Cohort 2 = Weeks commencing 29th June, 27th July & 24th August
Group 2	30th March 27th April 25th May 29th June	Either: • Cohort 1 = Weeks commencing 6th April, 4th May & 1st June • Cohort 2 = Weeks commencing 6th July, 3rd August & 31st August

Group 3	6th April 4th May 1st June 6th July	Either: • Cohort 1 = Weeks commencing 13th April, 11th May & 8th June • Cohort 2 = Weeks commencing 13th July, 10th August & 7th September
Group 4	13th April 11th May 8th June 13th July	Either: • Cohort 1 = Weeks commencing 20th April, 18th May & 15th June • Cohort 2 = Weeks commencing 20th July, 17th August & 14th September

We will contact you to schedule coaching sessions individually. Please note: we can offer some flexibility to rearrange coaching sessions within the allocated weeks, however we cannot rearrange coaching sessions to a different week.

Recruitment Information for Employees – Confirmation of Condition and Set

Thanks so much for taking part in this study and for your patience while we allocate people to a cohort and group. Please find your cohort and group allocation below. Please note we cannot change your cohort. You can request a change in your group allocation.

Cohort: x
Group: x

Completing the Surveys

There are 4 online surveys to complete as part of this study. The surveys provide the important information required for this study, and it is crucial you complete these on the day they are sent to you. I will email you a link to the survey and each survey should take around 10-15 minutes to complete. The dates for completing surveys will be 13th April, 11th May, 8th June and 13th July.

Coaching Sessions

The coaching programme consists of 3 sessions, each lasting around 90 minutes. The weeks in which I will arrange coaching with you are w/c 20th July, 17th August and 14th September. Please feel free to suggest a day and time in each week for us to meet and hold the coaching session.

Coaching Location

The location for coaching will be determined by you. Ideally this will be somewhere fairly private and quiet, so a work location or quiet public space. I can offer meeting space at Goldsmiths in New Cross if that is helpful.

Your Coach

I will be your coach for this programme. I am a coach, psychologist and lecturer at Goldsmiths, University of London. This study is part of my doctoral studies in coaching psychology at the Institute of Management Studies at Goldsmiths. Please do not hesitate to get in touch with me if you have any questions or queries regarding this research or the coaching.

Appendix H: Survey 1 of the RCT Study

Informed Consent

Thank you for agreeing to take part in this study. This study will use performance coaching to help you work towards your work goals.

This is the first survey in the study. It is important that you complete this survey on the day it is sent to you.

I anticipate this survey will take around 14 minutes to complete.
If you see an error message while you are completing the survey, this indicates you may have missed a question on the page. Should you wish to intentionally leave a response blank then ignore the error message and click 'next' at the bottom of the page.

The study has been apporved by the Goldsmiths ethics committee. As previously mentioned, all your data will be kept confidentially and anonymously throughout this study, and you are free to withdraw from this study at any time.

If you are happy to proceed with the study, please read the informed consent statement below and click 'submit'.

Informed Consent Statement

I confirm that I have been briefed to my satisfaction on the research for which I have volunteered. I understand what is required of me when I consent to participate in this project. I understand that I have the right to withdraw from the research at any point and to have the data returned to me if requested. I understand that my rights to confidentiality will be respected.*

○ Submit

1) Name*

[   ]

2) Age

[   ]

3) How many years have you worked in your current job?
○ Less than 1
○ 1
○ 2
○ 3
○ 4
○ 5
○ 6
○ 7
○ 8
○ 9

○ 10
○ 11
○ 12
○ 13
○ 14
○ 15
○ 16
○ 17
○ 18
○ 19
○ 20
○ 21
○ 22
○ 23
○ 24
○ More than 25

4) Are you currently:
○ Working full-time
○ Working part-time
○ Other

5) Please select the job function which best describes your current role:
○ Accounting / Finance / Banking
○ Administration / Clerical / Reception
○ Advertisement / PR
○ Architecture / Design
○ Arts/Leisure / Entertainment
○ Beauty / Fashion
○ Buying / Purchasing
○ Construction
○ Consulting
○ Customer Service
○ Distribution
○ Education
○ Health Care (Physical & Mental)
○ Human resources management
○ Management (Senior / Corporate)
○ News / Information
○ Operations / Logistics

○ Planning (Meeting, Events, etc.)
○ Production
○ Real Estate
○ Research
○ Restaurant / Food service
○ Sales / Marketing
○ Science / Technology / Programming
○ Social service
○ Student
○ Other
○ N/A - Unemployed / Retired / Homemaker

6) Highest level of education:
○ GSCE or equivalent
○ A level or equivalent
○ Bachelor's degree
○ Post-graduate degree
○ Other

7) How would you describe your gender identity?

8) How would you describe your ethnicity?

We should like to know if you have had any medical complaints and how your health has been in general, over the last few weeks. Please answer ALL the questions simply by indicating the answer which you think most nearly applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past.

It is important that you try and answer ALL the questions.
Have you recently:

Been able to concentrate on whatever you're doing?
○ Better than usual
○ Same as usual
○ Less than usual
○ Much less than usual

Lost much sleep over worry?
○ Not at all
○ No more than usual
○ Rather more than usual

○ Much more than usual

Felt that you are playing a useful part in things?
○ More so than usual
○ Same as usual
○ Less useful than usual
○ Much less useful

Felt capable of making decisions about things?
○ More so than usual
○ Same as usual
○ Less so than usual
○ Much less than usual

Felt constantly under strain?
○ Not at all
○ No more than usual
○ Rather more than usual
○ Much more than usual

Felt you couldn't overcome your difficulties?
○ Not at all
○ No more than usual
○ Rather more than usual
○ Much more than usual

Been able to enjoy your normal day-to-day activities?
○ More so than usual
○ Same as usual
○ Less so than usual
○ Much less than usual

Been able to face up to your problems?
○ More so than usual
○ Same as usual
○ Less so than usual
○ Much less than usual

Been feeling unhappy and depressed?
○ Not at all
○ No more than usual
○ Rather more than usual

○ Much more than usual

Been losing confidence in yourself?
○ Not at all
○ No more than usual
○ Rather more than usual
○ Much more than usual

Been thinking of yourself as a worthless person?
○ Not at all
○ No more than usual
○ Rather more than usual
○ Much more than usual

Been feeling reasonable happy, all things considered?
○ More so than usual
○ Same as usual
○ Less so than usual
○ Much less than usual

Below you will find a list of statements. Please rate the truth of each statement as it applies to you.

	Not at all true	Hardly true	Moderately true	Exactly true
I can always manage to solve difficult problems if I try hard enough.	○	○	○	○
If someone opposes me, I can find the means and ways to get what I want.	○	○	○	○
It is easy for me to stick to my aims and accomplish my goals.	○	○	○	○
I am confident that I could deal efficiently with unexpected events.	○	○	○	○
Thanks to my resourcefulness, I know how to handle unforeseen situations.	○	○	○	○
I can solve most problems if I invest the necessary effort.	○	○	○	○
I can remain calm when facing difficulties because I can rely on my coping abilities.	○	○	○	○
When I am confronted with a problem, I can usually find several solutions.	○	○	○	○
If I am in trouble, I can usually think of a solution.	○	○	○	○
I can usually handle whatever comes my way.	○	○	○	○

Listed below are a series of statements that represent possible feelings that individuals might have about the company or organization for which they work. With respect to your own feelings about the particular organization for which you are now working please indicate the degree of your agreement or disagreement with each statement by checking one of the seven alternatives below.

	Disagree strongly	Disagree	Disagree slightly	Neutral	Agree slightly	Agree	Agree strongly
Generally speaking, I am very satisfied with this job	○	○	○	○	○	○	○
I frequently think of quitting this job	○	○	○	○	○	○	○
I am generally satisfied with the kind of work I do in this job	○	○	○	○	○	○	○
Most people on this job are very satisfied with the job	○	○	○	○	○	○	○
People on this job often think of quitting	○	○	○	○	○	○	○

We would like you to think about a number of statements that people have made about work, and think about your present job, not work in general. Please indicate how strongly you agree or disagree with each comment in turn. Note that we're asking about your present job.

	No, I strongly disagree	No, I disagree quite a lot	No, I disagree just a little	I'm not sure about this	Yes, I agree just a little	Yes, I agree quite a lot	Yes, I strongly agree

I feel a sense of personal satisfaction when I do this job well	○	○	○	○	○	○	○
My opinion of myself goes down when I do this job badly	○	○	○	○	○	○	○
I take pride in doing my job as well as I can	○	○	○	○	○	○	○
I feel unhappy when my work is not up to my usual standard	○	○	○	○	○	○	○
I like to look back on the day's work with a sense of a job well done	○	○	○	○	○	○	○
I try to think of ways of doing my job effectively.	○	○	○	○	○	○	○

Please indicate the response that is most like you in your current job. The scale for all questions is below. Please enter the number of your response at the end of each question.

	Never	Almost never (a few times a year or less)	Rarely (once a month or less)	Sometimes (a few times a month)	Often (once a week)	Very often (a few times a week)	Always (every day)
At my work, I feel bursting with energy	○	○	○	○	○	○	○

At my job, I feel strong and vigorous	○	○	○	○	○	○	○
I am enthusiastic about my job	○	○	○	○	○	○	○
My job inspires me	○	○	○	○	○	○	○
When I get up in the morning, I feel like going to work	○	○	○	○	○	○	○
I feel happy when I am working intensely	○	○	○	○	○	○	○
I am proud of the work that I do	○	○	○	○	○	○	○
I am immersed in my work	○	○	○	○	○	○	○
I get carried away when I'm working	○	○	○	○	○	○	○

Below you will find a list of statements. Please rate the truth of each statement as it applies to you. Use the following scale to make your choice.

	Never true	Very seldom true	Seldom true	Sometimes true	Frequently true	Almost always true	Always true
I am able to work effectively in spite of any personal worries that I have	○	○	○	○	○	○	○

I can admit to my mistakes at work and still be successful	○	○	○	○	○	○	○
I can still work very effectively, even if I am nervous about something	○	○	○	○	○	○	○
Worries do not get in the way of my success	○	○	○	○	○	○	○
I can perform as required no matter how I feel	○	○	○	○	○	○	○
I can work effectively, even when I doubt myself	○	○	○	○	○	○	○
My thoughts and feelings do not get in the way of my work	○	○	○	○	○	○	○

Below you will find a list of statements. Please rate how true each statement is for you.

	Never true	Very seldom true	Seldom true	Sometimes true	Frequently true	Almost always true	Always true
My painful experiences and memories make it difficult for me to live a life that I would value.	○	○	○	○	○	○	○
I'm afraid of my feelings.	○	○	○	○	○	○	○

I worry about not being able to control my worries and feelings.	○	○	○	○	○	○
My painful memories prevent me from having a fulfilling life.	○	○	○	○	○	○
Emotions cause problems in my life.	○	○	○	○	○	○
It seems like most people are handling their lives better than I am.	○	○	○	○	○	○
Worries get in the way of my success.	○	○	○	○	○	○

Please rate how often you have carried out the behavior over the past month on a scale ranging from 1 ("very little") to 5 (a "great deal").

	Very little	Somewhat	Same as usual	Somewhat more	A great deal
Carried out the core parts of your job well	○	○	○	○	○
Completed your core tasks well using the standard procedures	○	○	○	○	○
Ensured your tasks were completed properly	○	○	○	○	○
Adapted well to changes in core tasks	○	○	○	○	○

Coped with changes to the way you have to do your core tasks	○	○	○	○	○
Learned new skills to help you adapt to changes in your core tasks	○	○	○	○	○
Initiated better ways of doing your core tasks	○	○	○	○	○
Come up with ideas to improve the way in which your core tasks are done	○	○	○	○	○
Made changes to the way your core tasks are done	○	○	○	○	○

Read each item carefully. Using the scale shown below, please select the answer that best describes how you think about yourself right now. Please take a few moments to focus on yourself and what is going on in your life at this moment.

	Definitely False	Mostly False	Somewhat False	Slightly False	Slightly True	Somewhat True	Mostly True	Definitely True
If I should find myself in a jam, I could think of many ways to get out of it.	○	○	○	○	○	○	○	○
At the present time, I am energetically pursuing my goals.	○	○	○	○	○	○	○	○
There are lots of ways around any problem that I am facing	○	○	○	○	○	○	○	○

now.								
Right now, I see myself as being pretty successful.	○	○	○	○	○	○	○	○
I can think of many ways to reach my current goals.	○	○	○	○	○	○	○	○
At this time, I am meeting the goals that I have set for myself.	○	○	○	○	○	○	○	○

Prior to your coaching starting in June, we would like you to think of three current work-related goals. For each goal please rate the current success you have had in working towards that goal from 1 (0% successful) to 5 (100% successful)

	1 (0%)	2	3	4	5 (100%)
Goal 1	○	○	○	○	○
Goal 2	○	○	○	○	○
Goal 3	○	○	○	○	○

For each of your chosen work goals please also rate the difficulty of that goal.

	Very easy	Moderately easy	Moderately difficult	Very difficult
Goal 1	○	○	○	○
Goal 2	○	○	○	○
Goal 3	○	○	○	○

Thank You!

Thank you for completing this survey.

As previously mentioned, all your data will be kept confidentially throughout this study, and you are free to withdraw from this study at any time.