

**ADAPTIVE PERSONALITY REGULATION: EXPLORING A NEW
CONSTRUCT AND EXAMINING ITS PREDICTIVE UTILITY**

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ABSTRACT

Personality has a long history in psychology. It is one of the only streams of research that truly spans the breadth of the field, having arguably made important contributions in every major area of psychological study. However, the predictive utility of personality is generally regarded as disappointing, limiting the value of the practical application of personality research. One area in which this issue is particularly pertinent is personnel selection, where it has been suggested by some scholars that traditional personality measures be abandoned altogether.

Although several attempts have been made to resolve the problem of personality and prediction through improved measurement, thus far these attempts have offered only limited gains. This thesis introduces a novel solution to this problem, central to which is an acknowledgement of the dynamic nature of personality, something extant approaches to measurement typically fail to account for. To this end, a novel construct termed '*adaptive personality regulation*' is proposed. This is defined as, "*an individual difference that reflects the extent to which people are able to successfully regulate their expression of personality in order to maximise goal attainment in their current situation*". A theoretical framework that integrates adaptive personality regulation within the extant literature is described and criteria for determining proof of concept are presented.

Study 1 sought to establish whether an investigation into adaptive personality regulation within a performance context was justified. In support of this, data from two independent samples of working adults revealed that employees in a wide variety of job roles perceive variation in personality expression to be necessary for them to perform well at work.

Study 2 utilised a novel research paradigm to explicitly investigate the proposed construct of adaptive personality regulation for the first time. Results supported proof of concept with respect to a number of key criteria. Not only was there evidence that adaptive personality regulation exists as an individual difference and appears to operate as hypothesised, but also this construct was observed to account for significant amount of incremental variance in performance outcomes over and above personality traits (12%), cognitive ability (11%), and motivation (10%).

Study 3 served to replicate and extend the findings of Study 2 with a new sample. Results revealed comparable effect sizes to those reported in the previous study, lending weight to the generalisability of results. In addition, the relationship between this construct and other theoretically similar variables not previously examined was considered. Not only was adaptive personality regulation found to be independent from these constructs, but it was also observed to account for significant incremental variance in performance outcomes over and above both self-control (19%) and adaptive performance (13%).

The thesis concludes by considering the overall contribution made by this research. Limitations are noted and recommendations for future investigations into adaptive personality regulation are outlined.

DECLARATION

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

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DEDICATION

For Gus

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Chapter 1

Introduction

Personality is conceptualised as a relatively stable individual difference that describes an individual's typical or preferred patterns of thinking, feeling, and behaving (Funder, 2001). The prominence of the trait approach to personality means that approaches to measurement are typically focused on establishing an individual's mean-level, or trait standing position, on focal traits. Collectively, an individual's mean-level scores across the spectrum of traits are considered to comprise their personality (Costa & McCrae, 1992a).

There is overwhelming evidence to support this conceptualisation of personality. Indeed, the existence of personality traits is supported by a wide range of evidence including genetic (e.g., DeYoung, 2010; W. Johnson, McGue & Krueger, 2005), cross-cultural (e.g., Church, 2009; Saucier, 2008; Saucier & Ostendorf, 1999), longitudinal (e.g., Roberts, Walton, & Viechtbauer, 2006), and even cross-species (e.g., Hirayoshi & Nakajima, 2009; Morris, Gale, & Duffy, 2002). Despite this, the predictive utility of personality is generally considered to be disappointing, with effect sizes often smaller than one would expect for a construct that describes the way in which individuals think, feel, and behave (Morgeson et al., 2007). Within the realms of occupational psychology, this is particularly prominent in personnel selection. Personality measures are used extensively in this context, with reports indicating that every single one of the top 100 companies in the UK utilise them at some stage during their selection process (Faulder, 2005). Yet a large body of research has consistently replicated the finding that mean-level self-report personality measures offer weak levels of prediction with regard to job performance (e.g., Barrick & Mount, 1991; Judge &

Ilies, 2002; Salgado, 1997; Schmidt, Shaffer, & Oh, 2008; Tett, Jackson, & Rothstein, 1991). Indeed, so contested is the utility of personality in this context that some scholars have advocated the complete abandonment of traditional personality measures for personnel selection (see Morgeson et al., 2007).

A number of personality researchers have suggested that the disappointing levels of prediction can be attributed to a measurement problem, and that if personality were measured appropriately then levels of prediction would be substantial (e.g., Connelly & Ones, 2010; Tett & Christiansen, 2007). Attempts to improve measurement through the use of job analysis (Tett et al., 1991), forced-choice ratings (Cheung & Chan, 2002; Christiansen, Burns, & Montgomery, 2005; Jackson, Wroblewski & Ashton, 2000), and multiple raters (Connelly & Ones, 2010) have indeed yielded better prediction. The problem is that these improvements either generate only marginal gains or are impractical in many testing situations.

Most personality researchers are now in agreement that there is variability as well as stability within personality, with an ample body of evidence demonstrating that individuals regularly express personality states that are counter to what their underlying trait scores would suggest (e.g., Fleeson, 2001, 2007; Fleeson & Gallagher, 2009; Judge, Simon, Hurst, & Kelley, 2014). Surprisingly, however, the only attempt to utilise personality variation to improve prediction to date can be found in the unpublished doctoral work of Cook (2016).

Cook (2016) hypothesised, and found preliminary support for, the concept of '*personality adaptability*', defined as; "*the accurate and goal directed selection of personality states across situations which is designed to gain desired*

outcomes and which may result in behaviour which is in accordance or discordance with the individual's personal preferences in any given situation"

(p. 13). In other words, there is evidence to support the existence of an individual difference that governs a person's ability to change his or her expression of personality when required to enable goal attainment. Crucially, this individual difference also appears to be more strongly associated with performance than personality traits themselves. However, Cook's (2016) work was purely exploratory in nature, and limited to the trait of extraversion. As such, the extent to which adaptability generalises across other personality traits or situations is unknown; and there is no theoretical framework to explain how such a phenomenon might operate, or how it could be integrated with extant work to extend current understandings of personality dynamics.

This thesis serves to build on the concept of personality adaptability first introduced by Cook (2016) in order to further explore the nature and utility of this phenomenon. To this end, a novel theoretical framework is introduced and tested. In light of this theoretical development, personality adaptability is re-defined as '*adaptive personality regulation*' to better reflect the proposed workings of the construct, and to more clearly differentiate it from the personality trait of '*adaptability*' which is commonplace in many popular personality taxonomies (e.g., Six-Factor Model of Personality; Jackson, Ashton, & Tomes, 1996). The remainder of this chapter outlines a roadmap for this thesis, presenting an overview of each chapter and highlighting its purpose.

1.1. Thesis Roadmap

Chapter 2 marks the start of the literature review. This chapter briefly reviews the history of personality psychology, exploring its evolution, and

outlining how the conceptualisation of personality that dominates today has arisen. Key developments within the field such as the lexical and psychometric origins of personality, the person x situation debate, and the strengths and weaknesses of mean-level personality models are all discussed. Here, personality and prediction is also explored in greater depth, with a particular focus on personality's utility within personnel selection. The chapter concludes by acknowledging the dynamic nature of personality, which paves the way for a much deeper discussion in chapter 3.

Chapter 3 presents evidence for variation in personality expression and attempts to resolve the apparent contradiction of a construct that is claimed to have both a stable and variable nature. To this end, recent theoretical advancements including whole trait theory (Fleeson, 2012; Fleeson & Jayawickreme, 2015) and cybernetic Big Five theory (DeYoung, 2015) are explored and empirical evidence is examined in an attempt to understand both the nature and purpose of personality variation. The evidence reviewed suggests that not only does personality variation exist, but that this variation is also substantial and meaningful. Further, individuals do not appear to vary their expression of personality in the same way, or to the same extent. The chapter concludes with the suggestion that this might indicate that some personality variation at least is governed by an individual difference, providing a foundation upon which to introduce the new construct of adaptive personality regulation in chapter 4.

Chapter 4 integrates and builds on the discussion of the preceding two chapters to propose a testable theoretical framework for the proposed construct of '*adaptive personality regulation*'. Adaptive personality regulation is defined

as, “*an individual difference that reflects the extent to which people are able to successfully regulate their expression of personality in order to maximise goal attainment in their current situation*”. This construct is first positioned within the extant literature to demonstrate how its theoretical grounding is consistent with previous research. Next, its key characteristics are introduced and explored in turn. The evidence required to demonstrate proof of concept for each is also presented in parallel.

Chapter 5 presents the first empirical study of this thesis. This study serves to examine the extent to which the proposed construct of adaptive personality regulation is likely to advantage employees’ performance at work, by considering the extent to which personality variation is perceived as a job requirement. Across two independent samples, results demonstrate that employees from a wide variety of occupations perceive personality variation as necessary to perform well in their job, suggesting that adaptive personality regulation is worthy of investigation. If personality variation is required at work then it follows that an individual difference governing a person’s capacity to regulate his or her personality states in a goal-directed manner (i.e., adaptive personality regulation), would likely explain more variance in performance outcomes than considering mean level personality scores alone. This reasoning provides the grounding for the first explicit examination of adaptive personality regulation in chapter 6.

Chapter 6 describes the first attempt to measure the proposed construct of adaptive personality regulation and explore its predictive utility. Due to adaptive personality regulation never having been investigated in this way before, a laboratory design was adopted. However, in order to maximise generalisability,

experimental realism was prioritised, with the study set-up to replicate a graduate selection assessment centre. Participants were required to undertake a series of different tasks, each of which required a different expression of personality to be successful. Personality states were measured in each task in order to establish the extent to which participants were able to regulate their expression of personality to enable goal attainment (i.e., adaptive personality regulation). Findings from this investigation provide initial evidence to support proof of concept for adaptive personality regulation, with results supporting not only the existence, but also the predictive utility of this construct.

Chapter 7 comprises the third and final empirical study of this thesis. Given the novelty of the theoretical concepts proposed and that the previous study represented the first known examination of adaptive personality regulation, a replication and extension study was considered most appropriate. The purpose of this study was hence to demonstrate that findings reported in chapter 6 are reliable and replicable, and also to broaden theoretical understanding of the construct. The study design therefore closely mirrored that of the previous study, with small methodological changes incorporated as required to answer additional questions of theoretical importance. Results provide further support for proof of concept for adaptive personality regulation. The fact that not only did a similar pattern of findings emerge across the two studies, but that effect sizes were also comparable, lends greater weight to the robustness of conclusions regarding the nature and utility of adaptive personality regulation.

Chapter 8 is the final chapter of this thesis and encompasses the general discussion. Here, the initial goals of the thesis are returned to and utilised to frame a discussion about the overarching contribution of this body of work. Both

theoretical and practical implications are explored, and the limitations of the research are discussed. Recommendations are made for how future research could seek to overcome these limitations, and priorities for further investigations into adaptive personality regulation are highlighted. In particular, the importance of continuing to explore and refine the theoretical underpinnings of adaptive personality regulation is posited to be critical to building the evidence base required for the potential practical value of this work to come to fruition. The chapter and thesis concludes with a summary of the key contributions to knowledge.

Chapter 2

Introducing Personality and Exploring its Predictive Utility

The field of personality psychology is concerned both with what makes humans alike, and what makes them different. Such questions have been pondered at least as far back as Ancient Greece, where many of the most prominent philosophers of the time including Hippocrates, Plato, and Aristotle are known to have contemplated the underpinnings of personality. However, it was arguably not until the 1930s, with the publication of the first issue of the journal *Character and Personality*, and Gordon Allport's (1937) seminal text, *Personality: A Psychological Interpretation*, that personality psychology became a recognised field of enquiry.

Due to its integrative focus on explaining (a) how people differ from one another, (b) why people differ from one another, and (c) the associated underlying internal processes and structures, personality has been said to sit at the centre of psychology, providing a link that draws other areas of psychological study together (Benet-Martínez et al., 2015; Hogan, Johnson, & Briggs, 1997). Indeed, personality research has made important contributions in arguably every major area of psychological study including biopsychology (D. M. Buss, 1984, 1991; A. H. Buss & Plomin, 1984; Revelle, 1995), clinical psychology (Clark, Watson, & Mineka, 1994; Vitousek & Manke, 1994), cognitive psychology (Austin, Manning, McInroy, & Matthews, 2002), comparative psychology (Gosling, 2001; Gosling & John, 1999), developmental psychology (Eichorn, Clausen, Haan, Honzik, & Mussen, 1981; Wrightsman, 1988; Zucker, Rabin, Aronoff, & Frank, 1992), educational psychology (Ferguson, James, & Madeley, 2002; Furnham, Chamorro-Premuzic, & McDougall, 2003), forensic psychology

(Collins & Schmidt, 1993; Miller & Lynam, 2001), health psychology (Jemmott, 1987; Kobasa, 1985; Suls & Rittenhouse, 1987), organisational psychology (Barrick & Mount, 1991; Connelly & Ones, 2010; Judge, Bono, Ilies, & Gerhardt, 2002; Judge, Higgins, Thoresen, & Barrick, 1999; Judge & Ilies, 2002), social psychology (Caprara, Barbaranelli, Consiglio, Picconi, & Zimbardo, 2003; Gerber, Huber, Doherty, Dowling, & Ha, 2010), and sports psychology (Freixanet, 1991; O'Sullivan, Zuckerman, & Kraft, 1998; Vealey, 2002). Today, personality stands as one of the most diverse and highly researched fields in psychology.

The purpose of this chapter is to consider the major elements of modern personality theory and explore the use of personality in predicting job performance. The chapter then moves on to consider the predictive validity of personality. Given the overarching aims of this thesis, there is a particular focus on the context of personnel selection and development, where personality measures are used to predict future job performance. The chapter concludes by considering the relevance of the dynamic nature of personality, which is explored further in the following chapter.

2.1. What is Personality?

There is yet to be a consensus definition of personality and the long history of the construct has seen it take on a number of different definitions. An early etymological investigation identified 50 different uses of the term (Allport, 1937, p. 27 - 48). The description of personality that concluded Allport's enquiry is reflected in many definitions provided by scholars today. Allport defined personality as, "*the dynamic organisation within the individual of those psychophysical systems that determine his unique adjustments to his*

environment” (Allport, 1937, p. 48). Modern definitions of personality include: “*an individual’s characteristic patterns of thought, emotion, and behaviour, together with the psychological mechanisms – hidden or not – behind those patterns*” (Funder, 2001, p. 2); “*the set of psychological traits and mechanisms within the individual that are organised and relatively enduring and that influence his or her interactions with, and adaptations to, the intrapsychic, physical, and social environments*” (Larsen & Buss, 2005, p. 4); and “*those characteristics of the person that account for consistent patterns of feelings, thinking, and behaving*” (Pervin, Cervone, & John, 2005, p. 6).

On reviewing these, and a number of other definitions of personality, Mayer (2007) concluded that while the field might still be lacking in a consensus definition, modern characterisations of the construct are largely equivalent. Specifically, personality is viewed as (a) a psychological system, (b) composed of a group of parts (c) that interact, (d) and develop, and (e) that impact a person’s behavioural expression (Mayer, 2007).

2.2. Types, Traits and States

2.2.1. Types.

Early approaches to individual personality classification were generally categorical in nature, classifying individuals according to their personality *type*. Such typological approaches to personality see individuals as belonging to discrete and discontinuous categories. So, for example, an individual would be labelled as *either* extraverted or introverted. Carl Jung’s *Psychological Types* (Jung, 1912/1916) is one of the most renowned typological approaches to personality and offers the theoretical grounding for the Myers-Briggs Type

Indicator (MBTI; Briggs-Myers & Briggs, 1978), a personality inventory that is still used extensively by organisations today.

Although categorical classification of individuals might offer intuitive appeal, and is easy for lay people to grasp, this approach lacks empirical support. For example, despite its widespread use, the MBTI lacks construct validity, test-retest reliability, and predictive validity (e.g., Grant, 2013; P. R. Matthews, 2004; McCrae & Costa, 1989; Nowack, 1996; Pittenger, 2005). As a result, very few personality researchers today would endorse the use of the MBTI or indeed any other typological approach to personality assessment. Rather, the trait approach has long been the defining theoretical position within the field of personality psychology.

2.2.2. Traits.

The trait perspective describes personality according to singular units, or traits, that are (relatively) stable and normally distributed across a continuous scale. Hence, rather than being categorised as having either an introverted or extraverted personality type, the trait approach would position individuals somewhere along a continuum between these two extremes of the personality trait.

The trait approach has its origins in both lexical and psychometric traditions. Guided by Galton's (1884) lexical hypothesis (which assumes that all important personality characteristics are naturally ingrained in everyday language), Allport and Odbert (1936) set about reducing 17,953 personality-relevant words identified from the dictionary into 4,504 trait descriptors. Their efforts were supplemented greatly throughout the 1940s by the pioneering work

of Cattell (1943a; 1943b), whose contribution to the development of factor analysis enabled researchers to begin exploring the organisation and structure of identified trait terms. Cattell's work eventually culminated with the Sixteen Personality Factor Questionnaire (16PF; Cattell, 1956a; 1956b), a personality measure that posits a hierarchical personality structure within which 35 scales comprise 8 higher-order factors and 16 lower-order factors.

Subsequent attempts to replicate Cattell's work found support for the hierarchical structure of personality but researchers were divided when it came to determining the precise number of higher-order factors. Various models have been posited, each suggesting that personality is hierarchically structured and at different levels of abstraction can be organised under a different number of 'higher-order' dimensions, including eleven (Booth, 2011), ten (DeYoung, Quilty, & Peterson, 2007), seven (Tellegen & Waller, 1987), six (Lee & Ashton, 2004), five (Costa & McCrae, 1992a), three (Eysenck, 1990), two (DeYoung, 2006), and even just one general factor (Rushton et al., 2009). However, by far the most influential is the five-factor solution (e.g., Borgatta, 1964; Costa & McCrae, 1992a; Fiske, 1949; Norman, 1963; Tupes & Christal, 1992), which represents the current consensus position within the field.

There are subtle differences in variants of this model that have derived from the lexical tradition (Big Five: Digman, 1990; Goldberg, 1981) and the psychometric tradition (Five Factor Model: FFM; Costa & McCrae, 1983, 1988, 1992a, 1992b) For example, the facet of warmth is organised under extraversion in the FFM, but under agreeableness in the Big Five. Further, the FFM's Openness factor is primarily concerned with creativity and the pursuit of novel experiences, whereas the Big Five's Intellect factor emphasises a need for

complex cognitive stimulation (Digman, 1990). Nevertheless, the two models are similar and tend to be referred to interchangeably in the literature (Pace & Brannick, 2010). The five factors, which each describe varying numbers of lower-level traits, or facets, are most commonly labelled as extraversion, openness-to-experience, agreeableness, neuroticism, and conscientiousness (Costa & McCrae, 1992a).

There is ample evidence to support the existence of personality traits. Indeed, traits have been shown to have a strong genetic basis (e.g., DeYoung et al., 2010; W. Johnson et al., 2005), with heritability estimates from twin studies suggesting that up to 50% of the variance in personality traits is accounted for by genetic factors (Bouchard & Loehlin, 2001). Although traits remain relatively stable over time, they have also been observed to show modest maturational changes, which typically see improvements in socially desirable personality throughout adulthood (e.g., Roberts et al., 2006). Personality traits also appear to be universal, with a substantial body of evidence demonstrating the structure of personality replicates not only across cultures (e.g., Church, 2009; Saucier, 2008; Saucier & Ostendorf, 1999), but also across different species (e.g., Hirayoshi & Nakajima, 2009; Morris et al., 2002).

2.2.3. States.

Personality *states* are qualitatively equivalent to their trait counterparts, but refer instead to short-term manifestations of personality in everyday behaviour (Fleeson, 2007; Fleeson & Gallagher, 2009; Heller, Komar, & Lee, 2007). For example, the content of agreeableness is trust, compliance, tender-mindedness, and so on. The more a person can be described by these characteristics at any given moment, the higher that person's level of state

agreeableness can be said to be (Fleeson, 2007). Variation in personality states was traditionally regarded as little more than error variance by many researchers (Heller et al., 2007). However, a move towards *situationism* within social psychology during the 1970s led to the publication of a number of influential critiques (e.g., Carlson, 1971; Fiske, 1974; Mischel, 1968, 1973) that ultimately forced personality psychologists to confront variability in behaviour. Situationism asserts that human behaviour is a product of environmental pressures, and that, personality traits, if they exist at all, do not impact behaviour strongly enough to warrant investigation (e.g., Mischel, 1968).

A person x situation debate ensued throughout the 1970s and 1980s, with personality psychologists continually forced to defend the existence of traits. Trait psychologists argued that if behaviour were shaped solely by situations then there would be no cross-situational consistency in behaviour; which is irrefutably not the case (Funder & Ozer, 1983; Carver & Scheier, 1996). A particularly influential study conducted by Funder and Ozer (1983) reanalysed data from multiple studies that had been used to defend the situationist perspective and demonstrated that, when the same methods were used to analyse situational and trait data, the magnitude of the relationships between situations and behaviour was actually similar to that of personality traits, and hence situations are not superior predictors of behaviour.

Today, many scholars, including the present author, adhere to the interactionist trait perspective, which acknowledges the role of both stable underlying individual differences *and* situational factors in shaping human behaviour (e.g., DeYoung, 2015; Fleeson & Jayawickreme, 2015; Tett & Gutterman, 2000). As such, variation in personality states need not be regarded

as a threat to the existence of traits. Rather, such variation can be seen to reflect the interactions between traits and external situational pressures. For example, that a person who is typically calm feels and behaves anxiously before an exam does not suggest that traits concerning calmness do not exist, but that traits are malleable and dynamic rather than eternally fixed. However, the fact that two individuals consistently differ in their degree of calmness across most situations (even before an exam), does suggest the existence of some character trait specific to each individual.

2.3. Personality and Prediction

Personality is ultimately derived from a desire to understand individual differences in human behaviour. This is reflected in nearly every functional definition of the construct (see section 1.1), and perhaps most aptly by Cattell, who defined personality very simply as, “*that which permits prediction of what a person will do in a given situation*” (Cattell, 1950, p.2). Accordingly, a vast body of empirical evidence has demonstrated associations between personality traits and a wide array of important outcomes including physical and mental health (Friedman, 2000; Friedman, Kern, & Reynolds, 2010; Goodwin & Friedman, 2006), risk-taking (Zuckerman & Kuhlman, 2000), antisocial and criminal behaviour (Collins & Schmidt, 1993; Miller & Lynam, 2001), relationship quality (Nofhle & Shaver, 2006), economic and social attitudes (Caprara et al., 2003; Gerber et al., 2010), academic success (Chamorro-Premuzic & Furnham, 2003; Ferguson et al., 2002), and job performance (Barrick & Mount, 1991; Connelly & Ones, 2010; Judge et al., 2002; Judge et al., 1999; Judge & Ilies, 2002).

Evidence that personality plays a role in determining a number of important life outcomes is therefore substantial. Whilst personality clearly does predict behaviour, the magnitudes of these relationships are consistently modest, rarely exceeding 0.3. In other words, at least 70% of the variance in people's various life outcomes is unaccounted for by personality. A common view suggests the disappointing prediction stems from measurement problems. Indeed, multiple research groups have asserted that if personality measurement could be improved, the magnitude of prediction estimates would also improve as a result (e.g., Connelly & Ones, 2010; Morgeson et al., 2007; Tett & Christiansen, 2007).

One domain where improving personality measurement is considered particularly important is personnel selection (e.g., Hughes & Batey, 2017; Morgeson et al., 2007). Here, personality measures are used to inform decisions about an individual's ability to perform well in a future job, and hence often contribute to high-stakes hiring decisions. Given the centrality of performance to the goals of the current thesis, the remainder of this chapter will focus on exploring the issues surrounding the use of personality measures in personnel selection in particular, and ways in which the predictive validity of personality might be improved in this context.

2.3.1. Spotlight on selection.

Given the consensus that personality plays a role in determining individual patterns of thoughts, feelings, and behaviour, it is only logical to expect personality to play a role in determining how people conduct themselves at work. As Hughes and Batey (2017) highlight, workplace behaviour is defined not only by one's ability to do something, but also the style with which it is executed. Personality differences influence how individuals approach tasks, how

they interact with those around them, how motivated they are to perform, and how enjoyable they find particular tasks or working environments. Differences in these areas are expected to have implications for one's overall job performance, rendering personality measures a potentially valuable selection tool. Indeed, personality measures are employed extensively in this context, with reports indicating that they are utilised by every single one of the top 100 companies in the UK at some stage during their selection process (Faulder, 2005).

However, despite their widespread application, the use of personality measures within this context is increasingly a topic of debate amongst scholars (e.g., Morgeson et al., 2007; Ones, Dilchert, Viswesvaran, & Judge, 2007). The point of contention does not concern whether or not personality is an important determinate of performance, but whether or not current measures of the construct are up to the task.

Meta-analytic evidence is particularly valuable here. Meta-analysis allows for the results of multiple independent investigations to be combined, and the accompanying increase in statistical power yields far more robust parameter estimates. One advantage of the widespread consensus and adoption of the FFM within the field of personality psychology over the past thirty years is that it makes such data consolidation possible. Indeed, over a dozen independent meta-analyses have been conducted on the personality-job performance relationship (e.g., Barrick & Mount, 1991; Judge & Ilies, 2002; Salgado, 1997; Schmidt et al., 2008; Tett et al., 1991), including a meta-analysis of meta-analyses (Barrick, Mount, & Judge, 2001).

The level of agreement in findings across these is encouraging, with results consistently highlighting the role of conscientiousness (e.g., Barrick &

Mount, 1991; Barrick et al., 2001; Salgado, 1997) and, to a slightly lesser extent, emotional stability (e.g., Barrick, et al., 2001; Salgado, 1997) in predicting job performance. While the three remaining FFM traits do not appear to be directly related to overall performance, there is evidence that they are relevant for performance within particular job roles, and for specific work-related behaviours such as training performance, leadership, motivation, and team-work (e.g., Barrick et al., 2001; Judge et al., 2002; Judge & Ilies, 2002).

Such findings might initially appear promising. However, in order to fully grasp the intricacies of the arguments surrounding the use of personality measures in selection, it is necessary to understand the common practice of correcting parameter estimates. When measuring any latent variable such as personality, a degree of measurement error is unavoidable. Correcting parameter estimates to account for estimates of unreliability can increase accuracy and is a practice that is supported on both theoretical and statistical grounds (Hunter & Schmidt, 1990; Schmidt et al., 2008). Within the personality-job performance literature, it is common practice for researchers to apply corrections for range restriction as well as criterion and predictor unreliability. This is not problematic if one is interested in understanding the nature of the relationship between particular constructs, in fact quite the opposite. The problem arises when researchers and practitioners justify the use of personality measures in selection through reliance on these corrected parameter estimates because in practice, only observed scores are often used.

Personality measures used in selection contexts are generally implemented as they are and hence any correction for test unreliability, or indeed criterion unreliability, will overestimate the operational validity of that test (e.g.,

Hurtz & Donovan, 2000; Mount, Barrick, & Stewart, 1998). In their meta-analysis of meta-analyses, Barrick et al. (2001) reported the corrected validity estimate for conscientiousness to be .31 for supervisor performance ratings and .23 for objective ratings. However, the uncorrected predictive validity estimates suggest an operational validity of .15 for supervisor ratings and .10 for more objective metrics. There is a similar, and even less encouraging picture for emotional stability, for which the corrected validity is .13 for supervisor ratings, and the uncorrected just .07. No significant relationship was observed between emotional stability and objective measures of performance.

In examining data from a dozen independent meta-analyses conducted on the personality-job performance relationship, Morgeson and colleagues observe that the median corrected predictive validity for personality measures is .18, and the uncorrected predictive validity just .10 (Morgeson et al., 2007). There is even evidence to suggest that the incremental predictive validity of personality over cognitive ability has also been overestimated, with the true figure standing at just .05 (Schmidt et al., 2008). Ultimately, this renders personality measures comparable to selection methods such as unstructured interviews that have long been disregarded by both scholars and practitioners alike (e.g., Schmidt & Hunter, 1998).

Hence, calls for abandonment of current approaches to personality measurement within a selection context may not be an overreaction. The possible ramifications of utilising a selection measure which has poor predictive validity render it not only a potential waste of organisational resources and applicant time, but also legally questionable. However, researchers are in agreement that the failure of current self-report trait standing measures to predict job

performance should in no way be extended to render the construct of personality as uninformative in this context (Hughes & Batey, 2017; Morgeson et al., 2007; Schmidt et al., 2008). As Kevin Murphy concurs, “*common sense tells you that broad personality factors should be important*” (Morgeson et al., 2007, p. 694). Rather, it is current measures of personality that appear to be of limited practical value and arguably need to be dispensed with (Schmidt et al., 2008). In the section that follows the possible explanations for the poor performance of extant personality measures will be discussed, and previous suggestions on how to improve the functional validity of personality measures within personnel selection will be reviewed.

2.4. Why is Prediction Poor?

In trying to account for why the predictive validity of personality is so disappointing with respect to performance, researchers generally point to limitations in current approaches to the measurement of personality, and to limitations in the theoretical model underpinning the vast majority of these measures. The consensus position within the field is that if these limitations were addressed, personality would yield much higher operational validity estimates (e.g., Morgeson et al., 2007; Schmidt et al., 2008).

2.4.1. Facets not factors.

One of the advantages of the hierarchical structure of the FFM is that one is able to account for much of the variance in lower-order facets through the measurement of the higher-order factors alone. Such an approach can offer increased reliability and briefer personality measures, which have obvious advantages for both organisations and candidates within a selection context.

However, there is a lack of agreement among scholars as to whether or not such an approach is optimal.

In support, Ones and Viswesvaran (1996) have argued that, where complex outcomes such as job performance are of interest, the measurement of broad factors is more appropriate as the bandwidth of predictor and outcome are more comparable than if one were to take a narrower approach to personality measurement. However, others disagree. Facets are far from perfectly correlated with higher-order factors and hence contain unique variance that is unaccounted for in broad factor scores. Hence, some researchers argue that regardless of the bandwidth of the outcome of interest, a facet-level approach to measurement is likely to offer increased predictive validity (Paunonen, Haddock, Forsterling, & Keinonen, 2003).

There is considerable evidence to support such reasoning. For example, Paunonen and Ashton (2001) compared the relative predictive validities of higher-order factors and lower-order facets for 40 different outcomes including financial, dating, and health-related behaviours. Not only did facets account for, on average, a further 8% of the variance in outcomes, they were also able to predict a wider range of behaviours. In other words, relationships that were found to be non-significant at the factor level emerged as significant at the facet level.

A recent meta-analysis conducted by Judge and colleagues reveals a similar pattern of findings for job performance (Judge, Rodell, Klinger, Simon, & Crawford, 2013). Specifically, results suggest that lower-order facets are generally able to account for more variance in performance outcomes than their higher-order counterparts. The exception here was conscientiousness, which

demonstrated a similar level of prediction across levels. Such evidence supports the argument that sole reliance on broad trait measures can understate validity estimates, particularly when the underlying traits are not uniformly related to job performance. For example, unlike conscientiousness, extraversion's facets appear to have differential relationships with certain aspects of performance such as contextual performance (Judge et al., 2013). Omnibus personality measures obscure such differences, ultimately reducing the amount of variance the facets of extraversion are able to account for in contextual performance from 24.1% to just 4.8% (Judge et al., 2013).

Although this is encouraging, it is worth noting that, while a facet-level approach to measurement can offer gains with respect to criterion-related validity in some cases, such an approach may also necessitate the use of longer measures in order to achieve adequate reliability, particularly if one is interested in measuring a broad spectrum of personality traits. For instance, within the NEO framework, (a personality inventory that measures personality according to the Five Factor Model) moving from a broad factor assessment (NEO-FFI) to a facet-level assessment (NEO-PI-R) would require a fourfold increase in the length of the measure, taking the total number of items to 240. Whether the gains in prediction are substantial enough to justify the accompanying increases in applicant time and organisational resources is debateable. As Judge and colleagues themselves note, "*conclusions must be tempered by the relatively modest effect sizes and the variability in unique effects across traits and criteria*" (Judge et al., 2013, p. 891).

2.4.2. Multidimensional not unidimensional.

In addition to the potential improvements that might be garnered from measuring personality more comprehensively, researchers have also suggested that multivariate estimates that reflect the multidimensional nature of personality should be utilised, rather than univariate estimates (e.g., Ones et al., 2007; Tett & Christiansen, 2007). Here, multiple correlations are estimated so that the combined impact of personality traits can be established, rather than simply focusing on single trait associations, which has been likened to attempting to predict job performance from the component parts of cognitive ability tests or structured interviews (Hughes & Batey, 2017).

In support of such reasoning, meta-analytic findings have demonstrated that multivariate personality estimates are more strongly related to a number of key organisational outcomes including counterproductive work behaviour ($R = .45$), organisational citizenship behaviour ($R = .31$), leadership ($R = .45$), and teamwork ($R = .37$; Ones et al., 2007). Although these findings are encouraging, unfortunately the multivariate estimates for job performance remain disappointing. The *corrected optimal-weighted* multiple R stands at .27 for overall performance, and just .23 for objective performance indicators (Ones et al., 2007). These figures are even less impressive when one considers that the comparable univariate estimates for conscientiousness *alone* are $r = .23$ and $r = .19$ for overall job performance and objective performance respectively (Ones et al., 2007). Indeed, the meta-analysis conducted by Ones and colleagues (Ones et al., 2007) concludes that multivariate estimates account for around 7% of the variance in overall job performance, and around 5% of the variance in objective indicators of performance. It therefore appears that, despite the intuitive appeal,

utilising multivariate rather than univariate estimates of personality is not able to substantively change the amount of variance personality is able to explain in job performance.

2.4.3. Response distortions.

The vast majority of personality measures rely on self-report ratings, which inevitably leaves them open to response distortion. This is arguably the feature of extant personality measures that has attracted the most criticism and there is a sizeable body of research exploring ways that response distortions can be identified and mitigated. Response distortion can arise from both deliberate faking, whereby an individual knowingly chooses to misrepresent themselves on a personality assessment, or unintentional misrepresentation, whereby an individual unwittingly misrepresents themselves due to a lack of self-insight (e.g., Paulhus & Reid, 1991; Ramanaiah, Schill, & Leung, 1977). Response distortions introduce additional measurement error, which ultimately reduces the potential of personality measures to predict outcomes of interest such as job performance.

A sizeable body of work has confirmed that individuals can, and do, distort their responses on self-report personality assessments (e.g., Baer, Wetter, & Berry, 1992; Barrick & Mount, 1996; Costello, Schneider, & Schoenfeld, 1993; Stark, Chernyshenko, Chan, Lee, & Drasgow, 2001; Viswesvaran & Ones, 1999). This is believed to be particularly problematic in high-stakes situations such as personnel selection, where individuals might be more motivated to attempt to deliberately misrepresent themselves if they believe it will improve their chances of attaining a desired outcome (i.e., being offered a job). If distortion were uniform across individuals this would be less concerning but

multiple studies have demonstrated variance in distortion across individuals (e.g., Match & Wiggins, 1974; McFarland & Ryan, 2000; Rosse, Stecher, Miller, & Levin, 1998). Such variance is concerning as it suggests that distortion might have a direct impact on selection decisions and there is some evidence to support such an assertion (e.g., Christiansen, Goffin, Johnston, & Rothstein, 1994; Rosse et al., 1998).

Findings from research efforts seeking to uncover ways of detecting and mitigating response distortion have been mixed (e.g., Costello et al., 1993; Hough, 1998; Ironson & Davis, 1979; Jackson et al., 2000; Lanyon, 1993; McCrae & Costa, 1983). A number of different techniques have been explored including imposing time limits for measures to be completed (e.g., Holden, Wood, & Tomashewski, 2001; Komar, Komar, Robie, & Taggar, 2015), the inclusion of social desirability or integrity scales (e.g., Feeney & Goffin, 2015; Ones, Viswesvaran, & Schmidt, 1993), and the use of ipsative measures (e.g., Heggstad, Morrison, Reeve, & McCloy, 2006; C. E. Johnson, Wood, & Blinkhorn, 1988; Meade, 2004). Traditional approaches to personality assessment utilise normative measures, which present individuals with a single item question and use a Likert-type response format. In contrast, ipsative, or forced-choice measures present multiple items together, which have been matched for social desirability. Candidates are required to rank order the items or, in the case of partially-ipsative measures, select the item that they feel is most and least true of themselves (see Hicks, 1970).

The approach that thus far appears to have shown the most promise is the use of partially-ipsative measures. A recent meta-analysis demonstrated that, although the predictive validity of fully ipsative personality measures is poor,

partially-ipsative measures seem able to offer substantial improvements over traditional normative assessment tools (Salgado & Táuriz, 2014). Although this is encouraging with respect to mitigating response distortions arising from faking, some scholars have expressed concern about using ipsative-based personality assessments for comparisons across individuals (e.g., Baron, 1996). In addition, ipsative measures do nothing to address response distortions that originate from a lack of self-insight.

An alternative approach is to dispense with self-report measures altogether. This is a view that seems to be held by a number of prominent scholars within the field (see Dunning, Heath, & Suls, 2004; Morgeson et al., 2007). Two recent meta-analyses have demonstrated the value of other-ratings of personality, whereby personality ratings are provided by someone other than the individual themselves. Both Connelly and Ones (2010), and Oh, Wang, and Mount (2011) found evidence that predictive validity of personality is substantially higher when other-ratings are utilised. Indeed, the effect sizes associated with other-ratings are at least twice the magnitude of those achieved with self-report, and in some cases substantially higher. For example, Connelly and Ones (2010) report a coefficient for Openness that is six times higher when other-ratings of personality are employed.

Such findings are again promising and support the assertion that previous work based on self-report ratings has underestimated the predictive validity of personality. However, it is important to acknowledge that although these superior estimates could well result from a mitigation of self-report response distortion, it is also possible that other-ratings inflate effect sizes due to common method bias. Hogan's socioanalytic theory distinguishes between personality as

conceptualized internally, and that personality which is expressed externally (Hogan, 1996; Hogan & Shelton, 1998). Other-ratings are more conceptually aligned with what one expresses externally, or their reputation. This is also arguably what supervisor-ratings of job performance assess, which would also account for the apparent increase in predictive validity (Hughes & Batey, 2017). Further, if one looks at the uncorrected parameter estimates, or those that have been corrected for unreliability in the criterion only, findings are somewhat less impressive, with the operational validity of personality failing to surpass the .3 ceiling effect for any of the Big Five (Connelly & Ones, 2010).

Ultimately, as Morgeson asserts, *“faking on self-report personality tests...is not the issue; the issue is the very low validity of personality tests for predicting job performance”* (Morgeson et al., 2007, p. 683). Despite researchers’ best efforts, if the validity of personality measures themselves is limited, then the impact of mitigating the measurement error associated with response distortions will also be limited. This is not to say that response distortion should be ignored. Researchers should seek to minimize measurement error wherever possible in a bid to increase the reliability of measures. However, as the above discussion has highlighted, such an approach cannot overcome inherent weaknesses in the validity of personality measures themselves. Potential underlying causes for this will be explored below.

2.4.4. Limitations of the FFM.

The evidence reviewed above suggests that, while the predictive validity of extant personality measures might be improved *somewhat* through multivariate rather than univariate estimates, facet- rather than factor-level assessments, and the use of other- rather than self-ratings, the level of prediction

nevertheless remains disappointing. Given that researchers and practitioners should seek to explain as much variance in outcomes as possible, the findings discussed above are undeniably important. However, it does not seem that any of these potential solutions are able to substantially resolve the problem of personality and prediction. Some scholars have argued that until we acknowledge and address the theoretical and methodological shortcomings of the FFM, upon which the vast majority of extant personality measures are based, any attempts to improve prediction will be largely futile (e.g., Morgeson et al., 2007).

The primary issues to be considered here relate to whether the FFM accurately describes the organisation of personality traits, and whether it is as, “*exhaustive of the personality sphere*”, as its proponents allege (McCrae & Costa, 1985, p. 588). Although the FFM may well be the best measure of personality currently available, this guarantees neither the model’s accuracy nor its appropriateness (Hughes, 2018). This issue is of considerable importance because, as Hughes and Batey (2017) note, “*quite simply if the measures do not offer optimal measurement then they are unlikely to produce optimal prediction*” (p. 156).

With regard to accuracy (i.e., whether the scales measure what they aim to), various concerns have been raised. Block (1995, 2001, 2010) has highlighted a number of methodological flaws in the way the FFM measures were developed including potential issues with data pre-structuring, and the use of inappropriate analysis techniques which are incapable of capturing nonlinear or conditional relationships and are reliant on subjective interpretation by researchers (Block, 1995, 2010; Trofimova, 2014). Indeed, not all research has been consistent in returning a five-factor solution, and even where five factors have been identified

the factors themselves are not necessarily consistent (Booth, 2011; Pace & Brannick, 2010). There are also issues with orthogonality, with multiple studies reporting numerous cross-loadings at the facet level, and considerable correlations between the higher-order factors (e.g., DeYoung, 2006; Digman, 1997; Rushton & Irwing, 2008).

Such concerns are further supported by evidence that the FFM fails to demonstrate adequate model fit when confirmatory factor analysis (CFA) is employed (e.g., Church & Burke, 1994; Hopwood & Donnellan, 2010; Vassend & Skrandal, 2011), suggesting that the model is in need of revision. Some scholars have contested this, arguing that it is the overly restrictive nature of CFA that is the issue (e.g., Marsh et al., 2010; McCrae, Zonderman, Costa, Bond, & Paunonen, 1996). However, the problem of fit persists even when exploratory techniques are applied (Booth & Hughes, 2014).

The second issue concerns whether or not the FFM provides adequate coverage of the personality sphere. Although there have been claims that it does (e.g., McCrae & Costa, 1985; Saucier & Goldberg, 1998), there is substantial evidence to suggest that such claims are invalid (e.g., Ashton, Lee, & Son, 2000; Jackson, et al., 1996; Jackson, Paunonen, Fraboni, & Goffin, 1996; Lee & Ashton, 2004; Lee, Ashton, Hong, & Park, 2000). For example, Paunonen and Jackson (2000) identified a number of traits that lie outside the measurement structure of the FFM including conventionality, egoism, femininity, humour, integrity, manipulativeness, religiosity, seductiveness, and thriftiness. These traits have been found to explain incremental variance over and above the FFM in a whole host of outcomes (Paunonen et al., 2003). Intuitively, one would expect the same to be true of job performance (Hughes & Batey, 2017).

In sum, there is considerable evidence to suggest that, despite the popularity of the FFM, it is limited in both structure and scope. A measure that has inadequate measurement properties and omits aspects of personality that are of potential importance to the outcomes one is interested in explaining could never be expected to achieve optimal levels of prediction. To be clear, this is not to suggest that measures derived from the FFM are of no use. Indeed, as was discussed above, there is a vast body of evidence supporting the existence of the Five Factors, and the majority of personality traits can be categorised as either a facet of one of these factors, or a compound trait of two or more (e.g., DeYoung, 2015). However, it would be naïve to ignore the shortcomings of the FFM because systematic refinements might not only improve our conceptual understanding of personality, but would likely also improve our ability to predict outcomes such as job performance.

2.4.5. The dynamic nature of personality.

The final characteristic of current approaches to personality measurement considered here is the focus on mean level, trait standing scores. As discussed above, most researchers now acknowledge that individuals exhibit consistent and meaningful variation in their personality states, which results in people behaving in a manner that deviates to some degree from their underlying trait score (e.g., Fleeson, 2001, 2007; Fleeson & Gallagher, 2009; Judge et al., 2014). Thus, examining the nature of personality variability (i.e., the range of personality expressions) as well as stability (i.e., trait levels) may well offer incremental prediction of behavioural outcomes.

Figure 2.1 demonstrates the influence of traits, situations and goals on momentary personality expression. For example, consider a situation in which an

individual who is low on the trait of conscientiousness is due to attend a job interview. The individual's goal is to get the job and to increase their chances of doing so, he or she may enact personality states consistent with high conscientiousness (e.g., by researching the company in advance of the interview, preparing answers to potential questions, ensuring they arrive in good time, etc.). There is preliminary evidence to suggest that such variation is required in the workplace. An unpublished analysis of personnel specifications by Cook (2010) revealed that individuals are obliged to exhibit behaviours aligned with personality scores at both poles of the same trait within one job role. For instance, one specification called for individuals that were both energetic and self-reliant, which are behaviours typical of individuals with high and low extraversion scores respectively (John & Srivastava, 1999).

Measuring individuals' propensities in this process might help explain why the implementation of proposed improvements to extant personality measures discussed above (such as the use of multivariate estimates) have less impact on job performance *en masse*, than they do on specific elements of job performance which are less diverse (e.g., counterproductive work behaviour and organisational citizenship behaviour; Ones et al., 2007).

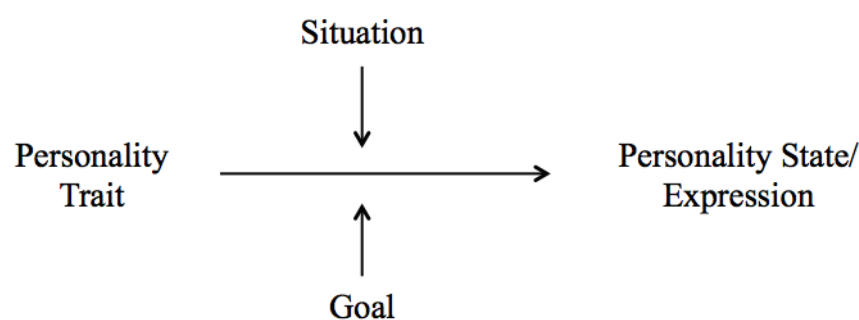


Figure 2.1. Influence of traits, situations and goals on expressed behaviour.

2.5. Summary

Although personality has a long history as a field of psychological inquiry, its predictive utility in regard to job performance is generally regarded as disappointing. Various explanations for this were considered in this chapter including the use of broad rather than narrow measures, failing to account for the multidimensional nature of personality, limitations of self-report ratings, and inadequacies of the theoretical models of personality upon which the majority of modern measures are constructed. One strategy that is yet to be adequately explored concerns the dynamic nature of personality expression. Specifically, the final section of this chapter introduced evidence for variation in personality expression and suggested that job performance might be dependent upon an individual expressing personality states across the spectrum of personality. If this were true, it would perhaps be unsurprising that mean level personality scores at all levels of the hierarchy are limited in their ability to predict job performance. The next chapter will explore the dynamic nature of personality in greater detail and consider the plausibility of the argument that the failure to account for variability in current measures has contributed to the poor prediction typically observed.

Chapter 3

The Dynamic Nature of Personality

As discussed in the previous chapter, the trait approach to personality (e.g., Costa & McCrae, 1992a, 1992b; DeYoung et al., 2007; John, Naumann, & Soto, 2008; Lee & Ashton, 2008) seeks to explain between-person differences in behaviour through the study of underlying personality traits. Traits describe an individual's typical or preferred pattern of thoughts, feelings, and behaviour, and are relatively stable and enduring (Funder, 2001). The trait approach is supported by ample empirical evidence that demonstrates consistency in behaviour (e.g., Epstein, 1979; Fleeson, 2001, 2007; Sherman, Nave, & Funder, 2010). However, there is now substantial evidence demonstrating that personality also varies substantially and meaningfully within individuals (e.g., Fleeson, 2001, 2007; Fleeson & Gallagher, 2009; Heller et al., 2007). This chapter explores the dynamic nature of personality in more detail, examining both empirical evidence and theoretical advancements within the field that attempt to explain the apparent contradiction of variation within the stable construct of personality. The overarching aim of this chapter is to consider whether capturing the dynamic nature of personality might help to improve the accuracy of personality assessments and subsequently yield improved prediction of future work performance. To this end, the chapter begins by exploring the evidence for personality variability in more detail. Next, the nature of this variability is examined, with both adaptive and maladaptive outcomes considered. The chapter concludes by discussing evidence that suggests that personality variability might be underpinned by a quantifiable individual difference.

3.1. Evidence for Personality Variability

There is ample evidence that people can, and do, regularly vary the personality states that they express in their everyday behaviour (e.g., Ching et al., 2014; Epstein, 1979; Fleeson, 2001, 2007; Fleeson & Gallagher, 2009; Fleeson & Nofhle, 2008; Judge et al., 2014; McCabe & Fleeson, 2012). Experience-sampling studies have been particularly valuable when it comes to quantifying and understanding the nature of this variation. The experience-sampling methodology samples participants *in situ* on multiple occasions over a given study period, typically at pre-determined intervals throughout the day. Such studies therefore enable researchers to understand how personality actually manifests itself in people's everyday lives, and how closely this reflects their trait-standing scores. This methodology is also advantageous in that it circumvents problems of unreliability and bias that often arise when people are asked to provide ratings retrospectively as they are less dependent upon memory (e.g., Yarmey, 1979).

Many of the experience-sampling studies exploring personality have had relatively small sample sizes (i.e., $N < 50$: Fleeson, 2001, 2007; Fleeson & Wilt, 2010; McCabe & Fleeson, 2012). However, a meta-analysis conducted by Fleeson and Gallagher (2009) amassed over 20,000 individual reports of personality manifestation in behaviour across a total sample of 495 participants. The results of the meta-analysis provided strong evidence for variation in personality. Specifically, even over the course of a single day, the personality states individuals enact vary frequently and widely. Indeed, the majority of the variation observed in personality was found to be due to within-person, rather than between-person variation (65% and 35%, respectively). These findings

suggest that individuals are often enacting personality states that differ from their underlying trait scores. So inherent is the dynamic nature of personality that individuals appear to accept variation in personality expression as part of their self-concepts (Fleeson & Wilt, 2010).

While such extensive variation in personality might appear to imply that personality traits are redundant or meaningless, there is substantial evidence to the contrary. Indeed, Fleeson and Gallagher (2009) demonstrated that when momentary expressions of an individual's personality states are plotted as a density distribution¹, the mean, or central tendency of this distribution is strongly associated with trait standing ($r = .42 - .56$). What is more, this central tendency has repeatedly been shown to remain stable over time (e.g., Fleeson, 2001; Fleeson & Gallagher, 2009). Such evidence demonstrates that personality traits are meaningful and have important implications for behaviour.

A limitation of many of the experience-sampling studies conducted on personality, including Fleeson and Gallagher's (2009) meta-analysis, is that contextual information is lacking. Thus, while there is now strong evidence that personality varies, the reasons underpinning this are less well understood. Establishing the factors that promote variation in personality will be key to identifying the parameters on personality and prediction. For example, if personality varies according to the type of task one is engaged in, as preliminary evidence from Fleeson and Law (2015) suggests, then using mean level personality scores to predict performance across a number of heterogeneous tasks (as is often the case for job performance) will be limited.

¹ Density distributions reflect the frequency of trait manifestation in behaviour at each level of the trait (Fleeson & Jayawickreme, 2015).

Concurring, personality psychologists increasingly acknowledge that any comprehensive account of personality must be able to account for both the existence and structure of stable traits, as well as frequent and substantial variation in expressed personality states (e.g., DeYoung, 2015; Fleeson & Jayawickreme, 2015; Judge et al., 2014; Yang et al., 2014). Such integrative approaches to personality recognise that both internal characteristics of persons and external characteristics of one's environment have implications for behaviour.

3.1.1. Theoretical advancements.

3.1.1.1. Trait activation theory.

Trait activation theory (TAT; Tett & Guterman, 2000) asserts that trait-relevant situational cues are required to activate personality traits in expressed behaviour. A person's trait standing score will influence how receptive they are to relevant situational cues. For example, extraverted behaviour is thought to arise in response to extraversion-inducing stimuli. However, people high in trait extraversion would be expected to show a more heightened response to such stimuli, and exhibit greater sensitivity to weaker cues. In this way, situation characteristics are seen as moderators of the association between traits and behaviour, and personality traits are posited to predict between-person differences in situation-based contingencies (i.e. a person x situation interaction).

TAT is supported by findings that personality states are responsive to relevant situational cues (e.g., Lievens, Chasteen, Day, & Christiansen, 2006). However, a recent investigation by Sherman, Rauthmann, Brown, Serfass, and Jones (2015) failed to find support for TAT. This study employed a rigorous

multi-method, intensive longitudinal design, which incorporated assessments of personality states as well as *in situ* self-report ratings of situation characteristics and personality states. In this way it was possible to subsequently examine the role of personality traits and situation characteristics on behaviour. The results revealed that, contrary to the predictions of TAT, the interaction between personality traits and situations was non-significant in the majority of cases tested, and even when the interaction *was* significant, the observed effect sizes were small ($bs = -.12$ and $-.07$). Thus, there is little evidence to suggest that personality traits are able to explain variation in situation-based behavioural contingencies (i.e., in situation X an individual behaves Y). Rather, findings suggest that situations and personality traits *independently* predict personality states, which is inconsistent with the assumptions of TAT.

3.1.1.2. Cognitive-affective personality systems theory.

The cognitive-affective personality systems theory (CAPS; Mischel & Shoda, 1995, 2008) takes a largely cognitive approach to personality. Like TAT, CAPS also regards behaviour as the result of situation-based contingencies but this model posits personality as the mediator between situation characteristics and expressed behaviour. Specifically, behaviour is seen as dependent upon how the various cognitive-affective units that comprise an individual's personality (e.g. goals, beliefs, values, etc.) process specific situation characteristics. CAPS is supported by evidence that *if...then* contingencies demonstrate stability over time (e.g., Fournier, Moskowitz, & Zuroff, 2009; Smith, Shoda, Cumming, & Smoll, 2009) and appear to be associated with cognitive structures (e.g., Pauletti, Cooper, & Perry, 2014). However, the lack of a general taxonomy of cognitive-

affective processes that are presumed to comprise the personality system diminishes its practical utility (Sherman et al., 2015).

3.1.1.3. Whole trait theory.

Whole trait theory (WTT; Fleeson, 2012; Fleeson & Jayawickreme, 2015) argues that a comprehensive account of personality is dependent upon an understanding of ‘whole traits’. Whole traits are comprised of both a descriptive and explanatory component. The descriptive component is aligned with the trait approach in explaining *how* people differ from one another, while the explanatory component reflects social-cognitive perspectives in explaining *why* people differ from one another. According to WTT, social-cognitive processes (e.g., goals, beliefs, values, etc.) lead to the manifestation of personality *states*. Over any given time frame, these states can be conceptualised and quantified by a density distribution, the central tendency of which reflects mean-level *trait* scores.

There is substantial empirical support for WTT, with multiple independent studies demonstrating that personality states form density distributions around trait standing scores (e.g., Ching et al., 2014; Fleeson, 2001, 2007; Fleeson & Gallagher, 2009; Fleeson & Law, 2015; Judge et al., 2014; Sherman et al., 2015). However, WTT’s description suggests that personality traits are statistical artefacts rather than a causal force for driving behaviour (Fleeson & Jayawickreme, 2015). WTT proposes that the observed structure of personality is accounted for by accretion mechanisms arising from (a) individuals learning about the similarities of different behaviours and their consequences, and (b) causal interactions among social-cognitive mechanisms that produce behaviour (Fleeson, 2012). In contrast, the author agrees with

DeYoung (2015) in that such an explanation is insufficient in accounting for the genetic contribution to traits that has been observed across cultures (e.g., Yamagata et al., 2006).

3.1.1.4. Cybernetic Big Five theory.

Cybernetic Big Five theory (CB5T; DeYoung, 2015) asserts that personality is governed by cybernetics. Cybernetic systems are adaptive, goal-directed systems that self-regulate according to feedback from sensory mechanisms. These sensory mechanisms indicate the extent to which the individual is moving towards (or away from) their goals. As the general behavioural control system, the cybernetic system governing personality is posited to be particularly well preserved by evolution due to the advantages it can afford with respect to allowing individuals to adjust their behaviour in order to achieve their goals, and thus survive and reproduce (DeYoung, 2015).

Personality traits are responsible for consistency in patterns of thinking, feeling, and behaving and result from relatively stable parameters of evolved psychobiological cybernetic mechanisms (DeYoung, 2015). However, like WTT, CB5T sees traits as probabilistic, rather than deterministic, thereby adhering to the large body of work that supports regular variation in personality expression (e.g., Fleeson, 2001, 2007; Fleeson & Gallagher, 2009). Social-cognitive mechanisms such as goals, interpretations, and strategies (which WTT sees as antecedents to traits), are positioned as independent entities within CB5T. Specifically, whereas traits have cultural universality, characteristic adaptations reflect reactions to the circumstances of an individual life. Because traits influence how an individual adapts to his particular environment, characteristic adaptations are often consistent with traits but this is not always the case. For

example, a characteristic adaptation typical of an individual high in extraversion might be socialising every weekend. A characteristic adaptation less typical of an individual high in extraversion might be daily meditation. However, an individual's trait standing would not preclude this characteristic adaptation from developing if it were aligned with the individual's goals, interpretations, strategies, etc.

By positioning traits as resulting from fundamental cybernetic mechanisms, CB5T is able to adequately account for the structure of personality, thereby addressing one of the major limitations of WTT. Within CB5T, each of the five broad dimensions of personality are posited to reflect between-person variation in one of the five major operational stages governing the cybernetics system, namely (1) goal activation, (2) action selection, (3) action, (4) outcome interpretation, and (5) goal comparison. Specifically, extraversion, as the trait most closely linked to the brain's reward systems (e.g., DeYoung, 2013; DeYoung et al., 2010), is related to (1) goal activation. Conscientiousness is posited to relate to (1) goal activation, (2) action selection, and (3) action, with implications for whether long-term or short-term goals are pursued, the effectiveness of strategies chosen to meet these goals, and the ability of individuals to resist distraction during goal pursuit. Openness is said to relate to (4) outcome interpretation, which detects discrepancies between current states and desired states, as well identify goal-relevant stimuli in the environment to predict effective strategies for goal pursuit. Neuroticism is primarily associated with the final stage of the cybernetic cycle, (5) goal comparison. According to CB5T those high in neuroticism are anticipated to experience increased negative emotion in response to mismatch at this stage due to increased sensitivity and

reactivity of defence systems. Neuroticism is also posited to have implications at earlier stages, for example influencing the likelihood of individuals pursuing avoidance goals. Finally, agreeableness is thought to have implications for the extent to which goals of a social benefit are pursued, and what kind of experiences are registered as errors or mismatches (e.g., for individuals high in agreeableness the distress of others is more likely to trigger a mismatch between current and desired end states). Stability and plasticity, the two meta-traits suggested to reside above the Big Five (conscientiousness, agreeableness, and emotional stability, and extraversion and openness, respectively), reflect the need of cybernetic systems to both maintain stable functioning and be adaptive in changing and unpredictable environments.

CB5T is advantageous in that not only is it aligned with the extensive body of work demonstrating both variation and stability in personality (e.g., Fleeson, 2001, 2007, 2012; Fleeson & Gallagher, 2009), but it is also compatible with the current state of personality neuroscience (e.g., Allen & DeYoung, 2017; DeYoung, 2010; DeYoung & Gray, 2009). As such, it is also able to provide a comprehensive account of the biological basis of the mechanisms responsible for personality. By specifying the mechanistic functions underlying personality traits, CB5T offers a range of testable hypotheses, both psychological and biological in nature. However, the relative recency of this theory means that many of its hypotheses are yet to be examined empirically.

3.1.2. Summary.

The dynamic nature of personality is indisputable (e.g., Fleeson, 2001, 2007; Fleeson & Gallagher, 2009; Fleeson & Nofhle, 2008; McCabe & Fleeson, 2012). This is reflected in modern personality theories that seek to go beyond

descriptive models of personality and explain the underlying mechanisms and processes that govern both stability and variation in personality. Each of the theories reviewed above offers a convincing theoretical rationale to support the notion of personality variation. However, the current evidence base does not support the notion of a person x situation interaction described in TAT (e.g., Sherman et al., 2015), and the omission of a taxonomy of cognitive-affective processes assumed to comprise personality makes rigorous testing of the CAPS model unfeasible.

As the most recent theoretical offerings, both WTT and CB5T are more compatible with the current literature and are both able to adequately account for the variation and stability observed within personality. In many ways the two theories are similar. However, by explicitly separating traits and characteristic adaptations within its theoretical framework, CB5T is able to more adequately account for the universal structure and genetic basis of personality, as well as circumvent potential issues of circularity that threaten WTT.

3.2. The Nature of Personality Variability

Having established that personality variability exists (see section 3.1.) the discussion will now turn to an examination of the extent to which this variation is meaningful. Without exception, the theoretical accounts discussed previously consider personality variation to be meaningful. However, it is necessary to examine the empirical evidence for this claim, as it is a necessary premise for proposing that variation might offer incremental predictive validity over traditional trait standing scores. One way of demonstrating meaning is through an examination of the consequences of personality variation. WTT and CB5T both consider personality variation to be adaptive, enabling individuals to pursue

a diverse range of goals and adapt their behaviour according to the demands of the situation they are in (DeYoung, 2015; Fleeson & Jayawickreme, 2015). This would account for the considerable variation that is observed in personality even over the course of a single day (e.g., Fleeson & Gallagher, 2009), and, if it were true, would also offer an explanation for why trait standings are not a strong predictor of job performance (e.g., Barrick, et al., 2001; Judge & Ilies, 2002; Schmidt, et al., 2008). Specifically, if personality varies in order to enable individuals to attain a broad range of goals and meet the demands of a diverse range of situations then it would mean that not only are individuals regularly deviating from trait standing, but also that this deviation is systematic, and likely comparable across individuals when pursuing the same goal or in a similar situation. In situations in which there are *strong* psychologically active characteristics to guide behaviour, one would expect less personality variation across individuals in the same situation, or pursuing the same goal than in psychologically *weak* situations in which the cues guiding behaviour are much weaker. Such an account implies that personality variation serves an adaptive function for the individual. The empirical evidence to support such an assertion is examined below.

3.2.1. Adaptive personality variability.

Personality variability can be said to be adaptive to the extent to which it contributes to the successful functioning of individuals in their environment. There is a substantial body of evidence demonstrating that personality variation can serve such a function. For example, people have been shown to vary their personality according to the different social roles they occupy (Dunlop, 2015). This *contextualised personality* is thought to arise as a result of individuals

adapting their behaviour in order to meet the expectations and norms associated with different social roles (Burke & Tully, 1977; Stryker, 1989, 2007). For instance, in a sample of university students, Bleidorn (2009) observed that, regardless of underlying trait scores, being in a 'friend' role is associated with the manifestation of more extraverted personality states, whereas being in a 'student' role is associated with the manifestation of more introverted and conscientiousness states. Similarly, individuals have been found to be more assertive and controlling when occupying a leadership role than when occupying a subordinate role (Fournier, Moskowitz, & Zuroff, 2002); and report being their most agentic at work when with a subordinate, and their least agentic when with a manager (Moskowitz, Suh, & Desaulniers, 1994).

In addition to social roles, personality has also been shown to vary according to situations (e.g., Fleeson, 2007; Fleeson & Gallagher, 2009; Judge & Zapata, 2015; Minbashian, Wood, & Beckmann, 2010). Much of this work considers psychological situation characteristics, as opposed to objective situation characteristics. Psychological situation characteristics refer to those aspects of situations that are perceived subjectively by the individual and are defined in terms of psychological variables such as knowledge, concepts, beliefs, norms, rules, etc. (Block & Block, 1981; Edwards & Templeton, 2005). Personality traits are associated with different psychological situation characteristics (Allport, 1937; Bandura, 2001; Cantor & Fleeson, 1994; Mischel, 2004; Snyder & Cantor, 1998), supporting the assertion that personality is likely to vary as the psychologically active characteristics of situations also vary.

In an experience-sampling study in which participants were asked to report concurrently on psychological situation characteristics and their

personality states multiple times a day over a period of up to five weeks, Fleeson (2007) demonstrated that situation characteristics were a reliable predictor of variation in personality states. What is more, as is the case for contextualised personality, the pattern of this variation suggests that individuals are varying their personality in order to meet varying situational demands. For example, within the workplace, situation characteristics such as urgency and task difficulty have been shown to predict increases in conscientiousness states (Minbashian et al., 2010).

That individuals appear to vary their personality in order to meet the varying demands of the different social roles (e.g., Bleidorn, 2009; Fournier et al., 2002), and situations (e.g., Fleeson, 2007; Minbashian et al., 2010) that they occupy, implies that personality variation is adaptive in that it is enabling individuals to attain situational goals. Indeed, McCabe and Fleeson (2012) described personality states as “*tools for goal fulfilment*”. These authors had participants report on their extraverted personality states and extraversion-related situational goals multiple times per day over a 10-day period. Results showed that goals were able to account for 74% of the variance in state extraversion. In other words, when individuals reported pursuing goals related to extraversion such as “trying to have fun”, or “trying to make new friends” they were also more likely to report enacting more extraverted personality states. Further evidence comes from Judge et al. (2014) who demonstrated that goal-setting motivation positively predicted conscientiousness states for the following day. Heller et al. (2007) have also demonstrated that the pursuit of approach goals (i.e., goals concerned with the attainment of desired outcomes) is associated with the manifestation of more extraverted personality states, whilst the pursuit of

avoidance goals (i.e., goals concerned with the avoidance of undesired outcomes) is generally associated with the manifestation of more neurotic personality states.

Thus, there is evidence to suggest that personality varies with external contextual factors such as social roles and situations, and that this variation might reflect changes in internal factors such as goals and motivation. However, in order to establish that personality variability serves an adaptive function, one must demonstrate not only that variation is associated with such changes, but also that variation positively impacts outcomes. For example, given that conscientiousness is positively associated with academic performance (e.g., Chamorro-Premuzic & Furnham, 2003), one would expect that by increasing their conscientiousness states when occupying a 'student' role (Bleidorn, 2009), university students are able to perform better on their degree programme. However, to the author's knowledge, very few studies have actually examined this empirically.

An exception, in which personality variability was explicitly examined alongside performance, comes from the unpublished doctoral work of Cook (2016). Here, participants undertook two tasks; each designed to require personality states at opposing poles of the extraversion personality dimension (i.e., extraversion and introversion). To be successful in the first task each participant had to ensure that the other participants in their group remembered more facts about them than any other group member. Hence, success in this task was anticipated to require extraverted personality states. To be successful in the second task, participants had to refrain from being distracted and progress as far as possible in a mundane scoring task. Hence, success in this task was anticipated to require introverted personality states. Two trained observers rated personality

states in the two tasks. Results demonstrated significant positive associations between performance and extraverted states in the first task, and introverted states in the second task (Cook, 2016). This finding demonstrates that personality variation can indeed serve an adaptive function for individuals, at least with respect to task performance. However, the artificial environment in which the study was conducted, and the fact that participants were not incentivised to adopt performance goals in either of the tasks means it provides relatively weak evidence that personality variation is goal-directed. Nevertheless, collectively, the evidence discussed here supports the notion of adaptive personality variation. Specifically, one function of personality states appears to be to enable individuals to meet the various norms and expectations of the varying social roles and situations they occupy, attain their goals, and improve their performance.

3.2.2. Maladaptive personality variability.

The evidence discussed above demonstrates that personality variability can be adaptive. However, not all personality variation is adaptive. Indeed, there is some evidence to suggest that personality variation can be maladaptive. Personality variability can be said to be maladaptive to the extent to which it is detrimental or harmful to the successful functioning of individuals in their environment.

The primary area of research in which personality variation has been shown to have maladaptive consequences is within interpersonal interactions. Interpersonal spin refers to the amount of behavioural variability expressed during interpersonal interactions across situations and over time. Research conducted within the workplace has shown that increased variation along the

behavioural dimensions of agency and communion (which are associated with extraversion and agreeableness, respectively; McCrae & Costa, 1989; Wiggins & Trapnell, 1997) is negatively related to the quality of workplace social relationships (Côté, Moskowitz, & Zuroff, 2012). Excessive variability within interpersonal interactions can be seen as a sign of irrationality and instability (Allgeier, Byrne, Brooks, & Revens, 1979), and there is evidence to suggest that employees avoid individuals with high interpersonal spin due to the negative affect experienced following an interaction with these individuals (Côté et al., 2012).

However, even within the domain of interpersonal interactions one can think of circumstances in which personality variation could serve an adaptive function for the individual. For example, the personality states one might choose to express when interacting with a friend in a lively social environment such as a party, would likely be inappropriate when trying to offer that friend emotional support following a difficult or upsetting life event. In support of such reasoning, Paulhus and Martin (1988) found that *'functional flexibility'* – defined as one's capacity to execute a wide range of social behaviours as appropriate to their current situation – was positively associated with psychological wellbeing, which is positively associated with social relationship quality (e.g., Segrin & Taylor, 2007).

The other way in which personality variability might not be considered adaptive relates to the implications of the potential cognitive demands associated with expressing personality states that deviate from one's natural or preferred style. For example, B. R. Little (2008) argued that even when personality variability appears to serve an adaptive function – such as enabling individuals to

meet a situational goal or fulfil the expectations of a particular social role – the effortful control required to work against one’s natural tendencies means that such *contra-trait behaviour* can be cognitively depleting. Over time, this may well have implications for wellbeing, satisfaction, authenticity, and even one’s physical health. The following chapter of this thesis will explore this possibility in greater depth.

3.3. An Individual Difference?

The previous sections provide strong evidence that personality variability not only exists, but is also meaningful. This variability can serve an adaptive function for the individual; however, this is not always the case and some personality variation appears to have maladaptive consequences. It is possible that this reflects an individual difference with respect to the extent to which people are able and/or willing to utilise variation in their personality states for adaptive functions. One would expect that such an individual difference would be able to explain incremental variance beyond trait scores because it would account for specific instances of performance rather than average performance alone.

Within psychology, individual differences reflect reliable and consistent between-person differences in psychological attributes that are assumed to be useful for understanding people and predicting behaviour (D. M. Buss & Greiling, 1999). Thus, to qualify as an individual difference, both between-person variation and within-person stability in personality variability must be demonstrated. Previous research has provided evidence to support this with respect to both the amount of personality variation that occurs, and the nature of this variation. Evidence for each of these shall be explored in turn.

3.3.1. Between-person differences in the amount of personality variability.

Experience-sampling studies, which examine the manifestation of personality in behaviour repeatedly over time, have demonstrated that some individuals vary their personality expression more than others (e.g., Fleeson, 2001, 2007; Fleeson & Gallagher, 2009; Minbashian et al., 2010). Importantly, this difference also appears to remain stable over time. For example, Fleeson (2007) sampled participants *in situ* multiple times per day over a two to five week period. Amongst other things, individuals were asked to report on their state levels of extraversion, neuroticism, and conscientiousness. Results demonstrated that, along with sizeable between-person differences, the amount of within-person variation in personality expression remained considerably stable from one week to the next ($r = .64 - .75$).

Minbashian et al. (2010) reported similar findings when examining estimates of within-task conscientiousness longitudinally, and McCabe and Fleeson (2012) found that even when pursuing the same extraversion-related goals, individuals manifest extraverted personality states to differing degrees. For example, there was a significant positive association between pursuing the goal of trying to entertain someone, and state extraversion ($\beta = .45, p < .01$), suggesting that when pursuing this goal, participants reported acting in a more extraverted way than they did on other occasions. However, the associated standard deviation was also significant ($SD = .013, p < .01$), demonstrating that participants differed from one another in their associations between trying to entertain someone and state extraversion, meaning that not all participants utilised extraverted states to the same degree when pursuing this goal.

Such findings suggest that some people have the capacity, or at least the propensity, for more personality variation than others. Such an interpretation is supported by evidence from the unpublished doctoral work of Cook (2016) introduced above (see section 3.2.1.). By implementing a within-person design in which participants were required to participate in two tasks, each requiring personality states consistent with opposing poles of extraversion, Cook (2016) was able to make across-person comparisons with respect to participants' ability to vary their personality states across the entire span of extraversion in order to meet situational demands. Results demonstrated that there were indeed substantial differences across individuals with respect to their ability to vary their personality states in order to conform to task requirements, which can be taken as indicative of an individual difference (Cook, 2016). For example, on a five-point rating scale, 35% of participants varied their extraversion states to the equivalent of less than one scale point across the two tasks, while 24% of the sample exhibited behaviour changes equivalent to a shift of between 2 and 3 scale points across the two tasks. Crucially for the current discussion, because participants were given instructions on the behaviour most likely to lead to success in each task (i.e., extraverted and introverted adjective descriptors for the first and second tasks, respectively), this suggests that observed differences in the range of personality variation exhibited across the tasks reflect differences in an individual's ability and/or motivation to execute this required behaviour, as opposed to a misunderstanding of task requirements. Cook's (2016) findings arguably provide the strongest evidence available to date that the ability to adapt one's personality to attain desired outcomes might be underpinned by an individual difference. However, this finding is extremely tentative as the sole

focus on extraversion within these two tasks means the extent to which this apparent individual difference is stable and generalises to other personality traits and situations are unknown.

3.3.2. Between-person differences in the nature of personality variability.

In addition to varying with respect to the amount of personality variation, there is also evidence that individuals differ with respect to the nature of their personality variation. Density distributions of personality states derived from experience-sampling studies differ across individuals not only with respect to their size, but also with respect to their shape (e.g., Fleeson, 2001, 2007; Fleeson & Gallagher, 2009; Sherman et al., 2015). For between-person differences in the nature of personality variation to be attributed to an underlying individual difference, it is necessary to establish that these differences amount to more than situation variation.

In the previous section of this chapter, evidence demonstrating that situation characteristics can predict changes in personality states was presented (e.g., Fleeson, 2007; Fournier, Moskowitz, & Zuroff, 2008; Furr & Funder, 2004). Different people will encounter different situations over the course of a typical week of their lives (e.g., Sherman et al., 2010; Srivastava, Angelo, & Vallereux, 2008). It is therefore plausible that between-person differences in the shape of density distributions of personality states reflect between-person differences in situations encountered.

Fleeson and Law (2015) provide evidence to the contrary. These authors conducted an experience-sampling study under laboratory conditions to allow

them to standardise situations across participants. Such a design enabled a comparison of how individuals vary their personality states in response to the *same* situational demands. Participants engaged in a number of different tasks, over a number of weeks, that reflected situations commonly encountered in everyday life, during which trained observers rated the participants' personality states. Results demonstrated that even within the same, highly controlled situations, there are between-person differences with respect to the nature of personality states expressed. Given that these differences cannot be attributed to external differences (as all participants experienced the same situations), these results suggest that personality variation is also governed by one or more internal individual difference(s).

There is also evidence that these findings generalise outside of the laboratory. Sherman et al. (2015) utilised a traditional experience-sampling methodology, in which participants were prompted to rate characteristics of their situation and concurrent personality states multiple times a day over the course of a week of their everyday lives. The authors reported differences with respect to the nature of personality states reported by participants in response to the same situation characteristics. For example, while some participants reported increasing their agreeableness states as perceived situation friendliness increased, other participants reported the opposite pattern, instead decreasing their agreeableness states in response to increasing situation friendliness. Although it was beyond the scope of the study to investigate reasons for this, it is plausible that observed behavioural differences reflect differences in situational goals. For instance, perhaps individuals who reported an increase their agreeableness states were seeking to develop social bonds, whilst those who reported a decrease in

their agreeableness states were seeking to minimise social interactions. Such differences may well be governed by an individual difference.

The notion of an individual difference underpinning personality variability is consistent with whole trait theory (WTT; Fleeson & Jayawickreme, 2015). Specifically, WTT asserts that between-person differences in situation appraisal might be one potential mechanism governing such an individual difference. Differences in situation interpretation would likely have direct consequences for the perceived adaptiveness of particular personality states. In support of such reasoning, Fleeson and Law (2015) observed a significant between-person difference in situation interpretation across all eight of the situation characteristics measured in their study. There is some evidence to suggest that these differences are related to trait standing scores (Rauthmann, 2012; Serfass & Sherman, 2013; Sherman et al., 2015). For example, Sherman et al. (2015) demonstrated empirically that personality traits influence situation experiences, which, in turn, impact behaviour (e.g., individuals high in trait extraversion are more likely to rate a situation as high in sociability, resulting in the enactment of more extraverted personality states).

However, despite the role of personality traits in situation appraisal, previous research has demonstrated that they are not significantly related to individual differences in situation-behaviour contingencies (e.g., Sherman et al., 2015). In other words, while traits might be able to explain why individuals *interpret* situations differently, they are unable to account for between-person differences in subsequent behaviour. For example, although having a high trait standing extraversion score is likely to lead individuals as interpreting situations as requiring more extraversion, extraversion does not predict resulting

personality states (Sherman et al. 2015). The fact that personality states vary consistently within and between individuals and in a manner that is not accounted for by existing explanations suggests that an additional and as yet unexplored individual difference might be at play.

3.4. Summary

In conclusion, this chapter has presented evidence that demonstrates not only that personality variation exists, but also that it is substantial and meaningful. In addition, individuals differ consistently and reliably with respect to both the nature and extent of their personality variation. Past research suggests a number of specific mechanisms underlying such differences including situations (e.g., Fleeson & Law, 2015) and personality traits (e.g., Sherman et al., 2015; Wilt, Nofle, Fleeson, & Spain, 2012). However, these do not tell the whole story. Indeed, there is reason to believe that at least some personality variation may be determined by an individual difference. The next chapter in this thesis will further consider the viability for such an individual difference, and present a testable theoretical framework that can be used to examine proof of concept.

Chapter 4

Adaptive Personality Regulation

The preceding chapters of this literature review explored both traditional approaches to the study of personality as well as more recent developments within the field. Specifically, in chapter 2, the trait approach to personality was introduced. Strengths and limitations of this approach were considered, with an emphasis on personality and prediction. This was followed by a review of theoretical and empirical advancements in the field that have documented the dynamic and variable nature of personality. The previous chapter concluded with a review of the now substantial body of evidence that suggests: (i) personality variability exists; (ii) personality variability is meaningful; and (iii) there are consistent and reliable between-person differences with respect to both the frequency and type of personality variation that occurs.

The current chapter builds on this discussion, drawing these findings together to consider whether individual differences in a newly proposed construct, here termed *adaptive personality regulation*, might provide improved prediction of performance and account for incremental variance above and beyond mean level personality profiles. For the purposes of this thesis, adaptive personality regulation is defined as, “*an individual difference that reflects the extent to which people are able to successfully regulate their expression of personality in order to maximise goal attainment in their current situation*”.

This construct can be understood with respect to four key characteristics. Specifically, adaptive personality regulation (i) is underpinned by a regulatory mechanism; (ii) is adaptive by nature; (iii) is an individual difference; and (iv)

generalises across personality traits and situations. The present chapter begins by positioning this construct within the extant literature. The remainder of the chapter considers each of the key characteristics of adaptive personality regulation in turn, and introduces a testable theoretical framework. This framework gives rise to a set of criteria against which proof of concept for this newly proposed construct should be evaluated.

4.1. Positioning of the Research

As is the case with any newly proposed construct, it is first necessary to position adaptive personality regulation within the extant literature so as to demonstrate that its theoretical grounding is consistent with extant work, and indeed builds upon it, to offer incremental theoretical clarity (c.f., Mayer, Panter, & Caruso, 2012). The preceding chapters discussed both traditional trait approaches to personality and more recent developments in the field that highlight the dynamic nature of personality. It was noted that most researchers today acknowledge that both traits and situations are important predictors of behaviour (e.g., DeYoung, 2015; Fleeson & Jayawickreme, 2015; Judge & Zapata, 2015; Mischel & Shoda, 2008; Tett & Guterman, 2000).

Although there is substantial within-person variation in personality expression, the existence of stable personality traits is nonetheless evidenced by the behavioural consistency that is observed when personality states are examined repeatedly over time (Fleeson & Gallagher, 2009; Fleeson & Law, 2015; Sherman et al. 2015). Indeed, research suggests that stable individual difference factors account for around 35% of the variation in behaviour (e.g., Fleeson & Gallagher, 2009; Sherman et al., 2015). However, situation characteristics, as well as other factors such as motivation, goals, and social

norms, put pressure on individuals to behave in a way that is not necessarily aligned with their preferred style, resulting in variability in personality expression.

Adaptive personality regulation is consistent with these ideas. Like other theoretical frameworks that embrace the dynamic nature of personality, such as whole trait theory (WTT; Fleeson & Jayawickreme, 2015) and cybernetic Big Five theory (CB5T; DeYoung, 2015), adaptive personality regulation recognises the existence of both stable personality traits reflecting preferred patterns of thoughts, feelings, and behaviour (Funder, 2001, p.1), and meaningful variation in personality expression in response to internal and external pressures (Fleeson & Gallagher, 2009; Judge et al., 2014; Sherman et al., 2015). In addition, adaptive personality regulation also has the potential to address a number of questions from the field of personality that currently stand unanswered. For example, what can account for the sizeable between-person differences in both the size and nature of personality variability (e.g., Fleeson, 2001, 2007; Nofle & Fleeson, 2010)? If personality traits are unable to explain individual differences in situation-based contingencies (Sherman et al., 2015), then what can? Why does some personality variability appear to be adaptive (e.g., McCabe & Fleeson, 2012), and some maladaptive (e.g., Côté et al., 2012)? And how can we capitalise on new insights into the dynamic nature of personality to enhance its predictive power? The remainder of this chapter will explain how adaptive personality regulation has the potential to answer these and many other currently unanswered questions in the field of personality research.

4.2. Adaptive Personality Regulation

In this thesis, adaptive personality regulation is defined as an individual difference that reflects the extent to which people are able to successfully regulate their expression of personality in order to maximise goal attainment in their current situation. Examples of adaptive personality regulation in action would be the introverted employee who behaves in a highly extraverted manner when at a work networking event in order to meet his goal of establishing new contacts; or the student, characteristically low in conscientiousness, who puts together a revision timetable and adheres to it diligently to help ensure successful exam performance.

Defining adaptive personality regulation in this way highlights four key characteristics of this newly proposed construct. Specifically, adaptive personality regulation: (i) is underpinned by a regulatory mechanism; (ii) is adaptive; (iii) is an individual difference; and (iv) generalises across personality traits and situations. The following sections will explore each of these characteristics in turn, drawing on both the extant literature and novel theorising to present a testable theoretical framework of adaptive personality regulation. After each key characteristic has been described, the evidence needed to demonstrate proof of concept for each aspect of adaptive personality regulation is presented.

4.2.1. Key characteristic #1: Adaptive personality regulation is underpinned by a regulatory mechanism.

The first, and arguably most fundamental, proposed characteristic of adaptive personality regulation is that it is a process that is underpinned by a

regulatory mechanism. Self-regulation can be defined as the control of one's thoughts, feelings, and behaviour in order to achieve or maintain a desired state or outcome (Baumeister, Gailliot, DeWall, & Oaten, 2006; Carver & Scheier, 2001; Denissen, Aken, Penke, & Wood, 2013). Traditional conceptualisations of personality would generally be incompatible with a regulatory framework (c.f., Block, 2002). However, personality theorists are increasingly acknowledging the relevance of regulatory or cybernetic systems for a comprehensive understanding of personality theory (e.g., DeYoung, 2015; P. Gallagher, Fleeson, & Hoyle, 2011; Hoyle, 2006; Mayer, 2005). Indeed, DeYoung (2015) recently asserted that, "*any adequate theory of personality must be based in cybernetics*" (p. 33). Such a change is largely the result of the increasing recognition that personality variability is meaningful, and not necessarily incompatible with the existence of stable underlying personality traits as was once assumed (Fleeson, 2001; Fleeson & Gallagher, 2009; P. Gallagher et al., 2011; McCabe & Fleeson, 2012; Nofle & Fleeson, 2015; Wilt et al., 2012) (see chapter 3).

The process of self-regulation is often conceptualised as a cycle, comprised of multiple component stages (e.g., Carver & Scheier, 1982; DeYoung, 2015; Denissen et al., 2013). A diagrammatical representation of this cycle, based on the seminal work of Carver and Scheier (1982) is presented in Figure 4.1.

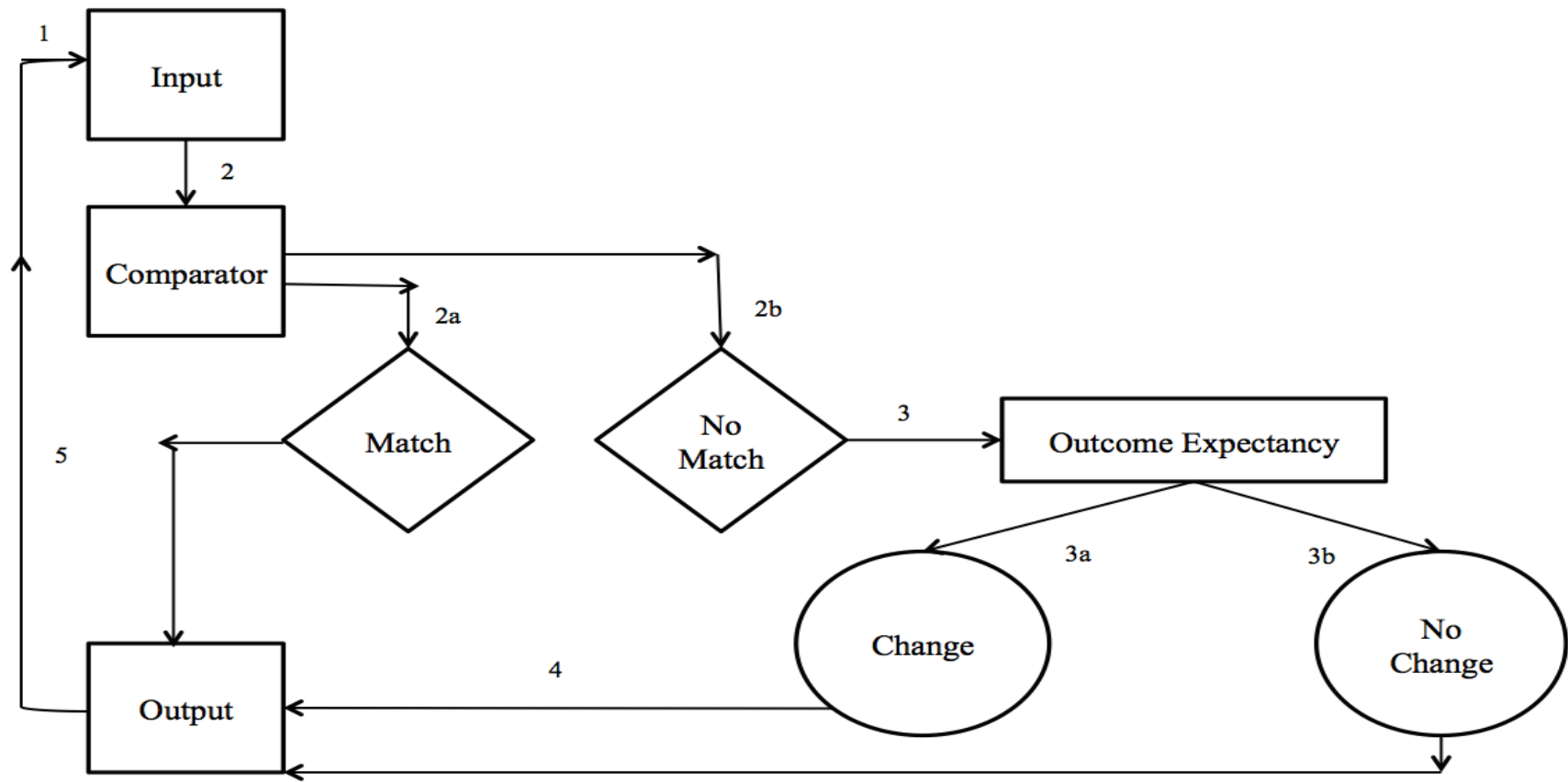


Figure 4.1. Model of self-regulation (adapted from Carver and Scheier, 1982).

The self-regulation cycle begins with an input that involves an assessment of information regarding one's current state (1). This information is then compared to some internal reference or knowledge structure the individual has about what states are most appropriate given their situation and concurrent goals (2). This comparison will result either in a match (2a) or a mismatch (2b). If there is a match, the individual will maintain their current state, outputs will be evaluated and the cycle will continue until there is a discrepancy between extant and desired states. However, if there is a mismatch then the individual must consider whether to attempt to change their current state (3). The outcome expectancy reflects an individual's perception of the likelihood that desired regulation could be executed given the current situation and available resources. Ultimately, this will either result in an attempt to regulate one's current states (3a), or not (3b). If the desired change is considered unattainable, then the cycle will continue, with individuals likely monitoring their goals and/or expectations, or withdrawing (either physically or psychologically) from the situation altogether in order to reduce this discrepancy during the next cycle. If the desired change is considered attainable, then the individual will attempt to execute this through self-regulation (4). The output that results from this change will then be interpreted in order to establish whether or not it has had the desired effect (5). This information feeds directly back into the input function and the cycle will begin again. If the previous goal has not been accomplished then the knowledge structure will once again be consulted for an alternative strategy. If the previous goal has been accomplished then a new goal will emerge².

² Although this model suggests self-regulation is a serial process, in reality many of the psychological processes actually occur simultaneously (DeYoung, 2015). For example, the processes of interpreting feedback from external cues, and comparing what is perceived to

This can be considered in more detail by returning to the example of the introverted employee at a networking event that was introduced above. On arrival, the employee will reflect on his environment, as well as his goals for the networking event and his ongoing thoughts, feelings, and behaviour (input). As an introvert, the employee may feel shy or nervous in a new environment, and uncomfortable about the prospect of having to be the centre of attention and engage in conversation with people he does not know. However, the employee recognises that if he is to achieve his goal of establishing at least five new business leads, he will need to overcome his shyness and behave in a confident and outgoing manner (comparator). Due to the mismatch between his current and desired state, the employee will consider the likelihood that he can change his state in the desired direction (outcome expectancy). The employee may reason that although this particular event is novel to him, he has had success at several similar events in the past. He may recall some conversation starters that have been recommended to him by colleagues, or that have worked favourably for him in the past. As a result, the employee feels confident that he can manifest more extraverted states and makes an attempt to regulate his personality accordingly. The employee may approach a group of individuals and introduce himself, making an effort to appear confident, relaxed and outgoing (output). Based on feedback from his environment (e.g., whether or not the individuals he has chosen to engage with respond as anticipated), the employee will continue to evaluate his ongoing states and their appropriateness for goal attainment.

what is desired are almost continuous processes that will often happen in parallel with other processes such as situation selection and action selection.

The above example illustrates how the process of personality regulation might occur. If adaptive personality regulation were to be underpinned by such a process, then it follows that adaptive personality regulation should be (i) goal-directed, and (ii) a conscious, controlled process. Evidence for each of these assumptions shall be explored in turn below.

4.2.1.1. Adaptive personality regulation is a goal-directed process.

Self-regulation is a goal-directed process, meaning that it serves to assist the individual in attaining some desired state or outcome (e.g., Carver & Scheier, 1982). In the context of adaptive personality regulation this would suggest that individuals regulate their expression of personality in order to assist them in achieving situational goals.

The idea that goals can influence one's behaviour is not novel (e.g., Grant & Dweck, 1999; Mace, 1935; T. A. Ryan, 1970). Goals serve a directive and energising function, focusing attention toward goal-relevant information, and channelling effort towards goal attainment (Locke & Latham, 2002). There is a considerable body of work demonstrating that variation in personality states is associated with goals (Heller et al., 2007; Huang & Ryan, 2011; McCabe & Fleeson, 2012; McCabe, Van Yperen, Elliot, & Verbraak, 2013; Minbashian et al., 2010; Nikitin & Freund, 2013). This was discussed in detail in the previous chapter (see section 3.2.1.). Briefly, goals have been shown to account for a considerable majority of the variance in personality states (~ 74%; McCabe & Fleeson, 2012), and different personality states are implicated in the pursuit of different types of goals (Heller et al., 2007; McCabe et al., 2013; Nikitin & Freund, 2013).

Goal-directed personality variation is also evidenced in the literature on self-monitoring. Self-monitoring concerns the regulation of personality expressions in social situations due to a desire to make a good impression on others and receive positive feedback (Snyder & Gangestad, 1986). Self-monitoring is conceptualised as an individual difference, and those high in self-monitoring are highly perceptive to social cues and can easily adapt their behaviour accordingly. For example, previous research has demonstrated that interviewers perceive high self-monitors as less anxious and more competent than low self-monitors (Levine & Feldman, 2002).

It is evident that there is considerable conceptual overlap between self-monitoring and adaptive personality regulation. Indeed, both processes involve the conscious regulation of personality states for the purpose of goal attainment. The fundamental difference is with respect to the scope of the two constructs. While self-monitoring is exclusively focused on goals related to self-presentation in social contexts, adaptive personality regulation is much broader in scope and is applicable to a wide range of goals and contexts. Given that in many contexts, impression management serves an adaptive function for the individual (e.g., Levine & Feldman, 2002; Snyder & Gangestad, 1986), self-monitoring might be best conceptualised as a specific type of adaptive personality regulation. Preliminary findings by Cook (2016) support such an interpretation. Cook conducted a field study in which live comedy performances of professional comedians were assessed by industry experts in order to examine participants' ability to flex their personality states from their mean level position in order to deliver a successful stand-up performance. This phenomenon was termed

'personality adaptability' and results established its independence from self-monitoring³.

4.2.1.2. Adaptive personality regulation is a conscious, controlled process.

Positing that adaptive personality regulation is underpinned by a regulatory mechanism also suggests that it is a conscious and controlled process (Carver & Scheier, 1982; Higgins, 1987; Muraven & Baumeister, 2000; Pyszczynski & Greenberg, 1987). Several prominent theoretical models highlight the role of conscious intention in adopting desired behaviours or states (e.g., Theory of Planned Behaviour, Ajzen, 2002; Social Cognitive Theory, Bandura, 1986). Intuitively, it makes sense that if an individual wishes to enact personality states that are not aligned with his or her preferred or typical style, then they will need to consciously control or manage themselves in order to attain their desired outcome. For instance, in order to make new friends, a naturally shy individual will need to purposefully manage his or her feelings of shyness in order to force themselves to approach new people.

Research supports the assertion that personality states can be consciously regulated on demand, according to instructions provided by researchers (e.g., Cook, 2016; Fleeson & Wilt, 2010; P. Gallagher et al., 2011; McNiel & Fleeson, 2006). For example, McNiel and Fleeson (2006) had participants undertake two tasks. In one of the tasks, participants were instructed to enact states typical of someone high in extraversion. In the other tasks, participants were instructed to

³ Although Cook (2016) did not present personality adaptability as a regulatory process *per se*, very little theoretical work was actually undertaken at all. It is the current author's contention that the phenomenon of personality adaptability is best accounted for by the model of adaptive personality regulation presented here.

enact states typical of someone low in extraversion. The authors reported significant differences in the level of extraversion displayed by participants across the two tasks. Similar results were also reported for neuroticism. What is more, the authors noted that the personality states participants' enacted had significant implications for their affective state, demonstrating the impact of the process. Such evidence highlights that individuals at least have the *ability* to consciously control the personality states manifested in their behaviour.⁴

Although initially self-regulation requires conscious intention, when acts of self-regulation are repeated over time in the same context, they can become automatised, requiring relatively little or no conscious control in order to be executed (Denissen et al., 2013; Mauss Bunge, & Gross, 2007). Automatised behaviours are characterised by efficiency and a lack of intention and awareness (Bargh, 1994), and as such are able to initiate desired behaviour effortlessly under certain conditions that would otherwise require conscious effort and induce fatigue. In this way, automatised behaviours enable individuals to achieve goals more effectively (Baumeister, Heatherton, & Tice, 1994). P. Gallagher et al. (2011) found some evidence to suggest that personality regulation operates in a similar way. Here, participants were instructed to manifest contra-trait behaviours (i.e., states that are contrary to one's natural or preferred style) and trait-typical behaviours (i.e., states that are aligned with one's natural or preferred style) in a series of laboratory tasks. Subsequent effort ratings revealed that although individuals generally found contra-trait behaviours more effortful than trait-typical behaviours, this was not true for contra-trait behaviours that

⁴ It should be noted that such evidence has only considered individuals' ability to control the personality states they manifest for a relatively short period of time. The extent to which individuals are able to sustain this over a prolonged period remains a question for future research. This is discussed further in section 4.2.2. of this chapter.

were considered to be habitualised (i.e., performed regularly and often in the same context or environment). Indeed, habitualised contra-trait behaviours were judged to be no more effortful than trait-typical behaviours. Similarly, findings from the emotion regulation literature have demonstrated that the cognitive demands associated with emotion regulation can be diminished with structured practice (Christou-Champi, Farrow, & Webb, 2015). Thus, like emotion regulation, adaptive personality regulation might best be viewed to exist on a continuum from conscious, controlled regulation to unconscious, automatic regulation (Bargh, 2014).

As automatic processing occurs much faster and relies on far fewer cognitive resources than conscious processing (Leary, Adams, & Tate, 2010), if adaptive personality regulation can become easier with practice over time then one would expect to see positive changes over the lifespan. There is evidence to suggest that this is the case. That personality traits increase in a socially desirable direction as people age is well established within the literature (.g., Lucas & Donnellan, 2011; Ozer & Benet-Martínez, 2006; Roberts & Wood, 2006; Soto, Perez, Kim, Lee, & Minnick, 2011; Whitbourne, 1999). As noted above, socially desirable behaviour is generally considered to be adaptive, given the advantages such behaviour can afford with respect to social support networks, relationship quality, etc. Due to their positive outcomes, socially desirable behaviours are more likely to be reinforced. For example, an individual may recognise that expressing more extraverted and more agreeable personality states helps them form new relationships more quickly. Although in the beginning such behaviour is expected to require close monitoring, over time the repetition can turn this deliberate behaviour into an automatic one that no longer requires conscious

regulation, but rather is executed automatically when triggered by certain contextual cues i.e., the presence of individuals one does not know but wishes to get to know (Hudson & Roberts, 2016; Hudson, Roberts, & Lodi-Smith, 2012; Lodi-Smith & Roberts, 2007). Once automatised, there will no longer be an incongruence between an individual's preferred and desired behaviour. In other words, the individual no longer has to overcome his or her introversion in order to act extraverted and make new friends; they simply manifest extraverted states automatically when in a contextually similar situation in which their goal is to make new friends. The automaticity of this behaviour not only means it is expected to be enacted more frequently, but also that it likely becomes part of individuals' self-concepts, which is subsequently reflected in individuals' self-report personality ratings (Magidson, Roberts, Collado-Rodriguez, & Lejuez, 2014; Roberts & Jackson, 2008). Thus, adaptive personality regulation potentially offers an intuitive explanation for why personality traits change in a socially desirable direction over the lifetime.

Collectively the evidence considered in this section supports the conceptualisation of adaptive personality regulation being underpinned by a regulatory mechanism. However, adaptive personality regulation is yet to be explicitly examined empirically. Demonstrating proof of concept with respect to this characteristic of adaptive personality regulation will require explicit evidence of the following:

- *Adaptive personality regulation is goal-directed*
- *Adaptive personality regulation is a conscious, controlled process*
- *Adaptive personality regulation becomes more efficient with practice*

4.2.2. Key characteristic #2: Adaptive personality regulation serves an adaptive function.

The second proposed key characteristic of adaptive personality regulation concerns the adaptive nature of the construct. Adaptive personality regulation is posited to be adaptive in that it helps individuals achieve desired outcomes, meaning that it serves an adaptive function. Specifically, adaptive personality regulation enables individuals to utilise self-regulation of their personality traits in order to attain situational goals (see section 4.2.1.1.). Over time, the attainment of such goals would also be expected to be associated with broader adaptive outcomes such as job success, relationship quality, psychological wellbeing, and life satisfaction. This characteristic of adaptive personality regulation distinguishes it from personality variability more generally, some forms of which are neither adaptive, nor regulatory in nature (e.g., Côté et al., 2012; Miskewicz et al., 2015).

The distinction between adaptive and maladaptive personality variability was considered in the previous chapter (see section 3.2.). Briefly, while there is a considerable body of evidence that suggests personality variability can take the form proposed by adaptive personality regulation (Bleidorn, 2009; Fleeson, 2007; Fleeson & Law, 2015; Fournier et al., 2002; Heller et al., 2007; Judge et al., 2014; McCabe & Fleeson, 2012; Minbashian et al., 2010; Moskowitz et al., 1994; Sherman et al., 2015), there are also examples of personality variation in the literature where this does not hold true. For example, high levels of variability during interpersonal interactions have been shown to be associated with lower quality social relationships (Côté et al., 2012), and excessive

personality variation has also been linked with personality disorders such as Borderline Personality Disorder (Miskewicz et al., 2015).

It is possible that such examples reflect poor adaptive personality regulation. Specifically, while individuals high in adaptive personality regulation regulate their expression of personality in a conscious, goal-directed manner, individuals low in adaptive personality regulation would be posited to vary their expression of personality less systematically and often without a goal in mind. Such reasoning is supported by research demonstrating that personality variability *can* be adaptive even within interpersonal interactions when executed systematically (e.g., Paulhus & Martin, 1988). Further, within the emotion regulation literature, research has shown that while maladaptive emotion regulation (i.e., emotion regulation strategies that are ultimately detrimental to an individual's functioning) tends to be consistently detrimental, adaptive emotion regulation strategies are more context dependent, requiring individuals to be flexible, or *adaptable* in their implementation (Aldao & Nolen-Hoeksema, 2012).

Thus, previous literature supports the distinction between adaptive and maladaptive personality variability. This raises the question of which factors, or antecedents, distinguish adaptive personality variation from maladaptive personality variation. To the author's knowledge this issue has received surprisingly little attention in the literature to date (Nofle & Fleeson, 2015). One possibility is that, rather than being the result of a conscious act of self-regulation, some personality variability is reactive and unplanned, triggered by hypersensitivity to external cues. Research considering explanations for maladaptive variability in individuals high in negative affect (Judge et al., 2014)

and with Borderline Personality Disorder (Miskewicz et al., 2015) offers some support for this line of reasoning.

It is important to note that in order to be considered truly adaptive, the positive outcomes of adaptive personality regulation (i.e., goal attainment) should not come at a cost that is ultimately detrimental to the individual. In the previous chapter it was noted that some researchers have suggested that consistently enacting personality states that are not aligned with one's underlying trait scores will not be sustainable, due to the associated cognitive demands (e.g., P. Gallagher et al., 2011; B. R. Little, 2008). To the author's knowledge there has been relatively little empirical work explicitly examining this. However, the work of P. Gallagher et al. (2011) demonstrates that individuals find the manifestation of personality states that are different from their trait standing position more effortful than those that are aligned with their trait standing position, at least for non-habitualised behaviours (see section 4.2.1.2.). If sustained personality regulation does have maladaptive consequences, then individuals high in adaptive personality regulation would be expected to be able to sustain personality regulation for longer periods and/or with fewer negative repercussions. To account for this, it seems likely that individuals high in adaptive personality regulation are advantaged by (a) a greater capacity for personality regulation, enabling these individuals to sustain contra-trait behaviours for a longer period of time without experiencing cognitive fatigue and/or (b) an ability to automatise personality regulation more quickly, meaning less effort is required to execute contra-trait behaviours thereby diminishing the

chances of cognitive fatigue⁵. Although empirical research is needed to determine the precise mechanisms underlying this, one possibility is that individual differences in self-control play a role here. This possibility is explored further in section 4.3.7.2. of this chapter.

Thus, demonstrating proof of concept with regard to the adaptive nature of adaptive personality regulation will require empirical evidence that:

- *Adaptive personality regulation is associated with adaptive outcomes*
- *Not all personality variation is adaptive*
- *Individuals high in adaptive personality regulation are less susceptible to the potentially maladaptive consequences of sustained personality regulation than individuals low in the construct*

4.2.3. Key characteristic #3: Adaptive personality regulation is an individual difference.

The third proposed key characteristic of adaptive personality regulation is that it is an individual difference. In psychology, individual differences refer to stable between-person differences in psychological attributes that can be used to better understand people and their behaviour (D. M. Buss & Greiling, 1999). An individual difference in adaptive personality regulation would reflect stable between-person differences with respect to an individual's ability to adaptively regulate his or her expression of personality across situations to maximise goal attainment. Such an individual difference could help explain the mechanism

⁵ It is of note that a similar issue is the subject of debate in the wider self-regulation literature. Self-control researchers are yet to determine whether individuals higher in self-control are better at regulating their behaviour because they are more efficient at regulation, or because they have a larger self-control resource, meaning they are able to use more self-control before their resource becomes depleted.

underpinning adaptive personality variation, as well as potentially explain incremental variance in behavioural outcomes such as performance.

Evidence to suggest that there are individual differences in personality variability was discussed in the previous chapter (see section 3.3.). Briefly, previous research has demonstrated that there are sizeable between-person differences in personality variability (g., Fleeson, 2007; Fleeson & Gallagher, 2009; Heller et al., 2007; Judge et al., 2014; McCabe & Fleeson, 2012). Experience-sampling studies have demonstrated that there are considerable between-person differences in patterns of within-person variation in personality expression (e.g., Fleeson, 2007; Fleeson & Gallagher, 2009; Heller et al., 2007; Judge et al., 2014; McCabe & Fleeson, 2012). Specifically, when density distributions of state manifestations in behaviour are compared across individuals, there are sizeable differences not only with respect to the location of these distributions (reflecting mean level personality differences), but also with respect to their size and shape (e.g., Fleeson, 2001, 2007; Fleeson & Gallagher, 2009). In other words, individuals reliably differ from one another with respect to both the *amount* their personality states vary, and the *nature* of this variation. Crucially, these differences also appear to remain stable over time. For example, Fleeson (2001) reported that when density distributions of individual's state manifestations are examined over time, both the central tendencies of these distributions and the variation around those means are highly correlated from one week to the next ($r = .93 - .97$, and $r = .72 - .85$, respectively).

Findings that these differences in personality variation cannot be sufficiently explained by either situations (e.g., Fleeson & Law, 2015) or personality traits as conceptualised by the Big Five (e.g., Sherman et al., 2015),

suggest that additional factors are at play. An individual difference in adaptive personality regulation might be one such factor. Individuals high in adaptive personality regulation have the capacity for ample variation in their personality expression. However, high levels of variation in personality expression are not necessarily indicative of high levels of adaptive personality regulation. This is because the amount of variation enacted in behaviour would be dependent on the extent to which situational demands and momentary goals require the manifestation of different personality states for success. As suggested above, any variation in personality that is not goal-directed is unlikely to be adaptive and as such would likely reflect variation of those individuals low in adaptive personality regulation.

For adaptive personality regulation to be considered a viable individual difference, it will also be necessary to establish its discriminant validity from other theoretically similar constructs already identified in the extant literature. Table 4.1 presents a list of the constructs most closely related to adaptive personality regulation, and explains how they are considered conceptually distinct. For example, as been discussed previously, personality traits describe an individual's preferred pattern of thoughts, feelings, and behaviour, but do not provide any insight into the extent or nature of any variation in personality expression that may occur. In contrast, while adaptive personality regulation does not reflect typical or preferred styles, it does indicate the extent to which an individual is able to regulate their personality traits away from their preferred position when desired. Nevertheless, the distinction between adaptive personality regulation and personality traits (as well as the other constructs identified in

Table 4.1) will need to be demonstrated empirically to establish discriminant validity of adaptive personality regulation.

Thus, establishing proof of concept for this key characteristic of adaptive personality regulation will require evidence of the following:

- *Adaptive personality regulation scores vary across individuals*
- *Adaptive personality regulation is conceptually distinct from similar constructs previously identified in the literature*

Table 4.1.

Table of Constructs Similar to Adaptive Personality Regulation and Theoretical Points of Distinction

Construct Label	Definition	Distinction from Adaptive Personality Regulation
Personality Traits	Stable patterns of thought, feeling, and behaviour.	Personality traits indicate an individual's preferred response style. Adaptive personality regulation concerns the extent to which an individual is able to regulate their personality states away from this when conducive to goal attainment.
Self-Control	An individual's capacity to suppress dominant or preferred response styles.	Self-control is concerned with the suppression of dominant responses. Therefore, while it is able to account for how an individual might be able to suppress their trait expression it is unable to adequately account for the up-regulation of the desired personality expression.
Self-Regulation	One's ability to monitor, evaluate and direct behaviour in a desired direction.	Regulation is an integral part of adaptive personality regulation. However, self-regulation has not previously been conceptualised in relation to personality. Adaptive personality regulation utilises this system but specifically to explain variation in personality states.
Self-Monitoring	Regulation of one's behaviour for the purposes of impression management.	Although the mechanisms supporting self-monitoring and adaptive personality regulation are expected to be the same, self-monitoring only relates to the goal of impression management, whereas adaptive personality regulation can be utilised to pursue a wide array of goals across multiple different contexts.
Intelligence	An individual's cognitive ability, reflecting the speed at which they are able to execute a range of processes including the encoding, storing, processing, and retrieval of information from memory.	As currently conceptualised intelligence is not purported to relate to the regulation of one's personality states. However, higher levels of intelligence would be expected to be advantageous at certain stages of the process such as appraisal of one's ongoing states and the current situation.
Emotion Regulation	An individual's ability to monitor, evaluate, and direct one's emotional responses in a desired direction.	Where emotion regulation is limited to emotions, adaptive personality regulation concerns thoughts, feelings, and behaviours that comprise personality states. Given personality's scope over thoughts, behaviours, and emotions, it is possible that adaptive personality regulation is a global mechanism that subsumes emotion regulation.

Construct Label	Definition	Distinction from Adaptive Personality Regulation
Adaptive Performance	An individual's ability to change behaviour in order to meet situational demands.	Adaptive performance is proposed as a trait that reflects individuals' ability to perform in a number of areas related to workplace performance such as handling stress, problem solving, and learning new technology and procedures. As such, adaptive performance is conceptualised solely by outcomes, with no explanation as to the underlying explanatory mechanisms. Although adaptive personality regulation is applicable to a much larger range of contexts than just performance, it is possible that within a performance context adaptive personality regulation provides an account of the mechanisms underlying adaptive performance outcomes.

4.2.4. Key characteristic #4: Adaptive personality regulation generalises across personality traits and situations.

The final proposed key characteristic of adaptive personality regulation is that it generalises across both personality traits and situations. In other words, the successful regulation of a particular personality trait in one situation is expected to be associated with the success of regulating not only that same trait in other situations, but also other personality traits too. For example, across situations, a person's ability to adaptively regulate extraversion will be of a similar level as his or her ability to adaptively regulate conscientiousness, openness, and agreeableness, and so on. This characteristic of adaptive personality regulation is important because it reflects stability in the construct, which, as explained above, is an integral characteristic of any individual difference (Mayer, 2007).

Although adaptive personality regulation is anticipated to generalise across personality traits and situations, that is not to say that all forms of adaptive personality regulation are necessarily expected to be equally demanding in terms of the resources required for execution. Indeed, there is evidence to suggest that both the direction and nature of personality regulation have implications for the ease with which it can be executed. For instance, there is evidence to suggest that it is easier to up-regulate the Big Five personality traits, than it is to down-regulate (P. Gallagher et al., 2011). Although the precise reasons for this are not yet fully understood, it has been suggested that this finding might be explained by the increased social desirability of higher levels of the Big Five, which is thought to explain why people reportedly feel more authentic when manifesting states at the high end of the Big Five, regardless of their trait standing position (Fleeson & Wilt, 2010). Another possibility is that down-regulation is harder

because it involves active suppression, whereby individuals must restrain their natural tendencies and override them in order to adapt. In contrast, up-regulation likely only requires the enactment of a new response. Whatever the explanation, these empirical findings suggest that individuals whose trait standing positions are inherently lower across the Big Five might find adaptive personality regulation easier due to the ease with which these individuals are able to enact states opposing their trait levels compared to those naturally high in these traits.

With respect to the nature of personality regulation, there is reason to expect that the regulation of personality traits that are largely affective in nature e.g., neuroticism, will be more difficult than the regulation of traits that are more behavioural in nature such as extraversion and agreeableness (Pytlik Zillig, Hemenover, & Dienstbier, 2002). This is because negative affect has been shown to disrupt regulatory processes by promoting a re-evaluation of goals such that the diminishment of negative affect becomes a priority (Scheier & Carver, 1982; Simon, 1967). This reasoning also extends to situations. Specifically high-pressure, or anxiety-inducing situations that increase negative affect would be expected to make adaptive personality regulation harder to execute, regardless of the target trait (Scheier & Carver, 1982).

Thus, while it is not necessarily assumed that regulation of all personality traits in all situations will be comparable in terms of the ease with which they can be executed, there is nevertheless expected to be substantial rank-order consistency across individuals such that individuals who are most successful at adaptively regulating their personality expression in one situation will also be the most successful in another situation, regardless of which personality trait is the target of regulation.

If adaptive personality regulation does generalise across personality traits and situations as proposed here, then one would expect scores derived from multiple different traits across a range of situations to fit a single factor model. The single factor would thus represent ‘trait’ adaptive personality regulation i.e., the extent to which an individual is able to adaptively regulate his or her personality expression, regardless of the situation or focal trait. Hence, demonstrating proof of concept here would require evidence of the following:

- *Adaptive personality regulation scores derived across traits and situations conform to a single factor model*

4.3. A Theoretical Model of Adaptive Personality Regulation

Although there is an expansive literature on self-regulation, the majority of this work is placed within the domain of social psychology, and the recognition that regulation is an important component of personality is yet to be adequately addressed in theoretical work within the field (Hoyle, 2010). Here, this omission from the extant literature will be partially addressed through the presentation of a proposed model of adaptive personality regulation, which builds on Carver and Scheier’s (1982) seminal work on self-regulation. The aim is to provide a testable theoretical framework for the operation of the newly proposed adaptive personality regulation.

Adaptive personality regulation is posited as a multi-faceted, dynamic process. The successful execution of this process is dependent upon success at each of several component stages, each of which will be outlined below. As the process of adaptive personality regulation is described, related factors that have been identified from past research will also be discussed. Such factors may well have implications for the success or failure of adaptive personality regulation.

4.3.1. Appraisal of situation and ongoing personality states.

Prior to any act of adaptive personality regulation, the individual will engage in an appraisal of both their current situation and personality expression. This is analogous to the input stage described by Carver and Scheier (1982), the primary function of which is to monitor existing states in order to provide a baseline against which the potential need for change can be evaluated. Given that personality states are always manifested *in situ*, the way in which an individual appraises a situation is expected to have direct consequences for the personality states that are subsequently expressed (Block & Block, 1981; Fleeson, 2012; Fleeson & Jayawickreme, 2015). Thus, executing adaptive personality regulation will be, at least partially, dependent upon the individual accurately appraising their situation and concurrent personality state. Various factors are expected to influence the accuracy with which an individual is able to perform these appraisals. These are considered below.

4.3.1.1. Appraisal of situation.

Both personality traits and intelligence are expected to influence situation appraisal. There is a considerable body of evidence supporting the role of personality traits in situation interpretation (e.g., Rauthmann, 2012; Serfass & Sherman, 2013; Sherman et al., 2010, 2015; Sherman, Nave, & Funder, 2013). Arguably one of the strongest demonstrations comes from Sherman et al. (2015). These authors employed a substantial sample ($N = 210$), and utilised a robust experience-sampling methodology in which participants were required to rate their current situation and personality states eight times per day over a period of seven consecutive days. To examine the role of personality traits in situation appraisal, a series of regression models were estimated in which situation

characteristics were predicted by the personality trait thought to be associated with that situation characteristic (e.g., sociability was predicted by extraversion, deception was predicted by agreeableness, intellect was predicted by openness, etc.). Overall, the pattern of results was consistent with theoretical expectations i.e., individuals scoring high in extraversion were more likely to report experiencing situations high in sociality, those high in agreeableness were less likely to report experiencing situations high in deception, those high in openness were more likely to report experiencing situations high in intellect, etc. Although these results offer support for the role of traits in situation appraisal, it is worth highlighting that the associations were small across the board (not exceeding $R = .16$), and not all were statistically significant. Thus, it seems likely that there are other individual difference factors that are also of importance in accounting for between-person differences in situation appraisal.

There is reason to expect that intelligence might be one such individual difference. Firstly, intelligence is positively associated with speed in a wide range of cognitive processes such as encoding, short-term memory scanning, storing and processing, retrieval from long-term memory, and decision-making (Vernon, 1983). One would expect such processes to not only make situation appraisal more efficient, but also more accurate. Indeed, the ability to quickly form impressions of situations serves the adaptive purpose of more accurate and efficient navigation through the world (D. M. Buss, 2009; Rauthmann, Sherman, & Funder, 2015). Crystallized intelligence reflects the skills and knowledge a person has accumulated so far over their lifetime (Cattell, 1971) and as such, relies heavily on past experience. Individuals who have prior knowledge from a similar situation previously experienced have the opportunity to apply the

information to their current situation (Aldwin, Sutton, Chiara, & Spiro, 1996), and would thus likely be advantaged with respect to situation appraisal.

4.3.1.2. Appraisal of ongoing personality states.

Self-awareness is expected to be of most relevance to the accurate appraisal of one's personality states. Self-awareness refers to the inward focus of attention required for individuals to compare their ongoing state against the desired standard (Duval & Wicklund, 1972). People have been shown to differ with respect to their dispositional self-awareness, such that individuals high in self-awareness possess a greater capacity for introspection and evaluation of their states than those low in self-awareness (Fenigstein, Scheier, & Buss, 1975). Decisions about the nature and extent of personality regulation required are more likely to be misguided if the baseline states have not been adequately established. Further, at subsequent stages of the regulation process, when individuals are later required to monitor their personality states again in order to establish the success with which they have been able to manifest their desired personality states, those low in self-awareness would also be expected to have the propensity to be less accurate in their judgements. Ultimately, this makes the successful execution of adaptive personality regulation potentially much harder for individuals low in self-awareness than for individuals high in self-awareness. Individuals high in adaptive personality regulation would thus be expected to possess the capacity for accurate and efficient situation appraisal and sufficient self-awareness to allow for precise monitoring of their ongoing personality expression.

4.3.2. Goal activation.

As described above, regulatory processes, including adaptive personality regulation, are goal-directed processes. Evidence that goals account for the vast majority of variance in personality states (~ 74%; McCabe & Fleeson, 2012), and that different personality states are useful for the pursuit of different types of goals (Heller et al., 2007; McCabe et al., 2013; Nikitin & Freund, 2013) offers support for the notion of goal-directed personality regulation.

It is important to note that there are between-person differences with respect to the goals people choose to pursue (see Locke & Latham, 1994). Such differences will have implications for adaptive personality regulation. The first point to consider here is that although psychologists often reserve the term ‘goal’ for conscious representations of goals, many goals are actually unconscious (DeYoung, 2015). It is likely that when individuals do not have a conscious goal in mind, they behave in line with their ‘natural goals’ i.e., their stable patterns of thinking, feeling, and acting which reflect underlying trait levels. Accordingly, there is a substantial body of evidence demonstrating an association between personality traits and goals (see Locke, 2001, for a review).

An individual’s conscious goal can either be in line with his or her trait norms, in which case personality regulation will most likely not be required, or unaligned with trait norms, in which case adaptive personality regulation most likely will be required if the individual is to attain his or her goal. In order to reap the expected rewards of adaptive personality regulation (i.e., the ability to achieve a wide variety of goals across a large number of different contexts), the individual must be willing to pursue challenging goals that require regulation across the spectrum of personality states.

Locke and Latham (1994) assert that goal choice is typically a function of a compromise between what a person considers *possible* (based on past performance, ability, self-efficacy, etc.), and what a person considers *optimal* (based on group norms, outcome desirability, dissatisfaction with previous results, etc.). Thus, it is expected that individual differences in goal setting, arising from factors such as past experience and self-efficacy likely moderate the adaptive personality regulation – performance relationship, such that the relationship between these two constructs will be weaker for individuals that avoid setting and pursuing challenging goals.

4.3.3. Identification of personality states most conducive to goal attainment.

After a goal has been formulated, the next phase in the process of adaptive personality regulation is to determine the personality states most conducive to goal attainment. Successful adaptive personality regulation is dependent upon the individual accurately inferring the personality states that would be effective for goal attainment. Empirical evidence demonstrates that different people utilise different behaviour to pursue the same goals, and some strategies are more effective than others (e.g., Aldao & Noel-Hoeksema, 2012; Pugh, 2001). For example, research on emotion regulation has identified that some strategies for emotion regulation (e.g., deep acting) are far more effective than others (e.g., surface acting) (Pugh, 2001). Deep acting and surface acting represent common emotion regulation strategies used by employees in jobs with strong emotional labour demands, such as customer service advisors and hospital workers. Although the objective of each of these emotion regulation strategies is the same (i.e., demonstrate positive emotions), surface acting focuses only on

changing the outward emotional expression, thereby often resulting in incongruence between felt and expressed emotions, whereas deep acting sees the individual change both their inward and outward emotional state to align with organisational expectations (Grandey, Diefendorff, & Rupp, 2013). Not only is deep acting more effective in that it produces more natural and genuine emotional displays (Grandey, Diefendorff, et al., 2013), but it has also been shown to be far less detrimental to employees' long-term well-being than surface acting (Grandey, 2003; Hülshager & Schewe, 2011).

Previous research suggests that past experience may impact the personality states an individual considers optimal, primarily through its influence on schemas. Schemas are knowledge structures that people process as they move through their daily lives, and as such, are heavily influenced by past experiences (Scheier & Carver, 1982). Schemas can contain both descriptive and action-oriented information (Price, 1974; Rosch, 1978; Rubovits & Maehr, 1973; Snyder, Tanke, & Berscheid, 1977), and are activated when triggered by newly processed information which signals an overlap between the content of the information being currently processed and that contained within an existing schema.

Differences in past experiences would lead to differences in the information contained in people's schemas. This, in turn, would likely lead to differences in individuals' assessment of optimal behaviour. For example, an individual who is interrogated with very difficult questions following a conference presentation is likely to possess a very different schema of the kind of behaviour typical at conferences than an individual whose only experience of conference presentations is a very polite and timid audience.

Schemas that contain insufficient or misguided information could result in an individual failing to accurately determine a personality expression conducive to goal attainment, thereby derailing the individual's attempt at adaptive personality regulation from the outset. For example, failure to recognise that the ways in which we establish social connections in our personal lives are not necessarily appropriate when trying to establish connections in a professional context may not impede personality regulation *per se*, but would not facilitate goal attainment and hence would not be considered adaptive.

4.3.4. Assessment of discrepancy between ongoing and desired personality states.

Once optimal personality states for goal attainment have been identified, the desired state is then compared to the current state in order to determine whether change (i.e., adaptive personality regulation), is required. Carver and Scheier (1982) refer to this stage of the regulation process as the “comparator” phase (see section 4.2.1). If there is a match between current and desired states then no change in personality expression will be required, and the individual will attempt to maintain his or her current state until environmental feedback or a change in goal prompts re-evaluation. However, any discordance between these values will mean that change, i.e., regulation is required in order to minimise the discrepancy between current and desired states and maximise the individual's chances of goal attainment (Carver & Scheier, 1982; Hoyle, 2010). This decision is guided by an outcome expectancy.

4.3.5. Outcome expectancy.

The outcome expectancy reflects the subjective likelihood that the individual will be able to reduce the observed discrepancy through regulation (c.f., Scheier & Carver, 1982). This stage will involve the consideration of not only the perceived *ability* to achieve the desired end state, but also whether the relative costs of doing so (e.g., depletion of cognitive resources such as self-control, effort, motivation, attention, etc.), outweigh the perceived benefits of the rewards associated with success (i.e., goal attainment). As such, factors including self-efficacy, past experience, and affective state are all expected to be relevant here. If the outcome expectancy is favourable then the individual is likely to attempt regulation of his or her personality states in the desired direction. If the outcome expectancy is unfavourable then the individual is likely to either reformulate his or her situational goal such that the change in personality states required is considered more attainable, or withdraw from the regulation attempt altogether.

4.3.6. Regulation implementation.

As Carver and Scheier (1982) note, a favourable outcome expectancy does not necessitate that regulation can be executed successfully. Throughout the regulation process individuals will monitor their progress through internal and external feedback, which might result in (a) an increase in effort to achieve the desired personality states, (b) a review of the states considered optimal for goal attainment – or indeed the goal itself, or (c) withdrawal. Individuals who chose to withdraw might either do so physically, by removing themselves from the situation, or psychologically, resulting in them reverting to their natural or

preferred response style (i.e., behaviour consistent with their underlying personality traits).

Thus, building on the seminal work of Carver and Scheier (1982), this section has proposed a testable theoretical model of how the process of adaptive personality regulation might operate. Demonstrating proof of concept for this theoretical model would require evidence of the following:

- *Adaptive personality regulation is dependent upon the ability to accurately appraise situations*
- *Adaptive personality regulation is dependent upon the ability to accurately appraise ongoing personality states*
- *Adaptive personality regulation is dependent upon the ability to accurately determine the personality states conducive to goal attainment*
- *Adaptive personality regulation is dependent upon the successful execution of goal-directed personality variation*

4.3.7. Moderating factors.

The success with which individuals are able to successfully execute desired personality regulation is expected to reflect underlying levels of adaptive personality regulation. However, previous research also acknowledges a number of other factors that might be expected to moderate the extent to which individuals are able to successfully execute adaptive personality regulation. Those deemed most relevant are considered below.

4.3.7.1. Strategy.

The specific strategy an individual utilises to regulate their personality is expected to have implications for the success of their attempt at adaptive personality regulation. Within the emotion literature, both adaptive and maladaptive emotion regulation strategies have been identified (see Aldao, Nolen-Hoeksema, & Schweizer, 2010; Gross, 1998; Nolen-Hoeksema & Watkins, 2011, for reviews). There is evidence to suggest that adaptive emotion regulation strategies are somewhat context-dependent, requiring individuals to form a “flexible assessment” in order to determine the adaptive emotion regulation strategy that is most appropriate given their current goal and situation (Aldao & Nolen-Hoeksema, 2010, 2012; Nolen-Hoeksema & Aldao, 2011).

If multiple strategies for emotion regulation exist, then intuitively, one might also anticipate the same to be true for personality regulation. For example, compared to surface acting, deep acting is associated with higher performance amongst customer service employees against objective performance criteria including volume of sales, repeat business, and customer satisfaction (Grandey, Chi, et al., 2013; Pugh, 2001; Tsai, 2001). This might be explained by the finding that deep acting results in emotional states that are perceived as more genuine by others (e.g., Grandey, Diefendroff, et al., 2013). Deep acting is not only more adaptive than surface acting in that it can help an individual achieve occupational performance goals, but it is also the more adaptive strategy in that it does not have the negative impact on psychological well-being that is observed in individuals consistently engaging in surface acting (Grandey, 2003; Hülshager & Schewe, 2011). This is because this dissonance between one’s true feelings and

one's expressed feelings that characterises surface acting is far more cognitively demanding and hence much more difficult to maintain over time.

Deep acting and surface acting are examples of regulation strategies that are expected to apply to personality regulation as well as emotion regulation. Specifically, personality regulation using deep acting techniques would involve the alteration of not only the individual's external behaviour, but also his or her internal thoughts and feelings. In contrast, personality regulation using surface acting techniques would involve only the alteration of the individual's outward personality expression. Although both are strategies that could potentially be utilised in personality regulation, only deep acting would generally be considered adaptive, given the maladaptive outcomes associated with surface acting strategies.

4.3.7.2. Self-control.

Some researchers have proposed that the manifestation of personality traits contrary to one's underlying trait levels is an effortful process that requires self-control (P. Gallagher et al., 2011; McCrae & Löckenhoff, 2010; VanDellen & Hoyle, 2010). Self-control reflects the ease with which an individual is able to suppress unwanted or undesired behaviours and is generally regarded as a stable individual difference (e.g., Baumeister et al., 2006; Muraven & Baumeister, 2000; Tangney, Baumeister, & Boone, 2004). An individual's self-control resource is considered to be limited, requiring a period of rest to replenish once depleted (e.g., Muraven & Baumeister, 2000; Muraven, Tice, & Baumeister, 1998). This effect of self-control is commonly referred to as *ego depletion* (e.g., Baumeister, Bratslavsky, Muraven, & Tice, 1998). The consensus view within the literature is that ego depletion is not domain-specific. In other words,

utilising self-control will diminish an individual's capacity for subsequent self-control, regardless of whether the context has changed or not (e.g., Baumeister et al., 2006; Muraven & Baumeister, 2000; Muraven et al., 1998; Muraven, Baumeister, & Tice, 1999).

There is some evidence to suggest that self-control is implicated in personality regulation. For example, individuals report contra-trait behaviours as generally more effortful to perform than trait-typical behaviours (P. Gallagher et al., 2011), and after enacting contra-trait behaviour for a sustained period, individuals are more likely to subsequently exhibit trait-typical behaviour, supporting the concept of ego depletion (and meaningful trait standing scores; P. Gallagher et al., 2011). However, P. Gallagher et al. (2011) reported that the enactment of sustained contra-trait behaviour along the extraversion personality dimension did not have any significant effect on participants' subsequent handgrip strength, suggesting that personality regulation may not rely on the same self-control resource that has been investigated in previous research (e.g., Hagger, Wood, Stiff, & Chatzisarantis, 2010). However, given that this finding is limited to just one empirical investigation, with a relatively modest sample size ($N = 100$), further research is required in order to more definitively determine the relationship between personality regulation and self-control.

There is some evidence to suggest that different types of personality regulation require self-control to different extents. For example, P. Gallagher et al. (2011) found that people only perceive *non-habitualised* contra-trait behaviours as more effortful to perform than trait-typical behaviours. The performance of *habitualised* contra-trait behaviours does not appear to be any more demanding than trait-typical behaviours. Further, as noted above,

regardless of their trait standing scores, individuals report the down-regulation of Big Five personality traits as significantly more effortful than the up-regulation of Big Five personality traits (P. Gallagher et al., 2011). Although these findings are preliminary and require replication in other samples, they do suggest that there might be differences across individuals with respect to the extent to which self-control is implicated in the regulation of personality traits.

Thus, the role of self-control in adaptive personality regulation requires investigation. If self-control is implicated in personality regulation as some empirical findings suggest, then one might expect individuals high in self-control to be advantaged with respect to adaptive personality regulation. For instance, it may be that individuals high in adaptive personality regulation benefit from a larger self-control resource that enables them to suppress their trait-typical behaviour for longer periods without experiencing depletion (Baumeister et al., 2006; Muraven & Baumeister, 2000; Tangney et al., 2004). Equally, it is possible that individuals high in adaptive personality regulation are more proficient at habituating, or automating personality regulation, meaning that these individuals generally rely less on self-control for the execution of adaptive personality regulation.

4.3.7.3. Negative affect.

Some researchers have asserted that self-regulation is instigated by negative affect, which arises in response to the recognition that there is a discrepancy between ongoing and desired states (e.g., Duval & Wicklund, 1972). Here, negative affect serves to provide the motivation required for behaviour change (Leeper, 1970). However, another, more commonly endorsed possibility is that negative affect serves to disrupt, rather than trigger regulatory processes

(e.g., Scheier & Carver, 1982). There is a considerable body of research supporting a positive relationship between negative affect and withdrawal from regulation attempts, particularly where self-awareness is heightened (Carver, Blaney, & Scheier, 1979; Carver, Peterson, Follansbee, & Scheier, 1983; Scheier, 1976; Scheier, Carver, & Gibbons, 1981).

As described earlier in this chapter, accurately appraising one's ongoing state is a crucial component in the process of adaptive personality regulation and will undoubtedly require heightened self-focus to be executed successfully. Thus, in the vast majority of cases self-awareness will be heightened during adaptive personality regulation (with the possible exception of cases where the process has become automatised in response to certain situational cues, etc.). This would mean that rising negative affect would be expected to cause the individual to abandon their ongoing regulation attempt as their ongoing goal is superseded by the desire to alleviate the negative affect that is currently being experienced (c.f., Simon, 1967).

4.3.7.4. Incremental vs. entity theorists.

Research from the emotion regulation literature suggests that differences in beliefs regarding the malleability of emotions influences not only the strategies individuals choose to adopt when attempting emotion regulation, but also whether they decide to attempt regulation at all (i.e., the outcome expectancy). This reasoning is grounded in the 'lay theories' perspective on individual differences, a social-cognitive approach which asserts that individuals differ with respect to whether they believe individual difference constructs such as personality are fixed and stable i.e., *entity theorists*, or dynamic and malleable i.e., *incremental theorists* (Dweck, 1986, 1996; Molden & Dweck, 2006).

Individuals who hold incremental beliefs make conscious attempts to self-regulate far more often than those who hold entity beliefs, leading to a greater number of successful regulation attempts overall. For example, Tamir and colleagues observed that college students holding incremental beliefs about emotions reported greater use of adaptive emotion regulation strategies (Tamir, John, Srivastava, & Gross, 2007). Further, longitudinal evidence from this investigation suggested that those with incremental beliefs reported significantly higher levels of positive emotion and wellbeing and significantly less negative emotions and depression, while those with entity beliefs reported more feelings of loneliness and problems with social adjustment.

Thus, with respect to adaptive personality regulation, research from the emotion regulation literature would suggest that individuals who hold incremental beliefs about personality would be expected to attempt and successfully execute adaptive personality regulation more frequently than individuals with entity beliefs.

4.4. Conclusion

Chapter 2 outlined a brief history of personality psychology, considering traditional trait approaches to personality and their utility. The predictive utility of personality traits was also discussed, and reasons why the predictive utility of personality is generally considered disappointing were explored. Chapter 3 considered the dynamic nature of personality and more recent developments within the field that have highlighted both stability (i.e., traits) as well as meaningful variation in personality. Evidence that accounting for the dynamic nature of personality might offer incremental prediction was also presented. In this chapter, findings from these previous two chapters were brought together

and the construct of adaptive personality regulation was introduced. A theoretical model was described, and it was suggested that examining individual differences in adaptive personality regulation might explain incremental variance in key outcomes over and above trait standing scores. In the chapters that follow, empirical investigations are conducted to test the theoretical model and proof of concept presented in this chapter, in order to explore both the nature and utility of adaptive personality regulation.

Chapter 5

Study 1: Is Personality Variability Required for Success at Work?

The preceding chapters have suggested that a primary reason why the predictive power of personality is often disappointing might be the failure of existing models to account for variation within this construct. Recent advances in personality theory have resulted in more complex models and there has been movement away from viewing personality as stable and cross-situational, towards a more dynamic system that incorporates both trait-based stability as well as state-based variation (e.g., Fleeson & Jayawickreme, 2015; Mischel & Shoda, 2008). Indeed, there is now substantial evidence to demonstrate that variation in personality not only exists, but also is meaningful (e.g., Fleeson & Gallagher, 2009; McCabe & Fleeson, 2012). For example, changes in personality have been shown to correspond to the demands of varying social roles (e.g., Bleidorn, 2009) and situations (e.g., Fleeson, 2007), suggesting that personality states serve a functional purpose in allowing individuals to adapt to the demands of their current environment and fulfil their goals (McCabe & Fleeson, 2012). It is surprising then, that both researchers and practitioners are yet to extend far beyond capturing mean-level scores in their approach to personality measurement.

In an attempt to address this, chapter 4 introduced adaptive personality regulation, a proposed individual difference that governs the extent to which individuals are able to regulate their expression of personality in order to facilitate goal attainment. When the outcomes one is trying to predict are more complex or multi-faceted, like job performance, it becomes more likely that systematic personality variation will be required. Surprisingly, however, this is

yet to be explicitly examined empirically. To the author's knowledge, no previous investigation has attempted to quantify the extent to which personality variation is required to perform well at work⁶. This represents a startling omission from the literature, especially when one considers how extensively organisations utilise personality assessments during their selection process (Faulder, 2005).

Before conducting any investigation into whether adaptive personality regulation is able to explain incremental variance in performance outcomes, it is thus first necessary to determine whether personality variation is actually required at work. This is the primary aim of the current study. If personality variation does not emerge as a requirement of job roles, then one would not expect adaptive personality regulation to account for incremental variance in performance outcomes beyond personality traits, suggesting that studying adaptive personality regulation within this context would be of limited value. However, if personality variation *does* emerge as a perceived requirement of job roles, then it would warrant subsequent investigation into the proposed construct of adaptive personality regulation within this context.

5.1. Introduction

Dynamic personality research tends to differentiate between two major components of personality. The first captures how personality is expressed on average across different situations and is generally represented as a single trait standing or mean-level score (e.g., Costa & McCrae, 1992a; Goldberg, 1992).

The second captures the variation individuals show across situations. This aspect

⁶ The closest investigation is an unpublished qualitative examination of job descriptions which concluded that being able to vary one's personality is an implied expectation of a number of modern job roles (Cook, 2010).

of personality is typically represented as a density distribution (e.g., Fleeson, 2001; Heller et al., 2007). Density distributions represent the frequency of behaviour across the spectrum of the trait (e.g., from low to high extraversion) with the peak representing the most typical level of personality (Fleeson, 2001). In effect, density distributions capture both components of personality function, i.e. (1) that people differ in their average (trait) levels of personality and (2) that they also vary from this average level. As such, density distributions are generally more descriptive of behaviour than mean levels, because behaviour tends to be dynamic rather than static (Fleeson, & Jayawickreme, 2015; Mischel & Shoda, 2008).

It is widely acknowledged in job analysis and selection research that different personality traits are conducive to success in different jobs (Hughes & Batey, 2017). For example, roles such as accounting or data entry work are more likely to require introversion, whereas managerial or sales roles are more likely to require extraversion. However, the extent to which variation in personality expression is required within job roles has been largely ignored. This is somewhat surprising when one considers the number of job roles that indicate they require employees to engage in diverse and often seemingly contradictory behaviours in order to succeed (Debusscher, Hofmans, & De Fruyt, 2017; Hughes & Batey, 2017; Zacher, 2016). For example, managers are often required to complete specialist and technical work independently, which requires relatively low levels of extraversion. Yet they are also likely to have to partake in networking and teamwork, which requires higher levels of extraversion. Similarly, academics would likely benefit from lower levels of agreeableness when writing research papers or critiquing the work of their peers, than when

teaching or networking at conferences. Indeed, a number of studies have shown that there is intra-individual variation in personality at work (e.g., Debusscher et al., 2017; Judge et al., 2014; Zacher, 2016).

Despite evidence and acceptance of the variable nature of personality and the clear relevance of such an approach to understanding employee behaviour, the dynamic nature of personality is yet to be embraced within applied organisational personality research (Judge et al., 2014). This is even more surprising when one considers the disappointingly low predictive utility yielded from mean level personality models (Hughes & Batey, 2017; Morgeson et al., 2007). This research was discussed extensively in chapter 2 of this thesis (see section 2.3). Briefly, multiple meta-analyses have demonstrated that mean level personality scores offer weak predictive utility with respect to key outcomes such as job performance (e.g., Barrick & Mount, 1991; Barrick et al., 2001; Schmidt et al., 2008), despite strong theoretical rationale to the contrary (Hughes & Batey, 2017; A. M. Ryan & Kristof-Brown, 2003).

Given the varied requirements of many jobs, it is perhaps unsurprising that broad, mean level trait scores tend to offer weak levels of prediction. Indeed, while a person's trait standing scores do describe how that individual is most likely to behave, or would prefer to behave, they offer no information regarding the dynamic nature of that person's behaviour. Although this seems intuitive, there is currently no empirical evidence that the author is aware of which describes the extent to which modern job roles require employees to vary their expression of personality in order to be successful. Such data is key in building a more accurate picture of the behavioural demands placed on individuals at work – and identifying the individual differences most likely to predict success in a

particular role. For example, rather than suggesting that nurses require X level of agreeableness and lawyers require Y level of agreeableness and selecting candidates with appropriate mean level scores, organisations could instead examine the most frequent levels and total range of agreeableness required and select accordingly. In addition, evidence that personality variation is required for success at work would warrant any subsequent investigation into adaptive personality regulation (see chapter 4).

Thus, the current study sought to address this omission from the literature by examining the extent to which employees perceive their job roles to require varied expression of personality. In the first part of this study, participants were asked to indicate the average, highest, and lowest levels of Big Five behaviours they felt were required in their job. In the second part of the study, participants were presented with personality adjectives that describe each end of the Big Five spectrum and asked to indicate the frequency with which they are required to behave in the manner described by each adjective when at work. This dataset had never previously been analysed and was deemed to be valuable for the purposes of the current study as collectively the two components of the study allow for perceived personality variation to be estimated in both an overt and covert fashion.

Although it was expected that all roles would require at least some within-person variation in personality expression, it was not anticipated that this would be to the same degree across different personality traits. Indeed, it is likely that most jobs require employees to be organised and hardworking (i.e., high conscientiousness), as well as calm and stable (i.e., low neuroticism). However, it is also likely that many roles require employees to be able to work in isolation

as well as in a group (i.e., extraversion), to employ both imaginative and conventional thinking (i.e., openness), and to be capable of both challenging and supporting colleagues (i.e., agreeableness). Such reasoning might account for why meta-analytic findings have consistently reported that conscientiousness and neuroticism are the only Big Five personality traits to consistently predict job performance, regardless of the role, with higher levels of conscientiousness and lower levels of neuroticism conducive to success in the workplace (e.g., Barrick & Mount, 1991; Barrick et al., 2001; Schmidt et al., 2008). Thus, it is expected that more variation will be perceived necessary in extraversion, openness, and agreeableness, than for neuroticism and conscientiousness.

5.2. Method

5.2.1. Sample.

Eligibility for this research was limited only to the requirement that participants were employed. Sample 1 comprised a UK sample of 245 working adults who were recruited via social networking sites including Facebook and Twitter. Potential participants were invited to complete a questionnaire exploring job demands and personality through a survey link. Instructions emphasised that the questionnaire was anonymous and confidential (see Appendix A). The sample contained more females (66.1%) than males, with the majority in full-time employment (61.2%). The majority of the sample had either an undergraduate (24.5%) or postgraduate (40.0%) university education. A wide variety of occupational groups were represented, with education (26.1%), health and social care (14.4%), and sales (9.4%) among the best represented. A demographic breakdown of Sample 1 is presented in Table 5.1 below.

Table 5.1.

Demographic Characteristics of Sample 1 by Frequency (%)

Gender	Male 83 (33.9)		Female 162 (66.1)		
Level of Education	Secondary school 45 (18.4)	Non-university higher education 42 (17.1)	Undergraduate 60 (24.5)	Postgraduate 98 (40.0)	
Employment Status	Employed full time 150 (61.2)	Employed part-time 59 (24.1)	Self-employed 27 (11.0)	Other 9 (3.7)	
Occupation	Art/Entertainment/ Media 20 (8.2)	Business/ Financial 20 (8.2)	Education/ Training 64 (26.1)	Health & social care 35 (14.4)	Legal 8 (3.3)
	Management 14 (5.7)	Office/ Admin. 20 (8.2)	Sales 23 (9.4)	Technology 8 (3.3)	Other 33 (13.2)

Sample 2 was part of an archived dataset, collected by Clare Cook under the supervision of Paul Irwing in 2012. These data had never previously been analysed and the author was given written permission from both parties to utilise the data for such purposes here. This sample comprised a UK sample of 341 working adults. These participants were recruited via social networking sites including Facebook and Twitter, as well as through word of mouth. The data utilised for the purposes of this study was collected as part of a larger questionnaire which also measured satisfaction and self-reported job performance. The sample contained slightly more females (51.9%) with a large majority in current full-time employment (80.1%). With regard to educational level, 26.1% had postgraduate university education, 28.4% had undergraduate university education, 15.5% had non-university higher education, and 16.1% had a secondary school education. A wide variety of occupational groups were represented in the sample, with managers (20.5%), business and finance

professionals (13.8%), and office/administrative staff (12.9%) amongst the best represented. A demographic breakdown of Sample 2 is presented in Table 5.2.

Table 5.2.

Demographic Characteristics of Sample 2 by Frequency (%)

Gender	Male 142 (41.6)	Female 177 (51.9)	Undisclosed 22 (6.5)		
Level of Education	Secondary school 55 (16.1)	Non-university higher education 53 (15.5)	Undergraduate 97 (28.4)	Postgraduate 89 (26.1)	Undisclosed 47 (13.8)
Employment Status	Employed full time 273 (80.1)	Employed part-time 50 (14.7)	Self-employed 16 (4.7)	Other 2 (0.6)	
Occupation	Art/Entertainment/Media 22 (6.4)	Business/ Financial 47 (13.8)	Education/ Training 26 (7.6)	Health & social care 32 (9.4)	
	Management 70 (20.5)	Office/ Admin. 44 (12.9)	Sales 17 (5.0)	Technology 30 (8.8)	Other 53 (15.5)

5.2.2. Measures.

Each sample completed a different online questionnaire to assess the requirements of their job. Sample 1 completed a questionnaire designed to overtly assess the varying requirements of jobs. This questionnaire comprised of items from the Big Five Inventory (John & Srivastava, 1999). Items were minimally adjusted for use in the present study and each was preceded by the sentence; “*My job requires me to*”. For example, the item “*I am someone who is talkative*” became; “*My job requires me to be talkative*”. Responses were made on a ten-point Likert scale where, 1 = *not at all* and 10 = *to a great extent*. Participants were required to indicate three responses for each item. The first response was to reflect what their job required on *average*, the second response

was to reflect the *lowest* level required in their job, and the final response was to reflect the *highest* level required of them in their job. The BFI has been shown to demonstrate strong internal consistency ($\alpha = .83$), a clear factor structure, and convergence with Big Five measures (John & Srivastava, 1999).

Sample 2 completed a questionnaire that covertly assessed the varying requirements of jobs. This questionnaire comprised items from Goldberg's (1992) Bipolar Big Five Markers. This scale comprises 30 adjective pairs, with each pair reflecting opposing ends of one of the Big Five personality factors. Twelve adjectives, or six adjective pairs correspond to each of the Big Five. Of the sixty adjectives, fifty-six were identical to Goldberg's and four were adapted to make them more appropriate for describing work behaviour. For example, 'silent' was substituted by 'quiet' (adjectives presented in Appendix B). Participants were asked to indicate on a four-point scale how often their job required them to behave in a manner described by each adjective where, *1 = never*, *2 = rarely*, *3 = sometimes*, and *4 = often*. Reported average reliabilities across the factors for Goldberg's Markers are .84-.90 (Goldberg, 1992).

5.2.3. Analysis strategy.

The goal of the analysis was to examine the extent to which employees perceive that their jobs require them to vary their expression of personality (e.g., show both high and low agreeableness) in order to be successful. In order for such mean comparisons to be justified, it is generally contended that the measures evidence configural, metric, and scalar invariance (Chen, 2007; Widaman & Reise, 1997). Thus, this was a necessary first step if subsequent comparisons of mean scores were to be justified.

Configural invariance examines whether the same items load on the latent factors across groups (Widaman & Reise, 1997). Configural invariance is supported when the Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) values are $\geq .90$, and the Root Mean Square Residual (RMSEA) is $\leq .08$ (Hu & Bentler, 1999; Schermelleh-Engel, Moosbrugger, & Müller, 2003). Metric invariance examines whether factor loadings are invariant across groups (Meredith, 1993). A simulation study by Chen (2007) reported that metric invariance is supported if, in comparison to the configural model, the CFI drops by no more than .005, the RMSEA increases by no more than .010, or the Standardized Root Mean Square Residual (SRMR) increases by no more than .025. Scalar invariance examines whether the scale intercepts are the same across groups. Scalar invariance, or at least partial scalar invariance, is required for mean differences to be reliably compared (Byrne, Shavelson, & Muthén, 1989; Widaman & Reise, 1997). Scalar invariance is supported when, in comparison to the metric model changes in the CFI, RMSEA, and SRMR are within the limits specified by Chen (2007) as outlined above.

Once measurement invariance was established for both the BFI and Goldberg's Markers data, the next step was to investigate the magnitude and significance of the differences between the highest, average, and lowest levels of the Big Five personality traits required across the sample of job roles. To this end, the scalar measurement models were used to assess the significance of mean differences and calculate Cohen's (1998) d-scores to determine effect sizes. All analyses were conducted in Mplus 7.4 (Muthén & Muthén, 1998-2015) using the Robust Maximum Likelihood (MLR) estimator.

5.3. Results

5.3.1. Measurement invariance.

5.3.1.1. BFI.

As noted above, for the BFI in Sample 1, three responses were recorded for each item. Specifically, participants were asked to indicate what their job required of them on average, the lowest level their job required of them, and the highest level their job required of them. Invariance was examined across each of the three response categories (i.e., low, average, and high). A separate model was estimated for each of the Big Five. Within each model, it was necessary to control for the inevitable autocorrelations between identical items across the three response categories (Little, 2013).

The issues surrounding the achievement of adequately fitting CFA models from personality measures are well documented (e.g., Booth & Hughes, 2014). The openness model achieved good fit to the data ($\chi^2(225) = 349.558$, $p < .001$; CFI = .981; TLI = .977; RMSEA = .048; SRMR = .086), but it was necessary to make minor modifications to the other models in order to achieve adequate fit. Specifically, four items were removed from the conscientiousness model, three items from the neuroticism model, three items from the agreeableness model, two items from the extraversion model, and one item from the openness model (see Table 5.3 for pattern matrix and removed items). The resultant models achieved adequate fit to the data and configural invariance was supported (see Table 5.4).

Subsequent tests of metric invariance were supported for all five factors (see Table 5.4). Full scalar invariance was achieved for neuroticism,

agreeableness and conscientiousness (see Table 5.4), but not for extraversion (χ^2 (134) = 395.398, $p < .001$; CFI = .959; TLI = .919; RMSEA = .089; SRMR = .166) or openness (χ^2 (253) = 500.195, $p < .001$; CFI = .962; TLI = .959; RMSEA = .063; SRMR = .145). Examination of the modification indices suggested that partial scalar invariance could be achieved by relaxing constraints on one item in the extraversion model (i.e., *talkative*), and two items in the openness model (i.e., *original ideas* and, *prefer routine work*). Following these modifications resulted in partial scalar invariance for both models (see Table 5.4). The pattern matrix for the initial and final solution including reliability and average variance extracted (AVE) can be found in Table 5.3.

Table 5.3.

Pattern Matrix for BFI Data Showing Average Variance Extracted (AVE) and Reliability (McDonald's Ω) for Each Scale

Factor	Item	Initial Solution	Scalar Solution [95% CI]
Extraversion			
High	Talkative	.516	.596 [.508 - .685]
High	Full of energy	.722	.681 [.594 - .767]
High	Generate enthusiasm	.711	.611 [.516 - .705]
High	Quiet (R)	.340	.500 [.445 - .554]
High	Assertive	.572	.619 [.526 - .712]
High	Outgoing, sociable	.698	.618 [.528 - .709]
High	Reserved (R)	.224	
High	Shy (R)	.183	
			AVE: .368
			McDonald's Ω : .795
Average	Talkative	.610	.553 [.463 - .642]
Average	Full of energy	.718	.720 [.647 - .792]
Average	Generate enthusiasm	.722	.659 [.579 - .739]
Average	Quiet (R)	.385	.455 [.406 - .505]
Average	Assertive	.592	.644 [.574 - .715]
Average	Outgoing, sociable	.725	.667 [.595 - .739]
Average	Reserved (R)	.291	
Average	Shy (R)	.214	
			AVE: .388
			McDonald's Ω : .801
Low	Talkative	.605	.540 [.437 - .643]
Low	Full of energy	.781	.786 [.738 - .835]
Low	Generate enthusiasm	.749	.741 [.685 - .797]
Low	Quiet (R)	.531	.503 [.437 - .568]
Low	Assertive	.669	.715 [.661 - .769]

Factor	Item	Initial Solution	Scalar Solution [95% CI]
Extraversion			
Low	Outgoing, sociable	.781	.739 [.685 - .793]
Low	Reserved (R)	.377	
Low	Shy (R)	.250	
			AVE: .461
			McDonald's Ω : .848
Agreeableness			
High	Helpful, unselfish	.697	.700 [.628 - .773]
High	Quarrels (R)	.414	.399 [.316 - .482]
High	Forgiving	.460	.369 [.295 - .443]
High	Trusting	.492	.473 [.400 - .546]
High	Considerate, kind	.661	.571 [.477 - .665]
High	Cooperative	.586	.666 [.604 - .729]
High	Finds fault with others (R)	.224	
High	Cold, aloof (R)	.282	
High	Rude (R)	.378	
			AVE: .297
			McDonald's Ω : .764
Average	Helpful, unselfish	.770	.768 [.712 - .823]
Average	Quarrels (R)	.390	.327 [.264 - .391]
Average	Forgiving	.557	.512 [.446 - .577]
Average	Trusting	.593	.606 [.544 - .668]
Average	Considerate, kind	.765	.731 [.662 - .800]
Average	Cooperative	.650	.676 [.622 - .730]
Average	Finds fault with others (R)	.250	
Average	Cold, aloof (R)	.328	
Average	Rude (R)	.399	
			AVE: .386
			McDonald's Ω : .819
Low	Helpful, unselfish	.777	.742 [.680 - .803]
Low	Quarrels (R)	.431	.306 [.239 - .373]
Low	Forgiving	.663	.668 [.610 - .727]
Low	Trusting	.616	.688 [.631 - .745]
Low	Considerate, kind	.817	.810 [.759 - .861]
Low	Cooperative	.682	.656 [.593 - .718]
Low	Finds fault with others (R)	.376	
Low	Cold, aloof (R)	.400	
Low	Rude (R)	.449	
			AVE: .442
			McDonald's Ω : .850
Conscientiousness			
High	Thorough	.653	.692 [.602 - .782]
High	Reliable	.720	.706 [.620 - .792]
High	Persevere	.471	.481 [.384 - .579]
High	Efficient	.783	.735 [.616 - .854]
High	Follow through with plans	.367	.372 [.286 - .458]
High	Careless (R)	.247	
High	Disorganised (R)	.265	
High	Lazy (R)	.334	
High	Distracted (R)	.128	
			AVE: .377
			McDonald's Ω : .699
Average	Thorough	.611	.626 [.541 - .711]
Average	Reliable	.753	.710 [.649 - .771]
Average	Persevere	.587	.627 [.554 - .700]
Average	Efficient	.760	.756 [.692 - .820]

Factor	Item	Initial Solution	Scalar Solution [95% CI]
Conscientiousness			
Average	Follow through with plans	.463	.504 [.434 - .574]
Average	Careless (R)	.252	
Average	Disorganised (R)	.356	
Average	Lazy (R)	.365	
Average	Distracted (R)	.256	
			AVE: .423
			McDonald's Ω : .778
Low	Thorough	.654	.646 [.578 - .715]
Low	Reliable	.790	.745 [.688 - .801]
Low	Persevere	.725	.760 [.707 - .814]
Low	Efficient	.816	.825 [.777 - .872]
Low	Follow through with plans	.603	.647 [.585 - .709]
Low	Careless (R)	.397	
Low	Disorganised (R)	.469	
Low	Lazy (R)	.461	
Low	Distracted (R)	.346	
			AVE: .530
			McDonald's Ω : .849
Openness			
High	Original ideas	.808	.819 [.775 - .862]
High	Curious	.750	.776 [.725 - .827]
High	Deep thinker	.710	.720 [.655 - .785]
High	Active imagination	.809	.765 [.705 - .825]
High	Inventive	.837	.852 [.815 - .890]
High	Value artistic experiences	.576	.478 [.410 - .546]
High	Prefer routine work (R)	.323	.345 [.265 - .425]
High	Reflect/play with ideas	.784	.786 [.730 - .843]
High	Few artistic interests (R)	.058	
			AVE: .516
			McDonald's Ω : .892
Average	Original ideas	.819	.810 [.764 - .856]
Average	Curious	.760	.759 [.709 - .810]
Average	Deep thinker	.699	.721 [.665 - .778]
Average	Active imagination	.800	.768 [.712 - .824]
Average	Inventive	.831	.836 [.788 - .884]
Average	Value artistic experiences	.605	.524 [.454 - .594]
Average	Prefer routine work (R)	.320	.341 [.273 - .410]
Average	Reflect/play with ideas	.786	.788 [.733 - .844]
Average	Few artistic interests (R)	.088	
			AVE: .507
			McDonald's Ω : .894
Low	Original ideas	.796	.792 [.742 - .842]
Low	Curious	.740	.747 [.697 - .797]
Low	Deep thinker	.751	.775 [.731 - .820]
Low	Active imagination	.807	.788 [.732 - .843]
Low	Inventive	.848	.841 [.800 - .881]
Low	Value artistic experiences	.614	.580 [.511 - .649]
Low	Prefer routine work (R)	.400	.362 [.286 - .439]
Low	Reflect/play with ideas	.804	.796 [.746 - .847]
Low	Few artistic interests (R)	.056	
			AVE: .527
			McDonald's Ω : .903
Neuroticism			
High	Depressed/blue	.569	.591 [.487 - .694]
High	Tense	.619	.747 [.680 - .814]

Factor	Item	Initial Solution	Scalar Solution [95% CI]
Neuroticism			
High	Worry	.478	.650 [.592 - .707]
High	Moody	.615	.555 [.431 - .680]
High	Nervous	.644	.653 [.567 - .739]
High	Relaxed (R)	.569	
High	Emotionally stable (R)	.467	
High	Remains calm (R)	.502	
			AVE: .413
			McDonald's Ω : .803
Average	Depressed/blue	.603	.658 [.543 - .773]
Average	Tense	.604	.730 [.652 - .807]
Average	Worry	.391	.576 [.512 - .639]
Average	Moody	.612	.617 [.499 - .736]
Average	Nervous	.622	.653 [.550 - .755]
Average	Relaxed (R)	.405	
Average	Emotionally stable (R)	.355	
Average	Remains calm (R)	.403	
			AVE: .421
			McDonald's Ω : .768
Low	Depressed/blue	.467	.596 [.445 - .747]
Low	Tense	.503	.656 [.565 - .747]
Low	Worry	.308	.455 [.378 - .532]
Low	Moody	.435	.420 [.199 - .642]
Low	Nervous	.541	.614 [.490 - .739]
Low	Relaxed (R)	.393	
Low	Emotionally stable (R)	.290	
Low	Remains calm (R)	.411	
			AVE: .310
			McDonald's Ω : .693

Note. Items in **bold** removed due to low loading to achieve configural invariance.

Table 5.4.

Fit Indices for Invariance Tests on the BFI and Goldberg's Markers

	BFI					Goldberg's Markers				
	χ^2	CFI	TLI	RMSEA	SRMR	χ^2	CFI	TLI	RMSEA	SRMR
Neuroticism										
Configural	123.379	.969	.954	.054	.051	15.588	.981	.964	.055	.039
Metric	136.301	.966	.955	.054	.062	21.940	.970	.955	.061	.054
Scalar	157.500	.958	.949	.057	.075	22.078	.975	.968	.051	.048
Extraversion										
Configural	223.660	.970	.960	.063	.093	63.837	.962	.945	.058	.060
Metric	275.655	.959	.950	.071	.111	68.422	.960	.948	.057	.065
Scalar	311.519	.952	.944	.075	.141	95.191	.933	.919	.070	.067
Openness/Intellect										
Configural	349.558	.981	.977	.048	.086	68.316	.964	.949	.060	.050
Metric	382.529	.978	.975	.050	.089	71.104	.965	.956	.055	.055
Scalar	411.332	.975	.973	.052	.097	80.085	.959	.953	.058	.056
Agreeableness										
Configural	200.467	.974	.966	.056	.071	34.835	.976	.963	.054	.039
Metric	234.844	.967	.959	.060	.090	42.810	.969	.958	.057	.052
Scalar	270.226	.960	.954	.064	.108	60.331	.948	.940	.069	.053
Conscientiousness										
Configural	113.893	.982	.974	.049	.070	75.146	.976	.969	.039	.039
Metric	115.198	.985	.980	.042	.074	75.511	.979	.975	.034	.044
Scalar	137.237	.979	.975	.048	.101	95.417	.964	.961	.043	.047

5.3.1.2. Goldberg's Markers.

On this measure, respondents in Sample 2 indicated on a four-point scale the frequency with which they are required to behave in the manner described by each adjective. Some adjectives related to one end of the trait spectrum (e.g., bold, agreeable) whilst others were related to the opposite end (e.g., bashful, disagreeable). In the analysis of these data, the models were specified to compare invariance between a factor comprised of adjectives from one end of the spectrum to a factor comprised of adjectives from the opposite end. Prior to conducting any analysis, items from one pole were reverse coded to aid the interpretation of mean difference scores.

To achieve configural invariance it was once again necessary for some low loading items to be eliminated (see Table 5.5 for full pattern matrix and removed items). Subsequent to the removal of these items, the resulting models established configural and metric invariance for all five factors (see Table 5.4). Tests for scalar invariance established full scalar invariance for agreeableness, conscientiousness, and neuroticism (see Table 5.4), but not for extraversion ($\chi^2(39) = 123.595, p < .001$; CFI = .903; TLI = .888; RMSEA = .084; SRMR = .080) or openness ($\chi^2(40) = 120.990, p < .001$; CFI = .919; TLI = .909; RMSEA = .080; SRMR = .013). Examination of the modification indices suggested that relaxing the scalar constraints on two item pairs in the extraversion model (i.e., *adventurous – unadventurous* and *bold – bashful*), and one item pair in the openness model (i.e., *cultured – uncultured*) would substantially improve model fit. Thus, these modifications were incorporated into the model. The resulting fit indices can be found in Table 5.4 and are supportive of partial scalar invariance

in the extraversion and openness models. The pattern matrix for the initial and final solution including reliability and AVE can be found in Table 5.5.

Table 5.5.

Pattern Matrix for Goldberg's Marker Data Showing Average Variance

Extracted (AVE) and Reliability (McDonald's Ω) for Each Scale

Factor	Item	Initial Solution	Scalar Solution [95% CI]
Extraversion			
High	Adventurous	.627	.612 [.542 - .683]
High	Bold	.588	.492 [.412 - .572]
High	Extraverted	.589	.614 [.540 - .689]
High	Active	.676	.566 [.496 - .635]
High	Energetic	.653	.570 [.504 - .636]
High	Talkative	.508	
			AVE: .328
			McDonald's Ω : .813
Low	Introverted	.677	.758 [.699 - .818]
Low	Unenergetic	.843	.703 [.613 - .793]
Low	Unadventurous	.715	.728 [.658 - .799]
Low	Bashful	.585	.628 [.549 - .708]
Low	Inactive	.813	.673 [.582 - .763]
Low	Quiet	.479	
			AVE: .489
			McDonald's Ω : .853
Agreeableness			
High	Warm	.720	.659 [.581 - .736]
High	Cooperative	.719	.763 [.708 - .818]
High	Agreeable	.679	.673 [.605 - .741]
High	Kind	.845	.847 [.791 - .903]
High	Sympathetic	.521	
High	Unselfish	.193	
			AVE: .547
			McDonald's Ω : .870
Low	Cold	.630	.639 [.568 - .711]
Low	Uncooperative	.855	.824 [.761 - .887]
Low	Disagreeable	.665	.660 [.592 - .728]
Low	Unkind	.888	.906 [.872 - .940]
Low	Unsympathetic	.084	
Low	Selfish	.736	
			AVE: .586
			McDonald's Ω : .880
Conscientiousness			
High	Organised	.747	.747 [.678 - .816]
High	Practical	.645	.642 [.565 - .720]
High	Conscientious	.761	.761 [.688 - .834]
High	Thorough	.720	.695 [.619 - .771]
High	Responsible	.749	.743 [.661 - .824]
High	Reliable	.803	.881 [.751 - .871]
			AVE: .560
			McDonald's Ω : .910
Low	Irresponsible	.799	.806 [.742 - .871]

Factor	Item	Initial Solution	Scalar Solution [95% CI]
Conscientiousness			
Low	Undependable	.803	.790 [.711 - .870]
Low	Negligent	.828	.839 [.783 - .895]
Low	Disorganised	.773	.763 [.677 - .849]
Low	Impractical	.766	.754 [.674 - .834]
Low	Careless	.713	.705 [.608 - .802]
			AVE: .604
			McDonald's Ω : .929
Openness			
High	Creative	.653	.628 [.561 - .695]
High	Imaginative	.719	.683 [.621 - .745]
High	Cultured	.678	.688 [.631 - .745]
High	Curious	.707	.753 [.705 - .800]
High	Intellectual	.646	.614 [.560 - .668]
High	Analytical	.556	
			AVE: .456
			McDonald's Ω : .849
Low	Unimaginative	.791	.734 [.672 - .797]
Low	Uncultured	.825	.861 [.817 - .906]
Low	Uninquisitive	.844	.867 [.813 - .920]
Low	Uncreative	.758	.697 [.636 - .758]
Low	Unintelligent	.789	.782 [.719 - .845]
Low	Unanalytical	.697	
			AVE: .626
			McDonald's Ω : .902
Neuroticism			
High	Fretful	.729	.704 [.615 - .778]
High	Insecure	.797	.875 [.811 - .940]
High	Unstable	.842	.760 [.682 - .837]
High	Envious	.657	
High	Discontent	.758	
High	Emotional	.549	
			AVE: .613
			McDonald's Ω : .875
Low	Stable	.630	.654 [.592 - .717]
Low	Relaxed	.715	.696 [.621 - .770]
Low	Secure	.797	.815 [.739 - .891]
Low	Not envious	.444	
Low	Content	.432	
Low	Unemotional	.226	
			AVE: .525
			McDonald's Ω : .853

Note. Items in **bold** removed due to low loading to achieve configural invariance.

5.3.2. Mean difference testing.

5.3.2.1. BFI.

Having established measurement invariance, the next step was to examine mean differences across the high, average, and low scores for the BFI

factors. The mean values for high, average, and low scores for each of the Big Five factors are presented in Table 5.6.

In order to establish whether there were significant differences across the means for these groups, Cohen’s d-scores were calculated (see Table 5.7). Cohen (1988) suggested tentative guidelines that d-scores of 0.2 should be considered small, scores of 0.5 moderate, and scores of 0.8 large. As can be seen in Table 5.7, the size of the d-scores suggests that there are generally moderate to large differences between the lowest, average, and highest levels of the Big Five personality traits people perceive to be required for success at work. The largest observed difference is for extraversion, for which the effect size is large ($d = 1.717$), with neuroticism the trait showing the least variation ($d = .930$).

Table 5.6.

Mean Scores Across the Big Five Across Both the BFI and Mini-Marker Scales

	BFI			Goldberg’s Markers	
	Low	Average	High	Low	High
Neuroticism	2.63	2.71	2.84	1.72	3.53
Extraversion	6.61	7.34	8.00	2.17	3.39
Openness	4.90	5.71	6.53	2.09	3.45
Agreeableness	7.36	7.80	8.17	1.72	3.44
Conscientiousness	8.29	8.76	9.21	1.47	3.61

5.3.2.2. Goldberg’s Markers.

For this measure, mean differences were examined between scores representing each pole of the same factor. Mean values for each pole of the Big Five factors can be seen in Table 5.6. Once again, Cohen’s d-scores were calculated to establish the extent to which variation in each factor was perceived to be required at work. These scores are presented in Table 5.7.

Table 5.7.

Cohen's d Scores for Mean Difference Testing on the BFI and Goldberg's

Markers

	BFI			Goldberg's Markers
	Avg.-Low	Avg.-High	Low-High	Low-High
Neuroticism	0.571	0.462	0.930	.409
Extraversion	0.822	1.068	1.717	.755
Openness	0.889	0.901	1.214	.720
Agreeableness	0.648	0.833	1.387	.240
Conscientiousness	0.692	1.110	1.507	.090

As can be seen, the effect sizes are consistently smaller than reported in the previous analysis, likely reflecting the comparatively covert methodological approach adopted with this measure. The results revealed that by this metric, participants are required to show a large degree of variation in extraversion ($d = .755$) and openness ($d = .720$), a moderate amount of variation in neuroticism ($d = .409$), a small amount of variation in agreeableness ($d = .240$), and almost no variation in conscientiousness ($d = .090$).

5.4. Discussion

The primary aim of this study was to investigate whether employees perceive personality variation to be a requirement for performing well in their job. Evidence that personality variation is needed at work is a necessary prerequisite to any future examination of adaptive personality regulation in this context. Results from two independent samples of working adults, adopting different methodological approaches demonstrate that employees do indeed perceive a need for variation of their personality states within their job roles.

Without exception, the effect sizes observed for the BFI data were all much larger than those observed with Goldberg's Marker data. The overt nature

of the BFI questionnaire means this was to be expected. Explicitly asking participants to rate the highest, average, and lowest level of each personality item inherently implies that differences are expected, increasing the likelihood of inflated effect sizes resulting from socially desirable responding. However, the fact that significant differences were still observed with Goldberg's Marker data, in which a much more covert methodological approach was adopted, supports the validity of these findings. Indeed, sizeable differences in extraversion, openness, and agreeableness emerged in both samples and make sense conceptually. For example, for job roles such as university lecturers and business consultants one can expect incumbents would need to manifest higher states of extraversion when teaching and networking, and lower states of extraversion when undertaking independent work. Similarly, for openness, individuals may be required to apply either imaginative novel solutions, or routine solutions to problems, depending on the novelty of the task in hand (Kirton & DeCiantis, 1986). In relation to agreeableness, a more tough-minded approach is likely needed for job tasks that involve competition or negotiation (Barry & Friedman, 1998), whilst greater sensitivity would likely be appropriate when collegiality is required.

Both conscientiousness and neuroticism were expected to require little variation for job success as compared to the other three personality factors. Although this was supported for conscientiousness with Goldberg's Marker data, the findings from the BFI data suggested a large amount of variance in conscientiousness was perceived to be necessary by this sample. As noted above, the overt nature of the BFI questionnaire likely goes some way in explaining observed differences here. However, the possibility that high levels of

conscientiousness might not be considered to be required as consistently as one might expect should also be explored. If one considers items such as ‘thorough’ or ‘follow through with plans’ from the conscientiousness scale of the BFI, then it is possible to envision situations for which varying levels of conscientiousness may be acceptable, if not required. For example, in time sensitive or highly pressured situations one might not always have the luxury of being as thorough as they might prefer to get results within the required timeframe, while the performance of someone unwilling to abandon or adjust plans in a fast-paced and ambiguous working environment might quickly become threatened. Future research should seek to explore the demands for variation around conscientiousness more closely to establish the boundary conditions around required variation in conscientiousness states at work.

With regard to neuroticism, a sizeable amount of variance was perceived to be necessary across both samples and personality inventories. This is somewhat surprising given the relationship between neuroticism and negative outcomes including job dissatisfaction, underperformance, and unsatisfactory relationships (Ozer & Benet-Martínez, 2006), which may lead one to expect that consistently low levels of neuroticism would be desirable in the workplace. A likely explanation for this finding is that although low neuroticism might be required most frequently, there may be occasions when a less calm and collected state is necessary. For example, when empathy is needed (De Waal, 2009), or a passionate and charismatic style (Bass, 1996), the increased sensitivity and emotions that accompany higher neurotic states might become more beneficial. Indeed, there is evidence that neurotic personality states can be functional, with

negative affect acting as a motivating force to perform better (Turiano, Mroczek, Moynihan, & Chapman, 2013).

5.4.1. Limitations and future research.

There are a number of limitations to this study that should be acknowledged and addressed in future research. Firstly, the current study recruited individuals from across different organisations with few being employed in the same organisation. While this allowed for the examination of the requirements of personality variation across different roles and organisations, which was the primary goal of this study, it does mean that the findings are based on single-rater assessments. Future research should utilise multiple raters and combine the resulting scores with those derived from job analysis to provide more concrete estimates of the demands of specific roles.

A further limitation of this study is that it was not possible to examine whether varied personality demands are related to work outcomes. It is likely that some consequences of variation are positive (i.e., allowing for more interesting work), whilst others are negative (i.e., demands associated with expressing personality in a way that is counter to a person's preferred style). Future research should therefore investigate the relationship between required personality variation and occupational outcomes.

Finally, an important question also remains outstanding. This question concerns whether employees differ in their capacity to vary their personality expression as required. The previous chapter presented a theoretical justification for why individual differences in such a capacity – termed 'adaptive personality regulation' – might be expected to exist. If this were true, it would undoubtedly

be an important driver of effective work performance given the findings of this study. Future research should seek to examine whether or not there are stable individual differences of this type and what the implications are for workplace outcomes such as job performance.

5.4.2. Summary.

In summary, Study 1 demonstrates that employees from a wide variety of different occupations perceive personality variation as a requirement of their job. Evidence that personality variation is not only required, but that it is also something employees consciously recognise, suggests that it is increasingly likely that capturing such variation and a person's ability to enact it (i.e., through a measure of adaptive personality regulation) will improve prediction of job performance. The goal of the remaining empirical chapters is to seek to demonstrate proof of concept for adaptive personality regulation, and establish the extent to which it is able to explain incremental variance in performance outcomes over and above traditional mean-level personality scores.

Chapter 6

Study 2: Exploring the Construct and Utility of Adaptive Personality

Regulation

Workplace behaviour is defined not only by a person's ability to do something, but also the style with which they do it (Hughes & Batey, 2017). It therefore follows that personality should have a significant impact on how people conduct themselves at work, and in turn, their performance. However, although numerous meta-analyses have confirmed a relationship between personality and performance (e.g., Barrick & Mount, 1991; Barrick et al., 2001; Judge & Ilies, 2002; Salgado, 1997; Schmidt et al., 2008; Tett et al., 1991), effect sizes are consistently low, with around 90% of the variance in performance typically remaining unaccounted for (Morgeson et al., 2007). Many scholars believe that the true magnitude of prediction for personality is actually much higher, but true effect sizes are masked by poor measurement (e.g., Connelly & Ones, 2010; Tett & Christiansen, 2007).

Various methods to improve personality measurement have been explored (see section 2.4.). However, none of these approaches have adequately accounted for the dynamic nature of personality (see chapter 3). The results of the study presented in chapter 5 establish that employees in a wide range of occupations recognise that personality variation is required for them to fulfil the demands of their jobs. In other words, the heterogeneous nature of many job roles means that in order to perform well at work, individuals are required to be both introverted and extraverted, agreeable and disagreeable, open and closed, and so on.

The present chapter seeks to build on this finding, by explicitly examining whether the predictive utility of personality can be improved by capturing its dynamic nature. Adaptive personality regulation has been defined as a person's capacity to regulate their expression of personality so that it is adapted to each situation such as to maximise goal attainment. If systematic personality variation is required to perform well at work, then it follows that capturing an individual's ability to enact such variation might improve prediction of performance. Hence this study seeks to explore whether the proposed trait of adaptive personality regulation exists, whether it can be assessed using a novel assessment centre approach, how it relates to other variables, and finally whether or not it predicts performance.

6.1. Introduction

Having presented a conceptual framework for adaptive personality regulation in chapter 4, and demonstrated the value such a construct might offer in understanding employees' personality at work in chapter 5, the goal of this chapter is to demonstrate proof of concept for adaptive personality regulation and examine its relationship with performance. To this end, the investigation is focused on exploring the four key characteristics of adaptive personality regulation proposed in chapter 4 (see section 4.2), namely that adaptive personality regulation: (i) is underpinned by a regulatory mechanism; (ii) generalises across personality traits and situations; (iii) is an individual difference; and (iv) is adaptive by nature.

Observing and measuring adaptive personality regulation is a crucial step in any attempt to establish proof of concept for this construct. In order to do this it was considered necessary to implement a design that would provide

participants with performance goals that would elicit adaptive personality regulation within a situation that would enable reliable measurement. A laboratory study was considered most conducive to this end, given the advantages afforded by the ability to standardise tasks and procedures across participants. Highly controlled laboratory studies are often considered more appropriate in the early investigation of proposed constructs (Cochran & Cox, 1992).

A potential disadvantage of laboratory studies is that artificial situations can elicit unnatural responses from participants that do not necessarily reflect how they would respond in real life, which can threaten the ecological validity of findings (e.g., Rauthmann et al., 2015). To combat this, care was taken to ensure the study adhered to the principles of experimental realism insofar as possible (Wrzus & Mehl, 2015). Laboratory sessions were designed to closely resemble a real-world context and every attempt was made to motivate participants to perform as they would outside the laboratory. Specifically, the study was designed to simulate a graduate assessment centre and participation was pitched as an opportunity to gain experience and thus improve career prospects. To maximise motivation, participants were also informed that they would receive feedback on their performance that might help them identify areas to improve upon at future assessment centres (e.g., Hsia, Huang, & Hwang, 2016).

The mock assessment centre was comprised of five tasks, which were selected according to criteria designed to ensure adaptive personality regulation was elicited. Specifically, (i) task performance should be associated with personality, (ii) different expressions of personality should be associated with success in the different tasks included in the mock assessment centre, (iii) tasks

should be similar to those likely to be encountered at a graduate assessment centre, (iv) individual tasks should not exceed 15 minutes in length, and (v) tasks should have an objective measure of performance to minimise common method bias⁷. These criteria led to the selection of the following five tasks: presentation, proofreading, negotiation, trust, and group exercise (see section 6.2.2.5 for a full description of each task).

Table 6.1 presents the expected relationship between each task and the Big Five personality traits based on previous findings in the literature. Previous research has shown that high extraversion and low neuroticism are beneficial for performance in public speaking exercises such as the presentation task selected for use here (Alpert, Pouget, & Silva, 2001; Blume, Dreher, & Baldwin, 2010; McCroskey, Heisel, & Richmond, 2001). In contrast, proofreading performance has been shown to be positively associated with introversion (i.e., low extraversion) and conscientiousness (Furnham, Taylor, & Chamorro-Premuzic, 2008; D. Gallagher & Hall, 1992; Hasler & Clarke, 1967). Performance in the distributive negotiation exercise selected for use in this study is also associated with introversion, as well as low agreeableness behaviour (Barry & Friedman, 1998; Dimotakis, Conlon, & Ilies, 2012), while the trust exercise has been linked with high agreeableness and low conscientiousness and neuroticism (Evans & Revelle, 2008; Müller & Schwier, 2012). The group exercise is centred on persuasion, success at which has previously been associated with high openness and low neuroticism (Oreg & Sverdlik, 2014).

⁷ The only exception was the presentation task where an objective performance measure was not possible.

Table 6.1.

Expected Relationships Between Personality Traits and Performance Across the Study Tasks

	High E	Low E	High A	Low A	High C	Low C	High O	Low O	High N	Low N
Presentation	✓									✓
Proofreading		✓			✓					
Negotiation		✓		✓						
Trust			✓			✓				✓
Group							✓			✓

Note. E = extraversion; A = agreeableness; C = conscientiousness; O = openness; N = neuroticism.

In order to calculate adaptive personality regulation scores, it was necessary to precisely quantify the information in Table 6.1, such that an optimal level of relevant personality expression could be identified for each task. To this end, eight independent personality experts⁸ were each provided with descriptions and performance criteria for each of the five tasks. The experts were asked to provide ratings of what they considered to be the optimal expression of personality for success in each task. The Bipolar Big Five Marker Scale (Goldberg, 1992)⁹ was employed for this purpose, and was minimally adjusted to make it appropriate for use in this context. The questionnaire used for expert ratings can be found in Appendix C. Means were calculated from the expert ratings on each item across the tasks and these scores served as the ratings of optimal personality expression that were subsequently utilised to calculate adaptive personality regulation scores (see section 6.1.1).

⁸ Experts had a minimum of a Masters level qualification in Psychology, and had all completed BPS Test User qualifications. The vast majority held a PhD in Organisational Psychology and specialised in personality and individual differences research.

⁹ This measure of personality was utilised consistently across the study, as the use of commensurate scales was deemed essential to subsequent valid comparison and amalgamation of scores.

For adaptive personality regulation to be measured effectively, it is essential that only traits relevant to the goal are considered or the measure runs the risk of being confounded. For instance, success in a particular task or situation may be supported by high agreeableness and extraversion states, but completely unrelated to expressed levels of conscientiousness, openness, and neuroticism. If one were to assume that there must always be an optimal level of each of the Big Five factors in every situation, and therefore incorporate all five of these personality factors into the measure of adaptive personality regulation, error would inevitably be introduced into the measurement, making it less valid and hence reducing its predictive power.

Experts were therefore asked only to provide ratings for items they deemed relevant to task performance. Items that three or more of the eight expert raters judged to be irrelevant to task performance were removed from subsequent analyses. This led to a total of 12 items being deleted across the five tasks. An example is the conscientiousness item '*extravagant – thrifty*', which the experts judged irrelevant to performance in the presentation exercise (for a comprehensive list of omitted items see Appendix D).

The use of expert ratings provides a relatively objective estimate of the required personality expression for each task, which was expected to increase the reliability and validity of resultant adaptive personality regulation scores. Such an approach shares some similarities with work from the emotional intelligence literature. Like adaptive personality regulation, there is often no single 'correct' answer to an emotional dilemma, rendering a veridical approach to scoring unfeasible (G. Matthews, Zeidner, & Roberts, 2012). Despite this, one can still recognise that certain approaches are more likely to be advantageous in certain

situations. Mayer and Salovey demonstrated that expert ratings can be used to capitalise on this. Indeed, measures of emotional intelligence developed with a panel of emotion experts to determine optimal answers to test questions show high levels of convergence and have proven to be psychometrically robust (G. Matthews et al., 2012; Mayer, Salovey, Caruso, & Sitarenios, 2003). Such findings support the use of expert ratings in the measurement of adaptive personality regulation. The approach followed in the calculation of scores is described in more detail below (see section 6.1.1).

6.1.1. Measuring adaptive personality regulation.

A viable measure of adaptive personality regulation needs to be able to accurately reflect the extent to which the personality states an individual expresses in any given situation are conducive to goal attainment. A defensible approach to measurement would therefore be an observation of the absolute difference between expressed personality (i.e., the behaviour presented by the participant) and optimal personality (i.e., the expert rating as described above) across the Big Five in each of the five tasks. The smaller this absolute difference then the more appropriate the personality expression and thus the more successful the personality regulation. Essentially then, in equation form, adaptive personality regulation = optimal personality – expressed personality. This approach is similar to that advocated by Cook (2016)¹⁰. The main difference in this study was the incorporation of expert ratings of optimal personality. Cook (2016) did not attempt to quantify optimal personality, instead assuming this information could be accurately inferred from the task design, which was later

¹⁰ Cook (2016) also examined the utility of a ‘goal directed state range’ score, which represented the total amount of movement observed across two tasks requiring opposing personality states as an indication of adaptability potential. However, this score had a lower predictive utility.

acknowledged to be limited. To overcome this weakness, the mean of eight independent experts' ratings was utilised to quantify optimal personality in the current study in an attempt to improve reliability of measurement.

While optimal personality was determined using experts' ratings as described above (see section 6.1), expressed personality was rated using both self- and observer-ratings. There are several reasons for utilising observer-ratings of personality states. Firstly, the observable manifestation of personality traits in behaviour is particularly important when one is interested in understanding the consequences of personality within a social context (such as an assessment centre or place of work). Further, behavioural observation data are known to suffer less from reporting biases than self-report data (Wrzus & Mehl, 2015). Indeed, observer reports in standardised situations have been described as the most stringent data (Fleeson & Law, 2015), lending additional weight to the resulting findings. Finally, although some traits are harder for observers to rate than others (Funder, 1995), observer-ratings of personality nevertheless explain substantially more variance than self-report ratings in a variety of outcomes, including performance (e.g., Connelly & Ones, 2010). Such findings provide a strong rationale for supplementing self-ratings of expressed personality with observer-ratings in order to examine their convergence and comparative validity.

To calculate observer-rated adaptive personality regulation the difference between optimal personality expression and observer-ratings of personality expression is taken. To calculate self-rated adaptive personality regulation the difference between optimal personality expression and self-ratings of personality expression is taken. Adaptive personality regulation can be measured both within a specific task and across tasks. Task-specific adaptive personality regulation

scores represent how closely an individual’s expressed personality reflects optimal personality expression within a particular task. Multiple task-specific scores can be aggregated into a single score that represents the extent to which an individual is able to adaptively regulate their personality across a range of situations, thereby approximating a trait measure of adaptive personality regulation.

6.1.2. Proof of concept for adaptive personality regulation.

Based on the measurement approach outlined above, this investigation seeks to evidence proof of concept for the proposed construct of adaptive personality regulation through an examination of its four key characteristics. These characteristics were described in depth in chapter 4 (see section 4.2). Briefly, adaptive personality regulation is: (i) is underpinned by a regulatory mechanism; (ii) generalise across personality traits and situations; (iii) is an individual difference; and (iv) is adaptive by nature. In chapter 4, each of these key characteristics was broken down into a series of proof of concept statements. Table 6.2 presents a summary of these statements and also indicates which constitute hypotheses tested in the current study.

Table 6.2.

Proof of Concept Statements for Each Key Characteristic of Adaptive Personality Regulation, and Which are Explored in the Current Empirical Investigation

Proof of Concept Statement	Study 2 Hypothesis
Adaptive personality regulation is underpinned by a regulatory mechanism	
- Adaptive personality regulation is goal-directed	X
- Adaptive personality regulation is a conscious, controlled process	
- Adaptive personality regulation becomes more efficient with practice over time	
Adaptive personality regulation generalises across personality traits and	

Proof of Concept Statement	Study 2 Hypothesis
situations	
- Adaptive personality regulation scores across traits and situations conform to a general factor	X
Adaptive personality regulation is an individual difference	
- Adaptive personality regulation scores vary across individuals	X
- Adaptive personality regulation is separate from theoretically similar constructs previously identified in the literature	X
Adaptive personality regulation is adaptive	
- Adaptive personality regulation is positively associated with adaptive outcomes	X
- Adaptive personality regulation is distinct from personality variability more generally	X
- Individuals high in adaptive personality regulation are less susceptible to the potentially maladaptive consequences of sustained personality regulation than individuals low in the construct	X

6.1.2.1. Adaptive personality regulation is goal-directed.

Adaptive personality regulation is posited as a regulatory process. Self-regulation is a goal-directed process that refers to the control of one's thoughts, feelings, and behaviour in order to achieve or maintain a desired state or outcome (Baumeister et al., 2006; Carver & Scheier, 2001; Denissen et al., 2013). Within the context of adaptive personality regulation, this suggests that where individuals perceive a discrepancy between the personality states they are currently expressing and those considered optimal for success in their current situation, they will attempt to regulate their expression of personality to reduce this discrepancy, provided the change is considered attainable. This implies that adaptive personality regulation is dependent upon individuals being consciously aware of the need for goal-directed changes to their personality states, evidence of which was reported in chapter 5.

There is considerable evidence in the extant literature to support the role of goal-pursuit in personality variation (Heller et al., 2007; Huang & Ryan, 2011; McCabe & Fleeson, 2012; McCabe et al., 2013; Minbashian et al., 2010; Nikitin

& Freund, 2013; Snyder & Gangestad, 1986). For example, people report increasing their extraversion states when pursuing extraversion-related goals such as trying to have fun, or trying to make new friends (McCabe & Fleeson, 2012). Thus, there is reason to believe that adaptive personality regulation is a goal-directed process in which individuals regulate their personality in order to maximise goal attainment. Evidence that adaptive personality regulation is associated with motivation for goal attainment, as well as goal attainment itself, would provide initial support for the goal-directed nature of this construct.

Hypothesis 1: Adaptive personality regulation is goal-directed

6.1.2.2. Adaptive personality regulation scores across traits and situations conform to a general factor.

Adaptive personality regulation is hypothesised to be a general trait that drives personality regulation across all traits and situations. So, across situations, a person's ability to adaptively regulate extraversion, for example, will be of a similar level to his or her ability to adaptively regulate conscientiousness, openness, agreeableness, and so on. Although it is not assumed that regulation will be uniform across all situations (i.e., some situations are more suited to adaptation than others, see section 4.2.4.), there is expected to be substantial rank-order consistency across individuals. In other words, it is hypothesised that those who are most successful at adaptively regulating their personality in one situation will also be the most successful in another situation, regardless of which personality trait is the target of regulation. If this is the case then adaptive personality regulation scores derived from a number of different personality traits across a range of diverse situations should fit a single factor model. Scores on this single higher-order factor would then represent 'trait' levels of adaptive

personality regulation (i.e., the extent to which an individual is able to adaptively regulate his or her personality expression, regardless of the situation or target trait).

Hypothesis 2: Adaptive personality regulation scores across traits and situations conform to a general factor

6.1.2.3. Adaptive personality regulation scores vary across individuals.

Adaptive personality regulation is proposed as an individual difference, meaning that there are stable between-person differences with respect to individuals' ability to adaptively regulate their expression of personality. Previous research has demonstrated differences across individuals with respect to both the extent (e.g., Fleeson, 2001, 2007; Fleeson & Gallagher, 2009), and nature (e.g., Fleeson, 2007; Fleeson & Gallagher, 2009; Heller et al., 2007; Judge et al., 2014; McCabe & Fleeson, 2012) of personality variation. In other words, individuals differ reliably with respect to both the *amount* their personality states vary, and the *content* of this variation.

Arguably the most convincing evidence of an individual difference in adaptive personality regulation from the extant literature can be found in Cook (2016). Here it was reported that an individual's ability to adapt their extraverted personality states to meet the demands of two very different tasks appeared to be governed by an individual difference that is distinct from trait extraversion. This finding is extremely tentative though as claims of individual differences require a demonstration of stability which has not yet been explored. However, indirect support can be found in the wider literature on personality dynamics, which has shown that there is stability within personality variation. For example, Fleeson

(2001) reported that, when density distributions of an individual's personality state manifestations are examined over time, both the central tendency of these distributions and the variation around the mean are very highly correlated from one week to the next ($r = .93 - .97$, and $r = .72 - .85$, respectively).

Such findings lend support to the notion of an individual difference in adaptive personality regulation, but it is important to explicitly examine this assertion empirically by exploring whether there is variation in adaptive personality regulation scores across individuals. This can be done through an examination of both the range and standard deviation of scores across individuals. A lack of observed variation in scores might suggest that people are largely able to execute adaptive regulation of their personality traits to the same degree and, as such, it is not a process that is underpinned by an individual difference.

Hypothesis 3: Adaptive personality regulation scores vary across individuals

6.1.2.4. Adaptive personality regulation is separate from other theoretically similar constructs previously identified in the literature.

In addition to evidencing variation in scores, demonstrating that adaptive personality regulation is an empirically unique individual difference will also necessitate providing evidence to show that adaptive personality regulation is separate from other theoretically similar constructs already identified in the extant literature. Demonstrating discriminant validity of adaptive personality regulation is imperative to evidencing proof of concept. A successful demonstration of discriminant validity would involve demonstrating

independence between adaptive personality regulation and other constructs (Campbell & Fiske, 1959). Although there is no prescriptive approach for determining discriminant validity, it is generally accepted that correlations of $< .85$ between two constructs can be said to be discriminant. However, when relationships approach this magnitude, a more stringent test is to compute the confidence interval of the paired correlation. If the confidence interval does not include 1 then discriminant validity is supported (Torkzadeh, Koufteros, & Pflughoeft, 2003).

Chapter 4 identified a range of theoretically similar constructs, all of which share some degree of conceptual overlap with adaptive personality regulation (see Table 4.1). The current study considers the relationship between adaptive personality regulation and personality traits, cognitive ability, and self-monitoring. Hence, the discussion below is centred on these constructs in particular.

With respect to personality traits, the conceptual differences between traits and adaptive personality regulation were noted above. Individual differences in underlying personality traits contain meaningful information about an individual's *typical or preferred* pattern of thoughts, feelings and behaviour. However, trait scores provide little insight into a person's ability to adapt their behaviour in a goal-directed manner. In contrast, while adaptive personality regulation does not reflect typical or preferred styles, it does indicate the extent to which an individual is able to regulate their personality traits away from their preferred position when desired. Thus, adaptive personality regulation should emerge as distinct from personality traits in any empirical investigation.

Hypothesis 4: Adaptive personality regulation is conceptually distinct from personality traits

Cognitive ability reflects speed of information processing and problem-solving ability (e.g., Gottfredson, 1997; Jensen, 1998). Although not typically implicated in acts of self-regulation, cognitive ability would be expected to be advantageous during certain phases of the adaptive personality regulation process, such as accurately appraising situations, and determining the personality states most conducive to goal attainment (see section 4.5.5.).

Cognitive ability consistently emerges as the individual difference construct that most strongly predicts job performance (e.g., Barrick & Mount, 1991). Scholars have previously asserted that one possible explanation for why cognitive ability predicts performance so much more strongly than personality is that cognitive ability is associated with one's ability to control their personality expression (Schmidt et al., 2008). In other words, cognitive ability captures the 'smart use' of personality. Hence, although conceptually distinct, it is plausible that cognitive ability is a mechanism that underpins the process of adaptive personality regulation. Empirical investigation is needed to determine the extent to which these constructs are related.

Hypothesis 5: Adaptive personality regulation is a separate construct from cognitive ability

Self-monitoring refers to the regulation of behaviour in social situations in an attempt to manage the impression one makes on other people and receive positive feedback (Snyder & Gangestad, 1986). There is considerable conceptual overlap between self-monitoring and adaptive personality regulation. Indeed,

both processes involve the conscious regulation of personality states for the purpose of goal attainment. The fundamental conceptual difference relates to the scope of the two constructs. While self-monitoring is exclusively focused on goals related to self-presentation in social contexts, adaptive personality regulation is much broader in scope and is applicable to a whole plethora of goals and contexts.

Hypothesis 6: Adaptive personality regulation is a separate construct from self-monitoring

6.1.2.5. Adaptive personality regulation is positively associated with adaptive outcomes.

As is evident in the construct label, adaptive personality regulation is posited to serve an adaptive function for the individual. The goal-directed nature of adaptive personality regulation enables individuals to utilise personality regulation to attain situational goals. Thus, over time, individuals high in adaptive personality regulation should be more successful with respect to adaptive life outcomes such as job performance, relationship quality, psychological wellbeing, and life satisfaction. Due to this thesis' primary focus on improving the predictive power of personality within an occupational context, the outcomes considered in the current empirical investigation relate to task performance. Determining proof of concept here would require demonstrating that adaptive personality regulation is a significant predictor of targeted performance outcomes, and is able to explain incremental variance over and above other relevant theoretical constructs such as personality traits and cognitive ability.

Hypothesis 7: Adaptive personality regulation is positively associated with task performance

6.1.2.6. Adaptive personality regulation is distinct from personality variability more generally.

The adaptive nature of adaptive personality regulation distinguishes this construct from personality variability more generally, some forms of which have been shown to be neither adaptive, nor regulatory in nature (e.g., Côté et al., 2012; Miskewicz et al., 2015). In other words, not all personality variation is proposed to be adaptive. Adaptive personality variability is posited as a specific type of personality variability, which results specifically from adaptive personality regulation. As such, there is expected to be an observable and quantifiable difference between personality variability arising from adaptive personality regulation and personality variability more generally. This can be examined by considering the association between total personality variation (i.e., the absolute difference between trait personality scores and state personality scores) and variation arising from adaptive personality regulation (i.e., goal-directed personality variation). If all variation were adaptive then one would expect the magnitude of this relationship to suggest equivalence (i.e., $\geq .85$).

Hypothesis 8: Adaptive personality regulation is distinct from personality variability more generally

6.1.2.7. Individuals high in adaptive personality regulation are less susceptible to the potentially maladaptive consequences of sustained personality regulation than individuals low in adaptive personality regulation.

An implication of adaptive personality regulation serving a long-term adaptive function is that individuals high in adaptive personality regulation must be immune, or at least less susceptible, to any potentially maladaptive consequences of sustained personality regulation, such as cognitive fatigue or depletion. Previous research has suggested that consistently enacting personality states that are contrary to one's underlying traits will be unsustainable due to the associated cognitive demands (e.g., P. Gallagher et al., 2011; B. R. Little, 2008). To the author's knowledge there has been very little empirical work explicitly exploring this to date. However, P. Gallagher et al. (2011) found that once habituated, behaviours that are not consistent with an individual's underlying traits are no more effortful to perform than those that are. These results suggest that individuals high in adaptive personality regulation might be advantaged by either a greater capacity for personality regulation and/or an ability to automatise personality regulation more quickly.

In order to examine empirically whether individuals high in adaptive personality regulation are less susceptible to the potentially negative consequences of sustained personality regulation than individuals low in the construct, one could examine whether the relationship between the amount of personality regulation (i.e., deviance from trait standing) and performance differs for individuals high and low in adaptive personality regulation. For example, the distance an individual is required to regulate across the span of a particular personality trait might have a greater impact on performance among those low in adaptive personality regulation than among those high in adaptive personality regulation. This is because regulation is more of a drain on cognitive resources for individuals low in adaptive personality regulation than it is for individuals

high in adaptive personality regulation, meaning it is likely to negatively impact performance outcomes more quickly and/or to a greater extent.

Hypothesis 9: Individuals high in adaptive personality regulation are less susceptible to the potentially maladaptive consequences of personality regulation than individuals low in the construct

6.2. Method

6.2.1. Sample.

Participants were recruited using internal contact lists from the University of Manchester and through advertisements placed in relevant groups on Facebook. Advertisements presented participants with an overview of the study and provided the author's contact details for those who had further questions or wished to register their interest in study participation (see Appendix E).

This strategy led to over 100 potential participants registering their interest in taking part in the study. This sample size was considered to offer sufficient power and enable the use of advanced quantitative methods such as confirmatory factor analysis (CFA) and structural equation modelling (SEM) in analysis of the data (Boomsma, 1982). However, subsequent dropout in the period between registration and session attendance resulted in a final sample of 68 participants¹¹. The nature of participant recruitment meant that the sample were all students from the University of Manchester. There were considerably more females (73.5%) than males (26.5%) in the sample and the vast majority was aged 18 – 25 years (86.8%). The sample comprised 77.9% postgraduate

¹¹ Most participants cited impending coursework deadlines or unforeseen circumstances as the reason why they were unable to attend the laboratory session and participate in the research as originally planned.

students and 22.1% undergraduate students and for 77.9% English was not their first language. The sample was diverse with regard to ethnicity: European/White = 33.8%, East Asian = 32.4%, South East Asian = 17.6%, South Asian = 5.9%, Black = 5.9%. A complete demographic breakdown of the final sample is presented in Table 6.3.

Table 6.3.

Demographic Characteristics of Sample by Frequency (%)

Age	18-25 59 (86.8)	26-40 8 (11.8)	41-55 1 (1.5)	56+ 0 (0)		
Gender	Male 18 (26.5)		Female 50 (73.5)			
Ethnicity	European/White 23 (33.8)	East Asian 22 (32.4)	South East Asian 12 (17.6)	South Asian 4 (5.9)	Black 4 (5.9)	Other 3 (4.4)
Degree	Undergraduate 15 (22.1)			Postgraduate 53 (77.9)		
First Language	English 15 (22.1)			Other 53 (77.9)		

6.2.2. Measures.

Data were collected through a laboratory study and an online questionnaire. The online questionnaire was completed by participants up to two weeks prior to their involvement in the laboratory session and consisted of measures of self-report personality traits, intelligence, self-monitoring, and demographic items (detailed above). The measures used in both components of the study are described below. A full list of materials can be found in Appendix F.

6.2.2.1. *Personality traits.*

Given that this study represents the first empirical study into the construct of adaptive personality regulation, it was decided to measure personality within the framework of the Big Five. Although not without its limitations, the widespread dominance of the Big Five and the resultant availability of a wide range of psychometrically robust measures in the public domain make it an obvious starting point. The selection of the precise measure of the Big Five to utilise was guided by the need for a measure that was (i) psychometrically robust, (ii) easily adapted for the measurement of personality states, and (iii) simple and concise.

With these criteria in mind the Bipolar Big Five Marker Scale (Goldberg, 1992) was selected. This is an adjective-based measure of personality that utilises bipolar rating scales, allowing scale dimensions to be mapped more precisely than when unipolar scales are used (Goldberg & Kilkowski, 1985). Items were administered in a transparent format given that this approach has been shown to yield more univocal patterns of factor loadings than a quasirandomised format with items of this type (Goldberg, 1992).

This scale has previously demonstrated good internal consistency ($\alpha = .76 - .88$) and the scales have good discriminant validity (Goldberg, 1992). Each set of paired adjectives is presented on a 9-point rating scale where one adjective anchors the extreme points of the scale at 1 and 9. An example pair of adjectives from the Extraversion scale are: '*Introverted*' and '*Extraverted*' (where, $1 = Introverted$, and $9 = Extraverted$).

6.2.2.2. Cognitive ability.

Cognitive ability was measured using the International Cognitive Ability Resource Sample Test (ICAR; Condon & Revelle, 2014). This is a 16-item measure of cognitive ability that comprises four item types: verbal reasoning, letter and number series, matrix reasoning, and three-dimensional rotation. The measure has previously demonstrated good internal consistency ($\alpha = .73$; Roulin, 2016) and is freely available in the public domain. The brevity of this measure and the fact that it has been shown to demonstrate convergent validity with other validated measures of cognitive ability such as the Shipley-2, which is a brief commercial measure of cognitive functioning (Condon & Revelle, 2014).

6.2.2.3. Self-monitoring.

Self-monitoring was measured using the Self-Monitoring Scale (Snyder, 1974). This is a dichotomous 25-item scale that has been shown to have good internal consistency and test-retest reliability (both .83, Snyder, 1974). Participants respond 'true' or 'false' on how they feel a series of statements applies to them. An example item is; '*When I am uncertain how to act in a social situation, I look to the behaviour of others for cues*'. An 18-item revised version of Snyder's (1974) original Self-Monitoring Scale has been reported to be psychometrically superior, with better reliability and a cleaner factor structure (Briggs & Cheek, 1988; Snyder & Gangestad, 1986). However, this scale has been shown to be more closely associated with individual differences such as social confidence and social surgency than with traditional conceptualisations of self-monitoring (Briggs & Cheek, 1988). Thus, Snyder's (1974) original scale was selected for use in this study.

6.2.2.4. Motivation.

Self-report motivation for success in the tasks was provided through the use of a single item; “*Please indicate on the scale below how motivated you feel to perform to the best of your ability at today’s mock assessment centre*”. The use of single items has been established elsewhere in the psychological literature. Advocates argue that single-item measures not only save time and resources, but also contain higher face validity (e.g., Wanous, Reichers, & Hudy, 1997). In addition, empirical work has demonstrated that single-item measures can even account for more variance in outcomes than their multiple-item counterparts (e.g., Nagy, 2002). Ratings of motivation were provided on a ten-point scale where, *1 = not at all motivated* and *10 = extremely motivated*.

6.2.2.5. Performance.

Performance was measured through an assessment of task performance on five assessment centre-style exercises. Task-specific performance scores were calculated, which were subsequently aggregated to create an overall performance score. Each task is described briefly below, together with the task-specific performance measures.

6.2.2.5.1. Presentation.

Two weeks prior to attending the laboratory session participants were instructed to prepare a five-minute talk. Talks could be on any topic of participants’ choice, but they were asked to aim to make it as interesting and engaging as possible. Both participant observers and the two research assistants completed rating sheets to provide a measure of performance in this task. The rating sheets assessed performance according to the criteria set out by the

University of Manchester. Specifically, the following four criteria were each assessed on a scale of 1 – 10, where 1 = *extremely poor* and, 10 = *extremely good*: preparation, structure, delivery, and content. Mean rating scores were calculated for each participant across each of the four categories. These scores were then totalled to create an overall task performance score.

6.2.2.5.2. *Negotiation.*

The negotiation task chosen followed that described in Barry and Friedman (1998). In this distributive negotiation task participants are placed in pairs and randomly assigned to either buyer or seller roles. The buyer receives instructions that he or she represents a steel manufacturing company that is facing a production shortfall and it is their role to negotiate the purchase of additional steel units at the best possible price. They are instructed only to buy the steel if they can get it for £35 per unit or less (buyer's reservation price). The seller receives instructions that he or she represents a steel manufacturing company that has an excess production capacity and it is their role to negotiate the sale of the additional steel units at the best possible price. They are instructed to only sell the steel if they can achieve £10 per unit or more (seller's reservation price). Thus, there is a substantial zone of potential agreement for a settlement price between the reservation prices provided to each dyad member. Participants are given a maximum of 10 minutes to reach a settlement price.

Performance in this task was measured by converting the agreed settlement price into an economic distance from the relevant reservation price given to participants at the outset of the task. For example, the seller's reservation price was £10 per unit. Therefore, a settlement price of £25 would result in a seller's score of 15 in this task ($25 - 10 = 15$). Similarly, as the buyer's

reservation price was £35, a settlement price of £25 for the buyer would result in a score of 10 ($35 - 25 = 10$).

6.2.2.5.3. Proofreading.

For the proofreading task participants were presented with an extract of text from the book, *Alice's Adventures in Wonderland*. The text had been modified to include spelling errors, punctuation errors, word omissions, and double words. Participants had 12 minutes¹² to identify as many errors as possible in the passage of text, which was longer than could possibly be completed in the allocated time. The frequency of errors was approximately one per line of text.

Previous research has demonstrated that the strongest relationship between personality and proofreading performance emerges when proofreading is scored with an accuracy performance index (D. Gallagher & Hall, 1992). Therefore, in order for the examination of incremental validity of adaptive personality regulation over personality traits to be as stringent as possible, a measure of accuracy was utilised here. Specifically, proofreading accuracy (AC) was calculated by dividing the total number of 'hits' (H) i.e., correctly identified errors, by the sum of (1) the total number of 'misses' (M) i.e., the number of errors in the text not identified, and (2) the total number of 'false positives' (FP) i.e., the number of incorrectly identified errors in the text. Thus, $AC = H / (M + FP)$.

¹² Pilot testing by D. Gallagher and Hall (1992) found 12 minutes to be a long enough time period to ensure adequate variance in proof-reading performance, yet brief enough to prevent task fatigue.

6.2.2.5.4. *Trust exercise.*

This task was based on a traditional economic game in which players are randomly assigned to be either Player 1 ('the trustor') or Player 2 ('the trustee'). Each player is given 10 units of experimental currency. The trustor is then given the option of making a transfer of any proportion of their experimental currency to the trustee. They are informed that the experimenter will triple whatever amount they choose to transfer, should they choose to transfer any, and that the trustee will then have the opportunity to transfer currency back to them. On receiving his transfer from the trustor, the trustee then decides how much, if anything, he wishes to transfer back to the trustor. This economic game is commonly referred to as the "trust game" given the centrality of trust to the trustor's initial decision about how much currency to transfer (Evans & Revelle, 1998). A trustor that trusts that the trustee is likely to transfer more back if he or she receives a larger donation is likely to transfer more currency than a trustor who feels that the trustee is likely to take advantage of a large donation and keep more currency for himself.

Previous research has demonstrated that only the behaviour of the trustor in this exercise is associated with personality traits (e.g., Evans & Revelle, 1998; Müller & Schwieren, 2012). Therefore, to make the exercise appropriate for use in the current context, this exercise was adapted such that all participants acted as the trustor. Specifically, participants were provided with written instructions informing them that they had been randomly assigned a partner from the other participants present. They were each told that they had been randomly assigned to be the trustor, and their partner, whose identity would not be revealed to them, the trustee. Participants were then presented with instructions and given 10

minutes to make a decision on how many experimental units they wished to transfer, as well as write a passage explaining their thought processes in making this decision. This passage was used to rate participants' personality states in this task¹³.

Performance in this task was calculated by tripling the number of experimental currency units participants had chosen to transfer to the trustee, and adding this number to any experimental currency the participant had remaining. For example, a participant who chose to transfer 6 experimental currency units would receive a score of 22 in this task $((6 \times 3) + (10 - 6) = 22)$.

6.2.2.5.5. Group task.

The group task selected for use in this study was closely based on an exercise used by a Manchester-based recruitment firm. This task was selected due to its high ecological validity. Participants were placed in groups of 4-6 and each asked to identify a person they admire. Participants were then presented with a fictitious scenario in which the people the group have just identified as possessing admirable qualities are stranded on a deserted island. Each participant was tasked with convincing their fellow group members why the person they had identified as admiring was most deserving of a place on the only lifeboat off the island. Each group had 10 minutes to complete the exercise.

Performance was calculated by creating a mean score for each participant based on the rank-order ratings provided by fellow group members. As participants ranked group members according to how well they had persuaded them that the character they were arguing for was deserving of a place in the

¹³ Although a thought-aloud protocol might have been advantageous here, the nature of this empirical study and additional demands on time and resources that such an approach would require meant it was not possible.

lifeboat, low scores in this task indicated better task performance (as a score of 1, for example, suggests that person was voted by his fellow group members as the most convincing that their character deserved a place on the lifeboat). To aid interpretation, performance in this task was thus reverse scored.

6.2.2.6. Adaptive personality regulation.

Adaptive personality regulation was measured through a calculation of the absolute difference between optimal personality and expressed personality across the Big Five in each of the five tasks. Optimal personality was determined by the mean of eight independent experts' ratings. Expressed personality was rated by both observers, and by participants themselves, resulting in independent ratings of observer-rated adaptive personality regulation and self-rated adaptive personality regulation.

6.2.2.6.1. Observer-rated adaptive personality regulation.

Two observers provided ratings of each participant's state personality expression in each of the five tasks using the Bipolar Big Five Marker Scale (Goldberg, 1992). The instructions were minimally adjusted to make them appropriate for use with other-ratings of state personality (see Appendix F).

Observers were instructed not to provide ratings for any items that they felt were unobservable. Items that had $\geq 20\%$ data missing were considered candidates for removal. A total of eight items were identified for removal, all of which were from the trust exercise (see Appendix D). Feedback suggested that the observers found it difficult to provide meaningful ratings of personality states from the written extracts of text generated for use in this task. In most cases this was because participants had only provided a very brief explanation of their

thought process during the task, which lacked the depth or level of insight necessary for observers to reliably judge the personality states participants had been manifesting during the exercise. As such, it was decided that observer-ratings of personality states in this task were not reliable enough to warrant inclusion in subsequent analyses¹⁴.

Inter-rater agreement was examined as a further indicator of the reliability of observer ratings. The polychoric correlation, which estimates the correlation between raters as if they were made on a continuous scale (Flora & Curran, 2004; Uebersax, 2015), was utilised for this purpose. Although Kappa is often used to measure inter-rater agreement it can be affected by the prevalence of the object of measurement, and polychoric correlation estimates are a recommended alternative (e.g., Lilford et al., 2007).

An item-level inspection was conducted first, and items with non-significant levels of agreement were removed. This resulted in an additional eight items being removed, including all five of the openness items in the negotiation exercise (for a comprehensive list of omitted items see Appendix D). Table 6.4 presents inter-rater agreement and reliability estimates at the scale level.

Table 6.4.

Inter-Rater Agreement and Reliability (Ω) of Observer-Ratings of the Big Five in Each Task

	Presentation	Negotiation	Proofreading	Trust	Group
Extraversion	.849 (.947)	.636 (.932)	.314 (.931)	-	.803 (.969)
Agreeableness	-	.453 (.935)	-	.903 (.988)	.613 (.927)
Conscientiousness	.676 (.938)	.676 (.934)	.368 (.922)	.889 (.987)	.661 (.944)

¹⁴ Self-ratings of personality expression were not affected by this and hence it was still possible to examine the relationship between self-rated adaptive personality regulation and performance in this task.

	Presentation	Negotiation	Proofreading	Trust	Group
Openness	.437 (.937)	-	-	.441 (.931)	.545 (.945)
Neuroticism	.802 (.944)	.576 (.935)	.487 (.935)	-	.638 (.913)

Note. McDonald's Omega is used to estimate scale reliability and is presented in parentheses.

Having established reliable measurement, the next stage was to create adaptive personality regulation scores. This was achieved by first calculating the absolute difference between optimal personality expression (determined by the mean of the expert ratings) and the observed personality expression (determined by the mean of the two observer ratings) for each personality item across each of the tasks. Higher scores indicate more distance between optimal and expressed personality scores whereas lower scores indicate a better match between optimal and expressed scores. To aid interpretation of results, adaptive personality regulation was reverse scored such that high scores represented more adaptive personality regulation and low scores represented less adaptive personality regulation.

Item-level scores were subsequently aggregated into scale scores, reflecting the mean level of adaptive personality regulation for the Big Five within each task. These scores were used to examine the structure of adaptive personality regulation (see section 6.3.1.4).

6.2.2.6.2. Self-rated adaptive personality regulation.

To create self-rated adaptive personality regulation scores, the steps followed were identical to those outlined for other-rated adaptive personality regulation, with the exception that here, participants' self-ratings of expressed personality were compared with optimal personality, rather than observer-ratings. Self-ratings were reported after each task using the Bipolar Big Five Marker Scale (Goldberg, 1992). Again, the instructions were minimally adjusted

to ensure the scale was appropriate for use with *in situ* personality ratings, which is common practice in research of this type (e.g., Fleeson, 2007; Fleeson & Law, 2015; P. Gallagher et al., 2011; McCabe & Fleeson, 2012). Participants were instructed to only provide ratings for items that they felt were relevant to their performance in the preceding task (see Appendix F).

6.2.3. Procedure.

Participants were recruited to the study through advertisements sent via course co-ordinators and placed on several of the university's social networking pages. Students were offered the opportunity to attend a mock assessment centre and receive feedback on their performance as part of a doctoral research study. Interested students contacted the author via e-mail and were informed that the study involved attendance at a laboratory session, as well as an online questionnaire, which was to be completed up to two weeks prior. Participants were provided with a link to the questionnaire which contained demographic items in addition to measures of personality traits, cognitive ability, and self-monitoring. At this stage participants were also informed that they would need to prepare a five-minute talk on a topic of their choice. They were instructed to ensure their talk would be considered interesting to a group of fellow students and that there would be strict adherence to the time allowance.

Reminder emails were issued one week before the laboratory session, and again 24 hours before. Participants were informed that they were free to withdraw from the study at any time. Information sheets were issued on arrival at the laboratory session and participants were asked to sign consent forms and were given the opportunity to ask questions. Next they were issued with name badges (to ensure they could be easily identified by the research assistants who

would be rating their personality expression), and were randomly assigned to groups of between four and six, depending on how many participants were present at that particular session. In total, seven sessions were run across five days, with an average of eight participants in attendance, along with the author and up to six trained research assistants.

Two research assistants were allocated to each group to provide *in situ* personality ratings¹⁵. Measuring personality *in situ* reduces the likelihood of biased ratings that can occur from incorrect recall or estimation when using retrospective ratings (Shiffman, Stone, & Hufford, 2008; Wrzus & Mehl, 2015). An effort was made to counterbalance the order in which the tasks were undertaken, but the practicalities of needing additional raters to be present during the proofreading and group exercise meant that these tasks were generally completed last. The nature of the proofreading and group exercise meant that all participants undertook the task at the same time, as opposed to the presentation task, during which participants took it in turn to speak, or the negotiation exercise which was run in pairs. It was considered that requiring one assistant to rate the personality expression of up to eight individuals during a 10-15 minute period was not feasible, and that the cognitive burden would likely threaten the reliability of the resultant personality ratings. Therefore, all six research assistants were present during the proofreading and group exercise, and ratings were divided up such that each rater was responsible for providing personality ratings of 2-3 participants during each round of these two tasks.

¹⁵ The exception was the trust exercise. The nature of this task meant that *in situ* ratings were inappropriate and so observer ratings of personality were made after the laboratory session using written extracts of text provided by participants during the task.

At the end of every task participants were asked to complete self-report *in situ* ratings of their personality states, and were subsequently given a short break before they began the next task. After participants had completed all five tasks they were debriefed by the author and thanked for their participation. They were given a timeframe within which to expect to receive performance feedback and were invited to ask any outstanding questions.

6.2.4. Analysis strategy.

Analyses were conducted in Mplus 7.4 (Muthén & Muthén, 1998-2015) and SPSS 22.0. To begin, established scales were subject to an item-level confirmatory factor analysis (CFA) in order to test for unidimensionality. The weighted least squares means and variance adjusted (WLSMV) estimator was utilised given its suitability for ordinal-level data (Flora & Curran, 2004). To determine model fit, multiple indices were consulted. Although the chi-square statistic (χ^2) is widely reported, it is highly sensitive to sample size and is therefore generally regarded as an unreliable goodness-of-fit index (g., Schreiber, Nora, Stage, Barlow, & King, 2006). Hair, Ringle, & Sarstedt (2013) recommend consulting at least one incremental fit index¹⁶ and at least one absolute fit index¹⁷. Thus, it was decided that model fit be assessed by consulting the Comparative Fit Index (CFI), the Tucker Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). Where the data were judged to be continuous, the Standardised Root Mean Square Residual (SRMR) was also consulted. Model fit was considered to be good by values within the range of \geq

¹⁶ Incremental fit indices compare the chi-square to a baseline model in which the null hypothesis is that all variables are uncorrelated (McDonald & Ho, 2002).

¹⁷ Absolute fit indices compare the model fit to the data to no model at all (McDonald & Ho, 2002).

.90–.95 for the CFI and TLI, \leq .06–.08 for the RMSEA, and < 1 for the SRMR (Hu & Bentler, 1998, 1999; Schermelleh-Engel et al., 2003).

Next, the study's hypotheses were examined using a variety of multivariate techniques. First, the structure of adaptive personality regulation was examined through CFA but, because the data used in these analyses were scale-level not item level, the chosen estimator was maximum likelihood (ML). ML was preferred because of its appropriateness with continuous data, which scale-level data more closely approximates. The relationship between adaptive personality regulation and other constructs was subsequently examined through Pearson bi-variate correlation analysis. Next, a series of hierarchical multiple regressions were conducted to examine the relationship between adaptive personality regulation and task performance, and explore whether this construct is able to account for incremental variance beyond personality traits and cognitive ability. Finally, Pearson bi-variate correlation analysis was utilised again to explore the nature of adaptive personality regulation by examining its relationship with personality variability and maladaptive outcomes.

6.3. Results

6.3.1. Measurement models.

6.3.1.1. Personality traits.

A CFA was conducted on the Bipolar Big Five Marker Scale (Goldberg, 1992) that was utilised in the pre-experiment survey to measure personality traits. The results showed reasonable fit to the data ($\chi^2 (265) 600.005, p < .001$; CFI = .860; TLI = .842; RMSEA = .108). Although the fit falls slightly below the optimal range, this is typical of broad omnibus personality measures (Booth

& Hughes, 2014; Church & Burke, 1994; Hopwood & Donellan, 2010; Vassend & Skrandal, 2011). Table 6.5 depicts the measurement model for this scale including factor loadings, squared multiple correlations, average variance extracted, and reliability.

6.3.1.2. Cognitive ability.

A four-factor measurement model was specified for the ICAR Sample Test (Condon & Revelle, 2014) items. Each factor comprised items from one of the four item types: verbal reasoning, letter and number series, matrix reasoning, and three-dimensional rotation. This model demonstrated excellent fit to the data (χ^2 (98) 101.624, $p > .05$; CFI = .977; TLI = .972; RMSEA = .023). The full measurement model is presented in Table 6.5 below.

Table 6.5.

Measurement Models for Study Measures Including Items, Standardised Factor Loadings, Squared Multiple Correlations (SMCs), Average Variance Extracted (AVE), and Reliability (Ω)

Item	Loading	SMC
Personality		
Extraversion		
Introverted – Extraverted	.743	.552
Silent – Talkative	.640	.410
Timid – Bold	.632	.399
Inactive – Active	.848	.719
Unassertive – Assertive	.561	.315
		AVE = .479
		Ω = .779
Agreeableness		
Unkind – Kind	.762	.581
Uncooperative – Cooperative	.831	.691
Selfish – Unselfish	.719	.517
Distrustful – Trustful	.754	.569
Stingy – Generous	.779	.607
		AVE = .604
		Ω = .852
Conscientiousness		
Disorganised – Organised	.811	.658
Irresponsible – Responsible	.892	.796

Item	Loading	SMC
Personality		
Careless – Thorough	.796	.634
Lazy – Hardworking	.864	.746
Extravagant – Thrifty	.514	.264
		AVE = .620
		Ω = .875
Openness		
Unintelligent – Intelligent	.800	.640
Unanalytical – Analytical	.709	.503
Unreflective – Reflective	.657	.432
Unimaginative – Imaginative	.767	.588
Uncreative – Creative	.832	.692
		AVE = .571
		Ω = .764
Emotional Stability		
Tense – Relaxed	.853	.728
Nervous – At ease	.907	.823
Unstable – Stable	.762	.581
Discontented – Contented	.718	.516
Emotional – Unemotional	.451	.203
		AVE = .570
		Ω = .828
Cognitive Ability		
Verbal Reasoning		
VR.17	.826	.682
VR.04	.461	.213
VR.16	.766	.587
VR.19	.378	.143
Letter & Number Series		
LN.34	.743	.552
LN.07	.755	.570
LN.33	.960	.922
LN.58	.629	.396
Matrix Reasoning		
MR.45	.848	.719
MR.46	.785	.616
MR.47	.581	.338
MR.55	.446	.199
3-Dimensional Rotation		
R3D.03	.785	.616
R3D.08	.616	.380
R3D.04	.613	.376
R3D.06	.921	.848
		AVE = .509
		α = .719
Self-Monitoring		
Extraversion		
23	.709/.711	.506
22	.382/.385	.149
12	.683/.699	.489
14	.726/.733	.537
20	.109/ -	-
21	.640/.615	.378
		AVE = .412
		α = .531

Item	Loading	SMC
Self-Monitoring		
Other Directedness		
13	.545/.522	.273
19	.316/.295	.087
16	.479/.457	.209
6	.785/.814	.663
15	.160/ -	-
25	.555/.533	.284
17 (R)	.305/.284	.081
23	.475/.486	.236
7	.087/ -	-
2 (R)	.287/ -	-
3 (R)	.575/.570	.325
		AVE = .270 α = .525
Acting		
8	.686/.688	.473
18	.547/.571	.326
20 (R)	.467/.508	.258
5	.588/.607	.368
24	.540/.488	.238
		AVE = .333 α = .545

Note. Factor loadings for initial/final solution of self-monitoring scale presented. Reliability for cognitive ability and self-monitoring scales uses Chronbach's alpha (α) as McDonald's omega (Ω) is not appropriate for use with binary data (Raykov & Marcoulides, 2011). (R) = reverse-scored item.

6.3.1.3. *Self-monitoring.*

The factor structure of the Self-Monitoring Scale (Snyder, 1974) has not been found to conform to Snyder's (1974) five-factor conceptual model.

Although various different solutions have been reported, by far the most common is a three-factor solution (Briggs, Cheek & Buss, 1980; Burkley, 2010; Cheek, 1982; Riggio & Friedman, 1982; Snyder & Gangestad, 1986). Following Briggs et al. (1980), a three-factor measurement model was specified comprising factors of extraversion, other-directedness, and acting. This model demonstrated inadequate fit to the data (χ^2 (165) 213.057, $p < .001$; CFI = .703; TLI = .658; RMSEA = .052). Subsequent removal of four items (2, 7, 15, 20) that were loading poorly onto their corresponding factors ($< .3$) returned a model that demonstrated excellent fit to the data (χ^2 (115) 122.137, $p > .05$; CFI = .949; TLI

= .940; RMSEA = .024). This model contains one cross-loading item (item 23), which loads onto both the extraversion and other directedness factors of self-monitoring (see Table 6.5). The final measurement model including factor loadings, squared multiple correlations, average variance extracted, and scale reliability can be seen in Table 6.5. It is of note that the reliability of this scale falls just below the conventionally accepted standard of .7 ($\alpha = .639$).

6.3.1.4. Adaptive personality regulation.

To examine the structure of adaptive personality regulation, scale scores representing the mean level of adaptive personality regulation along each relevant dimension of the Big Five were subject to CFA. Hypothesis 2 proposed that adaptive personality regulation generalises across both personality traits and situations, meaning that the successful regulation of a particular personality trait in one situation is expected to be associated with the success of regulating not only that same trait in other situations, but also other personality traits too. If this is the case then adaptive personality regulation scores taken from different traits in different situations should fit a single factor model, with the single higher-order factor representing ‘trait’ adaptive personality regulation (i.e., the extent to which an individual is able to adaptively regulate his or her personality expression, regardless of the situation or target trait). Observer-ratings and self-ratings were examined independently.

6.3.1.4.1. Observer-rated adaptive personality regulation.

Before a higher-order factor could be considered, it was first necessary to establish that adaptive personality regulation generalises across traits within situations. To this end, a measurement model was specified in which task-

specific adaptive personality regulation scores (i.e., scores derived for each of the relevant Big Five within each task) loaded onto their respective latent factor representing aggregated adaptive personality regulation within that task.

To achieve convergence of this model, it was necessary to remove adaptive personality regulation scores along extraversion in the proofreading exercise. It is expected that these data were causing problems due to insufficient variation in observed scores (s.d. = 0.19).

Out of a total of 15 remaining ratings, 13 demonstrated good fit (a total of 86.7%). However, adaptive personality regulation scores along agreeableness and conscientiousness in the negotiation exercise evidenced small and non-significant factor loadings (108 $p > .05$. and .273 $p > .05$, respectively). It seems likely that this either reflects poor measurement of observed personality, or that these traits were not as integral to task performance as expected. However, these results do not rule out the possibility that adaptive personality regulation does not generalise across traits in all situations (this possibility is discussed further in section 6.4.1 of this chapter).

Finally one correlated error was allowed in the group task between adaptive personality regulation along extraversion and agreeableness. Extraversion and agreeableness are known to share variance (e.g., DeYoung, Weisberg, Quilty, & Peterson, 2012), and thus modelling the data in this way is theoretically defensible. The resulting model, in which adaptive personality regulation scores were estimated within each task, achieved good fit to the data (χ^2 (58) 72.294, $p > .05$; CFI = .962; TLI = .948; RMSEA = .060 SRMR = .083). A diagrammatical representation of this model is presented in Figure 6.1.

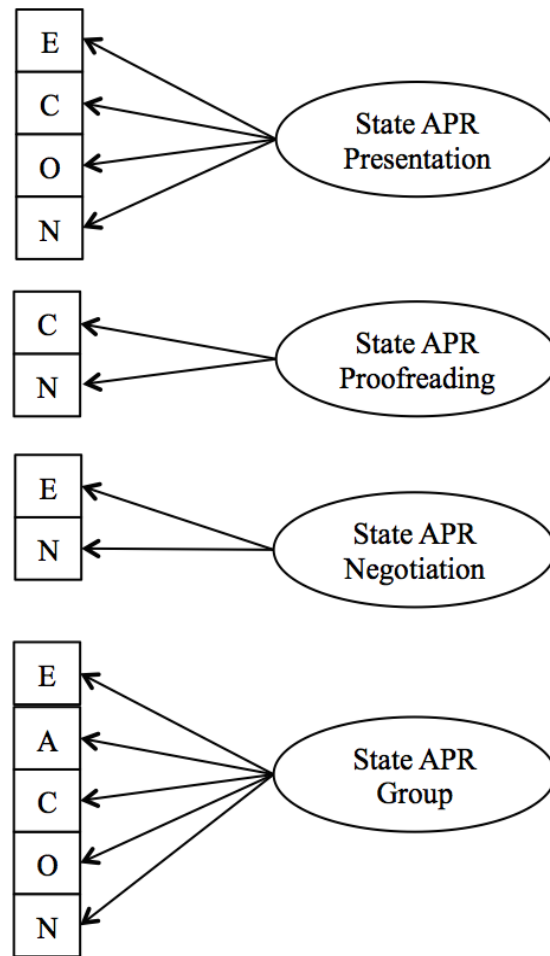


Figure 6.1. Measurement model for adaptive personality regulation (APR).

Factors at Level 1 represent APR along the Big Five. Factors at Level 2 represent general state APR in each of the tasks.

Having established a good fit to the data for observer-rated adaptive personality regulation scores within situations, the next step was to add a higher-order factor to the model to examine whether adaptive personality regulation also generalises across situations. A diagrammatical representation of this model is presented in Figure 6.2.

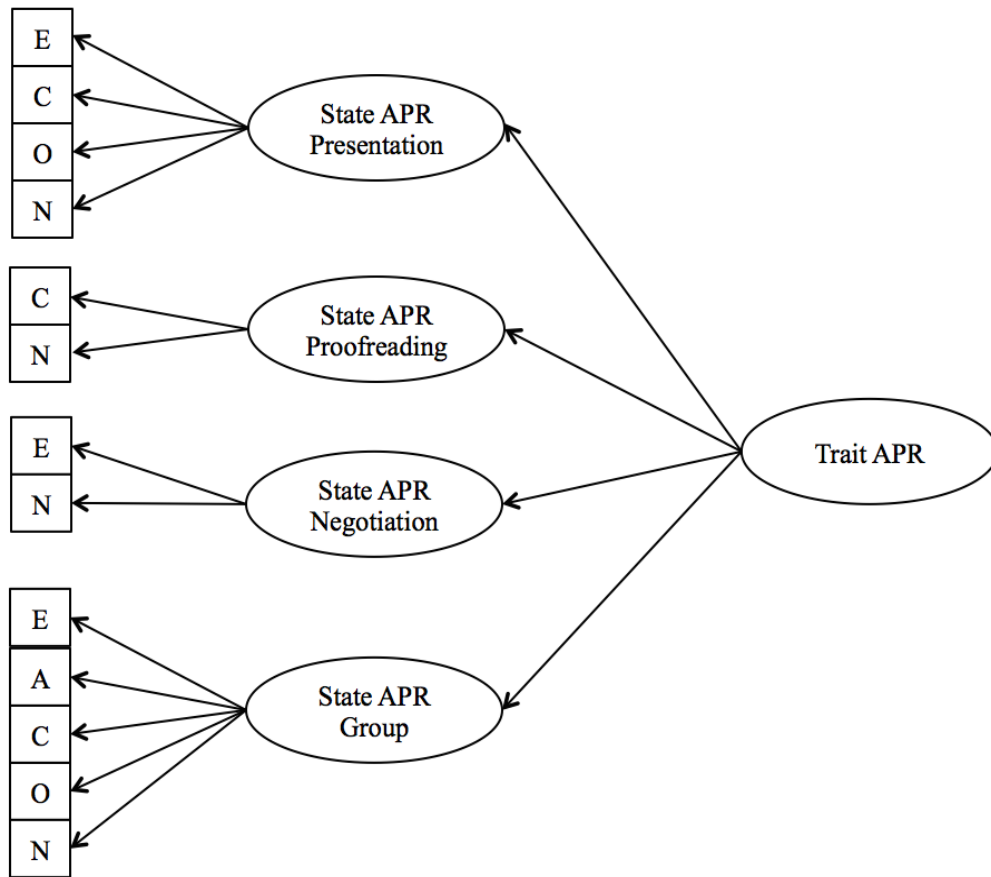


Figure 6.2. Measurement model for adaptive personality regulation (APR).

Factors at Level 1 represent APR along the Big Five. Factors at Level 2 represent general state APR in each of the tasks. The higher-order factor at Level 3 represents overall trait APR.

The resulting model evidenced good fit to the data ($\chi^2(61) 82.181, p < .05$; CFI = .943; TLI = .927; RMSEA = .071 SRMR = .100). However, the proofreading task did not load onto the higher order factor (.167 $p > .05$). This suggests that the variance captured by adaptive personality regulation scores in this task is in some way distinct from the variance captured by adaptive personality regulation scores in the presentation, negotiation, and group exercises. The higher-order model was thus re-estimated with only adaptive personality regulation in the presentation, negotiation, and group exercise

specified. This model demonstrated excellent fit to the data ($\chi^2 (40) 36.787, p > .05$; CFI = 1; TLI = 1; RMSEA = 0 SRMR = .058). The full pattern matrix for the final model including standardised factor loadings, squared multiple correlations, and average variance extracted is presented in Table 6.6.

Given the limitations of the proofreading exercise outlined above, it seems likely that the failure of this task to load significantly on the higher-order factor of trait adaptive personality regulation reflects methodological limitations rather than adaptive personality regulation failing to generalise across situations. However, this possibility cannot be ruled out and as such Hypothesis 2 is tentatively supported.

6.3.1.4.2. Self-rated adaptive personality regulation.

To examine the structure of self-report adaptive personality regulation scores, the same process was followed as for observer-ratings. Specifically, the structure of self-rated adaptive personality regulation was first established within each task, before a comprehensive measurement model was estimated.

Once again it was necessary to make a few adjustments to the model to obtain good fit to the data. It is of note that two of these changes mirror those made in the observer-ratings model. Specifically, adaptive personality regulation scores along extraversion in the proofreading exercise had to be removed to achieve model convergence. In addition, adaptive personality regulation along agreeableness again loaded poorly onto the latent factor of adaptive personality regulation in the negotiation exercise (.191, $p > .05$) and was therefore also removed. It was also necessary to omit scores reflecting adaptive personality regulation along conscientiousness and agreeableness in the trust exercise, and

agreeableness in the group exercise were also removed due to small and non-significant loadings (.159 $p > .05$, .135 $p > .05$, and .149 $p > .05$, respectively). However, the resulting model still demonstrated inadequate fit to the data (χ^2 (100) 170.400, $p < .01$; CFI = .805; TLI = .766; RMSEA = .102; SRMR = .105), despite the fact all loadings were sizeable (ranging from .302 – .981).

An examination of the modification indices suggested that there was considerable multicollinearity within the data. Specifically, it appeared that model fit could be improved substantially by allowing the error terms of adaptive personality regulation scores within the Big Five to correlate across tasks. For example, the modification indices suggested that adaptive regulation of neuroticism in the group task shares unique variance with adaptive regulation of neuroticism in the negotiation exercise. This is consistent with the theory of adaptive personality regulation, which acknowledges the likelihood that some traits might be harder to regulate than others and would therefore share unique variance¹⁸. Thus to account for this, the model was re-estimated with a total of six correlated errors allowed. This model achieved excellent fit to the data (χ^2 (89) 98.461, $p > .05$; CFI = .974; TLI = .965; RMSEA = .040 SRMR = .079).

Having established the structure of self-rated adaptive personality regulation within tasks, a higher-order factor was next added to the model. This model also evidenced excellent fit to the data (χ^2 (94) 103.990, $p > .05$; CFI = .972; TLI = .965; RMSEA = .040 SRMR = .086), thus providing support for Hypothesis 2 with respect to self-ratings of adaptive personality regulation. The full pattern matrix for the final model including standardised factor loadings,

¹⁸ It is also possible that the correlated errors reflect positions on latent personality traits. This possibility is discussed in section 6.4.1.

squared multiple correlations, and average variance extracted is presented in

Table 6.6.

Table 6.6.

Pattern Matrix Showing Standardised Factor Loadings, Squared Multiple Correlations (SMC) and Average Variance Extracted (AVE) for Observer- and Self-Rated Adaptive Personality Regulation Scores Across Personality Traits and Situations

APR	Observer-Ratings		Self-Ratings	
	Loading	SMC	Loading	SMC
Presentation				
Extraversion	.821***	.674	.509***	.259
Conscientiousness	.622***	.387	.785***	.616
Openness	.410***	.168	.756***	.572
Emotional Stability	.834***	.696	.345***	.119
		AVE = .481		AVE = .392
Negotiation				
Extraversion	.832***	.692	.637***	.406
Conscientiousness	-	-	.755***	.570
Openness	-	-	.766***	.587
Emotional Stability	.948***	.899	.461***	.213
		AVE = .796		AVE = .444
Proofreading				
Conscientiousness	-	-	.763***	.582
Emotional Stability	-	-	.561***	.315
				AVE = .449
Trust				
Openness	-	-	.981***	.962
Emotional Stability	-	-	.318**	.101
				AVE = .532
Group				
Extraversion	.935***	.874	.654***	.428
Agreeableness	.313**	.100	-	-
Conscientiousness	.873***	.762	.771***	.594
Openness	.702***	.493	.929***	.863
Emotional Stability	.807***	.651	.491***	.241
		AVE = .576		AVE = .532
Trait APR				
Presentation	.664***	.441	.615***	.378
Negotiation	.697***	.486	.596***	.352
Proofreading	-	-	.769***	.591
Trust	-	-	.761***	.579
Group	.715***	.511	.731***	.535
		AVE = .479		AVE = .487

Note. APR = adaptive personality regulation. ** $p < .01$. *** $p < .001$.

6.3.1.4.3. Scoring state and trait adaptive personality regulation.

Having demonstrated support for the hypothesised structure of both observer- and self-rated adaptive personality regulation scores across the Big Five and across situations, it was necessary to aggregate adaptive personality regulation scores for use in subsequent analyses. This was first done at the task level, to create ‘state’ adaptive personality regulation scores, reflecting the extent to which individuals’ were able to adaptively regulate their personality states within each particular task (see Figure 6.1). This was done for both observer- and self-rated scores such that each individual had two state scores for each task, one representing their level of adaptive personality regulation in the task as judged by observers, and one representing their level of adaptive personality regulation in the task as judged by themselves. Only adaptive personality regulation scores that loaded on the latent factor of task-specific adaptive personality regulation contributed to the aggregated score (see Table 6.6).

Finally, an overall adaptive personality regulation score was calculated for both observer- and self-rated adaptive personality regulation scores. Only scores that loaded on the latent higher-order factor approximating ‘trait’ adaptive personality regulation contributed to this score. As such, adaptive personality regulation scores in the proofreading and trust exercises were not included in the aggregation of overall observer-rated adaptive personality regulation (see Table 6.6). To enable direct comparison between scores derived from observer- and self-ratings, mean rather than sum scores were calculated. Table 6.7 presents the mean and standard deviation of observer- and self-rated adaptive personality regulation scores aggregated at both the state and trait level. The fact that there was adequate variation in scores to successfully execute a measurement model,

and that the standard deviation of scores suggests substantial dispersion around the mean (see Table 6.7), provides support for Hypothesis 3, which states that adaptive personality regulation is an individual difference.

Table 6.7.

Minimum, Maximum, Mean and Standard Deviation of State and Trait Adaptive Personality Regulation Scores Derived from Both Observer- and Self-Ratings

	Observer-Ratings				Self-Ratings			
	Min.	Max.	Mean	Std. Dev.	Min.	Max.	Mean	Std. Dev.
State APR								
Presentation	5.49	8.53	7.43	0.66	4.73	8.56	7.80	0.75
Negotiation	4.47	8.87	7.80	1.05	5.17	8.60	7.43	0.81
Proofreading	5.19	8.87	7.75	0.76	3.75	8.62	7.03	0.99
Trust	4.42	8.39	6.97	1.08	4.85	8.69	7.24	0.91
Group	4.77	8.36	7.43	0.90	4.09	8.39	7.20	0.87
Trait APR								
Overall	5.76	8.48	7.71	0.62	5.58	8.24	7.26	0.61

Note. APR = adaptive personality regulation.

6.3.2. Relationships between study constructs.

Bivariate correlation analysis was employed using Pearson's r to examine the relationships between study variables. Hypotheses 4 – 6 propose that adaptive personality regulation is conceptually distinct from personality traits, cognitive ability, and self-monitoring, respectively. Table 6.8 presents the correlations between the constructs explored in this study.

As can be seen in Table 6.8, there was a small and non-significant relationship observed between observer-rated and self-rated adaptive personality regulation ($r = .144, p > .05$). Observer-rated adaptive personality regulation was not significantly associated with any of the Big Five, but small significant associations were present between self-rated adaptive personality regulation and extraversion ($r = .331, p < .01$) and conscientiousness ($r = .290, p < .05$). Small observed associations between self-rated adaptive personality regulation and

some personality traits suggest that aspects of these constructs might be related. However, the size of these associations does not suggest adaptive personality regulation is not conceptually distinct from personality traits. Hypothesis 4 is thus supported for both observer- and self-ratings of adaptive personality regulation.

Self-rated adaptive personality regulation was not associated with cognitive ability, but a small significant association was observed between observer-rated adaptive personality and verbal reasoning ability ($r = .241, p < .05$). A small significant relationship was also present between observer-rated adaptive personality regulation and the extraversion factor of self-monitoring ($r = .313, p < .05$). Thus, Hypotheses 5 and 6 are also supported for both observer- and self-ratings of adaptive personality regulation.

Table 6.8 also reveals a small significant correlation between motivation and both observer- and self-rated adaptive personality regulation ($r = .254, p < .05$ and $r = .222, p < .05$, respectively). This finding is supportive of Hypothesis 1, which asserts that adaptive personality regulation is a goal-directed process. In this study, participants were all given the same goal (i.e., perform to the best of their ability in each of the five tasks comprising the mock assessment centre), and an effort was made to incentivise participants to encourage them to adopt this goal. However, participants are unlikely to have been motivated to achieve this goal to the same extent. The significant association between adaptive personality regulation and motivation is supportive of the goal-directed nature of this phenomenon.

6.3.3. The predictive utility of adaptive personality regulation.

Hypothesis 7 asserts that adaptive personality regulation is positively associated with task performance. In order to examine this claim empirically, a series of linear regression models were estimated. Adaptive personality regulation was first entered as the sole predictor to establish the extent to which it is associated with performance. Next, adaptive personality regulation was examined alongside other study variables to establish whether it is able to account for incremental variance in performance outcomes.

Table 6.8.

Standardised Correlations Between Adaptive Personality Regulation, Personality Traits, Cognitive Ability, and Self-Monitoring with Means and Standard Deviations in Parentheses Along Diagonal

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	APR: O	7.71 (0.62)															
2	APR: S	.144	7.26 (0.61)														
3	E	.216	.311**	6.60 (1.30)													
4	A	.035	.094	.160	7.41 (1.19)												
5	C	-.077	.290*	.058	.456**	7.04 (1.34)											
6	O	.176	.188	.356**	.095	.228	7.21 (1.04)										
7	N	.119	.167	.194	.230	.086	.419**	5.76 (1.41)									
8	CA: VR	.241*	-.068	.045	-.052	-.022	.081	-.028	3.55 (0.74)								
9	CA: LN	.004	-.033	-.117	-.059	-.060	.020	.144	.460**	2.90 (1.15)							
10	CA: MR	.023	.073	.000	-.095	-.004	-.012	-.004	.427**	.238	2.94 (1.15)						
11	CA: 3D	-.040	-.015	-.107	-.006	.240*	.010	.025	.015	.114	.278*	1.57 (1.38)					
12	CA: Total	.053	-.008	-.085	-.076	.082	.028	-.036	.608**	.699**	.724*	.639**	11.03 (2.04)				

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
13	SM: A	.152	-.232	.034	-.051	-.111	.065	.067	.224	-.098	-.101	-.067	-.053	3.84 (1.91)			
14	SM: OD	.011	-.174	.035	.066	-.051	-.160	-.121	.233	.305*	.083	.095	.256*	.143	6.97 (2.20)		
15	SM: E	.313*	.126	.141	.006	.078	.146	.106	.080	-.029	-.073	.147	.049	.423**	.143	2.93 (0.96)	
16	M	.254*	.222*	.166	.121	.198	.224	.198	.317*	.011	.209	-.090	.130	.152	-.078	.038	7.00 (1.52)

Note. APR: O = observer-rated adaptive personality regulation; APR: S = self-rated adaptive personality regulation; E = extraversion; A = agreeableness; C = conscientiousness; O = openness; N = neuroticism; CA: VR = cognitive ability: verbal reasoning; CA: LN = cognitive ability: letter and number series; CA: MR = cognitive ability: 3D matrix rotation; CA: total = cognitive ability: total; SM: A = self-monitoring: acting; SM: OD = self-monitoring: other directedness; SM: E = self-monitoring: extraversion; * $p < .05$, ** $p < .01$.

6.3.3.1. Observer-rated adaptive personality regulation and performance.

To begin, the utility of task-specific, or ‘state’ adaptive personality regulation scores to predict task performance were examined. The results are presented in Table 6.9. As can be seen, observer-ratings of state adaptive personality regulation are a significant predictor of performance in all cases with the exception of the proofreading task, accounting for between 4% and 52% of the variance. Next, observer-rated trait adaptive personality regulation was considered. The results show that it was a significant predictor in four of the five tasks, as well as overall performance (see Table 6.9). Given that state adaptive personality regulation scores in the proofreading exercise did not contribute to the aggregated overall trait score, it is of note that trait adaptive personality regulation was a significant predictor of performance in this task.

The finding that trait adaptive personality regulation is a significant predictor of overall mock assessment centre performance, accounting for a total of 12% of the variance, is also of particular relevance as it supports the generalizability of the construct. This lends further evidence to support Hypothesis 2 that adaptive personality regulation generalises across traits and situations.

6.3.3.2. Self-rated adaptive personality regulation and performance.

The same regression analyses were next conducted using self-ratings of adaptive personality regulation. Table 6.9 demonstrates that self-rated state adaptive personality regulation scores were predictive in the presentation, proofreading and group exercises, but not the negotiation or trust exercise. It is

notable that (with the exception of the proofreading task), self-ratings of adaptive personality regulation consistently account for less variance in performance outcomes than do observer-ratings (see Table 6.9).

Trait adaptive personality regulation scores derived from self-ratings did not significantly predict performance in any of the five tasks. The amount of variance explained by the models is also negligible and non-significant in all cases (see Table 6.9). These findings suggest that observer-ratings of adaptive personality regulation better predict performance outcomes than do self-ratings. For this reason, subsequent analyses examining the incremental validity of adaptive personality regulation were conducted using observer-ratings only.

Table 6.9.

Simple Regression Coefficients Predicting Task Performance from Observer- and Self-Rated State and Trait Adaptive Personality Regulation

DV: Presentation Performance				
	Observer		Self	
	State	Trait	State	Trait
APR	.728***	.611***	.310***	.029
R ²	.530***	.373***	.096*	.001
Adjusted R ²	.523***	.364***	.082*	.000
F value	74.406***	39.301***	6.944*	0.054
DV: Negotiation Performance				
	Observer		Self	
	State	Trait	State	Trait
APR	.287*	.269*	.127	.102
R ²	.082	.072*	.016	.011
Adjusted R ²	.037	.058*	.001	.000
F value	5.907*	5.138*	1.072	0.690
DV: Proofreading Performance				
	Observer		Self	
	State	Trait	State	Trait
APR	.107	.277*	.294*	.148
R ²	.011	.077*	.087*	.022
Adjusted R ²	.000	.063*	.073*	.007
F value	0.762	5.500*	6.169*	1.457

DV: Trust Exercise Performance				
	Observer		Self	
	State	Trait	State	Trait
APR	-	.124	.239	.099
R ²	-	.015	.057	.010
Adjusted R ²	-	.000	.053	.000
F value	-	1.020	3.953	0.644

DV: Group Exercise Performance				
	Observer		Self	
	State	Trait	State	Trait
APR	.442***	.425***	.364**	.233
R ²	.195***	.181***	.132**	.054
Adjusted R ²	.183***	.169***	.119**	.040
F value	15.747***	15.021***	9.907**	3.729

DV: Overall Performance				
	Observer		Self	
	State	Trait	State	Trait
APR	-	.358**	-	.070
R ²	-	.128**	-	.005
Adjusted R ²	-	.115**	-	.000
F value	-	9.709**	-	0.318

Note. APR = adaptive personality regulation; *** $p < .001$; ** $p < .01$; * $p < .05$.

6.3.3.3. Incremental validity of adaptive personality regulation.

Hierarchical multiple regression analysis was utilised to establish whether (observer-rated) adaptive personality regulation explains incremental variance in performance over personality traits, cognitive ability and motivation. Due to the relatively small sample size, it was decided that these effects should be examined in separate models in order to maximise power. Given that adaptive personality regulation was not a significant predictor of performance in the trust exercise (see section 6.3.3.2.), incremental validity was not considered for this task.

6.3.3.3.1. Incremental prediction of adaptive personality regulation over the Big Five.

The incremental validity of adaptive personality regulation over the Big Five personality traits was examined first. Table 6.10 presents the results for both state and trait scores across each of the tasks. As can be seen, adaptive personality regulation explains significant incremental variance in all

performance outcomes over and above the Big Five personality traits. This is true for both state and trait observer-rated adaptive personality regulation. The additional variance accounted for by adaptive personality regulation over and above the Big Five was between 8% and 55% for state scores, and 6% and 36% for trait scores.

The Big Five did not emerge as significant predictors of performance in any of the tasks. However, the size of the parameter estimates is comparable to those reported elsewhere (e.g., Barrick & Mount, 1991; Guion & Gottier, 1965; Schmidt et al., 2008). That the coefficients did not reach conventional levels of significance is unsurprising given the size of the sample and the fact that effect sizes for personality traits on performance are notoriously small.

Table 6.10.

Hierarchical Multiple Regression Coefficients to Show the Incremental Variance of State and Trait Observer-Rated Adaptive Personality Regulation over Personality Traits

	DV: Presentation Performance			
	State		Trait	
	Step 1	Step 2	Step 1	Step 2
Extraversion	.140	.156	.140	.035
Agreeableness	.081	-.074	.081	.074
Conscientiousness	-.112	-.059	-.112	-.081
Openness	.097	.165	.097	.030
Neuroticism	-.163	-.142	-.163	-.189
APR		.757***		.616***
R ²	.049	.597***	.049	.405***
ΔR ²		.548***		.356***
Adjusted R ²	.029	.557***	.029	.345***
F value	0.633	14.822***	0.633	6.806***
	DV: Negotiation Performance			
	State		Trait	
	Step 1	Step 2	Step 1	Step 2
Extraversion	.009	-.021	.009	-.034
Agreeableness	.076	.115	.076	.074
Conscientiousness	-.244	-.265	-.244	-.231
Openness	.211	.179	.211	.183
Neuroticism	-.172	-.196	-.172	-.183
APR		.287*		.253*

DV: Negotiation Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
R ²	.073	.151	.073	.134	
ΔR ²		.077*		.060*	
Adjusted R ²	.003	.066	.003	.047	
F value	0.967	1.777	0.967	1.541	
DV: Proofreading Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Extraversion	-	-	.134	.088	
Agreeableness	-	-	-.212	-.215	
Conscientiousness	-	-	.168	.155	
Openness	-	-	.070	.041	
Neuroticism	-	-	.164	.176	
APR		-		.269*	
R ²			.145	.213*	
ΔR ²				.068*	
Adjusted R ²			.075	.134*	
F value			2.068	.022	
DV: Group Exercise Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Extraversion	.035	-.074	.035	.027	
Agreeableness	.049	.094	.049	.059	
Conscientiousness	-.055	-.017	-.055	-.012	
Openness	-.238	.149	-.238	.144	
Neuroticism	.038	-.064	.038	-.029	
APR		.435**		.403**	
R ²	.056	.215*	.056	.196*	
ΔR ²		.159***		.140***	
Adjusted R ²	.022	.136*	.022	.115*	
F value	0.714	2.701*	0.714	2.432*	
DV: Overall Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Extraversion	-	-	.121	.059	
Agreeableness	-	-	.010	.006	
Conscientiousness	-	-	-.148	-.130	
Openness	-	-	.029	-.010	
Neuroticism	-	-	.160	.176	
APR		-		.359**	
R ²			.053	.174	
ΔR ²				.121**	
Adjusted R ²			.174	.091	
F value			0.677	2.103	

Note. APR = adaptive personality regulation; * $p < .05$; ** $p < .01$; *** $p < .001$.

6.3.3.3.2. *Incremental validity of adaptive personality regulation over cognitive ability.*

Next the incremental validity of adaptive personality regulation over cognitive ability was considered. Correlation analysis revealed that verbal reasoning ability was the aspect of cognitive ability most closely related to both adaptive personality regulation and task performance ($r = .241, p < .05$). In order to provide the most stringent test possible, it was therefore decided that these scores should be entered as the control variable in step 1 of the analyses.

Results are presented in Table 6.11. As would be expected, cognitive ability was a positive indicator of performance in all tasks, though this only reached significance in the presentation task. Adaptive personality regulation once again accounts for significant incremental variance in performance outcomes. The only exception was trait adaptive personality regulation in the negotiation exercise (see Table 6.11). The additional variance accounted for by adaptive personality regulation over and above cognitive ability was between 6% and 46% for state scores, and 6% and 32% for trait scores.

Table 6.11.

Hierarchical Multiple Regression Coefficients to Show the Incremental Variance of State and Trait Observer-Rated Adaptive Personality Regulation over Cognitive Ability

	DV: Presentation Performance			
	State		Trait	
	Step 1	Step 2	Step 1	Step 2
Cognitive Ability	.269*	.058	.269*	.130
APR		.710***		.578***
R ²	.073*	.532***	.073*	.387***
ΔR ²		.459***		.315***
Adjusted R ²	.058*	.517***	.058*	.368***
F value	5.081	36.311	5.081	20.210

DV: Negotiation Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Cognitive Ability	.138	.073	.138	.080	
APR		.254*		.241	
R ²	.021	.079	.021	.074	
ΔR ²		.060*		.055	
Adjusted R ²	.005	.051	.005	.045	
F value	1.258	1.866	1.258	2.550	
DV: Proofreading Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Cognitive Ability	-	-	.042	.113	
APR		-		.295*	
R ²			.002	.083	
ΔR ²				.082*	
Adjusted R ²			.000	.055	
F value			0.115	2.915	
DV: Group Exercise Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Cognitive Ability	.144	.248	.144	.232*	
APR		.450***		.477***	
R ²	.021	.222***	.021	.228***	
ΔR ²		.202***		.207***	
Adjusted R ²	.005	.198***	.005	.203***	
F value	1.358	9.014	1.358	9.429	
DV: Overall Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Cognitive Ability	-	-	.106	.023	
APR		-		.345**	
R ²			.011	.123*	
ΔR ²				.112**	
Adjusted R ²			.004	.096*	
F value			0.737	4.506	

Note. APR = adaptive personality regulation; * $p < .05$; ** $p < .01$; *** $p < .001$.

6.3.3.3.3. Incremental validity of adaptive personality regulation over motivation.

Finally, the incremental validity of adaptive personality regulation over motivation to perform was examined for both state and trait scores. The results can be seen in Table 6.12, which demonstrates that adaptive personality regulation again accounts for significant incremental variance in all performance outcomes with the exception of trait adaptive personality regulation in the

negotiation exercise. However, even in this case, the beta coefficient is very close to conventional levels of significance ($\beta = .255, p = .055$).

As was the case for cognitive ability, motivation was a positive indicator of performance across all tasks, but only reached significance in the presentation task (see Table 6.12). The additional variance accounted for by adaptive personality regulation over and above motivation is between 9% and 45% for state scores, and 6% and 30% for trait scores.

Collectively, the results of these analyses provide strong evidence that adaptive personality regulation is associated with task performance. This is true regardless of whether this construct is measured at the state or trait level. In addition, adaptive personality regulation also explains significant incremental variance in performance outcomes over and above the Big Five personality traits, cognitive ability, and motivation. Thus, there is convincing evidence to support Hypothesis 7.

Table 6.12.

Hierarchical Multiple Regression Coefficients to Show the Incremental Variance of State and Trait Observer-Rated Adaptive Personality Regulation over Motivation

DV: Presentation Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Motivation	.442***	.331***	.442***	.327***	
APR		.682***		.562***	
R ²	.195***	.648***	.195***	.497***	
ΔR^2		.453***		.302***	
Adjusted R ²	.181***	.636***	.181***	.479***	
F value	13.819	51.646	13.819	27.688	
DV: Negotiation Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Motivation	.163	.113	.163	.111	
APR		.302*		.255	

DV: Negotiation Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
R ²	.027	.116*	.027	.089	
ΔR ²		.089*		.062	
Adjusted R ²	.009	.084*	.009	.056	
F value	1.553	3.658	1.553	2.729	
DV: Proofreading Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Motivation	-	-	.012	.048	
APR		-		.294*	
R ²			.000	.083	
ΔR ²				.083*	
Adjusted R ²			.000	.050	
F value			0.009	2.541	
DV: Group Exercise Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Motivation	.143	.063	.143	.448	
APR		.464***		.464**	
R ²	.021	.229***	.021	.205**	
ΔR ²		.208***		.184**	
Adjusted R ²	.003	.201***	.003	.177**	
F value	1.175	8.169	1.175	7.236	
DV: Overall Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Motivation	-	-	.144	.076	
APR		-		.332*	
R ²			.021	.126*	
ΔR ²				.105*	
Adjusted R ²			.003	.095*	
F value			1.198	4.032	

Note. APR = adaptive personality regulation; * $p < .05$; ** $p < .01$; *** $p < .001$.

6.3.4. The nature of adaptive personality regulation.

Hypothesis 8 holds that not all personality variation is adaptive. In order to examine this empirically, the association between adaptive personality variation and total variation was examined within and across tasks. Total variation was calculated by taking the absolute difference between trait personality scores and state personality scores in each task. These scores do not differentiate between adaptive and non-adaptive variation as adaptive personality variation scores do. Total variation scores were first calculated at the item level, before being aggregated at the task level. Task-level scores represent the extent

to which the personality states expressed in that task differed from the individual's underlying trait scores. Finally, task level scores were aggregated into an overall movement score, representing the amount of movement from trait standing displayed by each of the participants across all tasks.

Correlations revealed significant negative associations between deviation from trait standing and adaptive personality regulation scores in the presentation, proofreading, and group exercises ($r = -.345, p < .01$, $r = -.243, p < .05$, and $r = -.553, p < .001$, respectively), suggesting adaptive personality regulation becomes less attainable the further an individual is required to move from their trait standing position. Although the same pattern of findings could also be seen in the negotiation exercise, the relationship was small and non-significant ($r = -.081, p > .05$). The correlation between overall movement and trait adaptive personality regulation was also small but approached statistical significance ($r = -.234, p = .059$). These findings support Hypothesis 8, that not all personality variation is adaptive. If this were the case, one would expect to see an association between personality variation and adaptive personality regulation that suggested equivalence (i.e., $\geq .85$).

Hypothesis 9 asserts that individuals high in adaptive personality regulation are less susceptible to the potentially negative consequences of sustained personality regulation than individuals low in the construct. In order to examine this, the sample was divided into three groups according to trait adaptive personality regulation scores. Individuals in the 'high' group had trait adaptive personality regulation scores in the top 33.3% of the sample, those in the 'average' group had scores in the middle 33.3% of the sample, and those in the 'low' group had scores in the bottom 33.3% of the sample. Grouping

participants in this way made it possible to examine whether the relationship between deviation from trait standing and performance differs according to one's level of adaptive personality regulation. The results of the resulting correlation analysis can be found in Table 6.13. The results suggest that degree of movement does not have a significant impact on performance in any case other than for those low on trait adaptive personality regulation in the group exercise. Here, the more an individual's expressed states represent a deviation from their trait standing position, the poorer the performance in the task ($r = -.490, p < .05$). No such effect was observed for those with either average ($r = -.198, p > .05$) or high adaptive personality regulation scores ($r = -.214, p > .05$). These results therefore provide tentative support for Hypothesis 9 by demonstrating that while the degree of movement from trait standing does not significantly impact performance for those high or average in adaptive personality regulation, it can have implications for performance amongst those with low scores. Specifically, performance seemingly *can* suffer as a result of a greater deviation between the personality states expressed and underlying trait scores. However, it is important to emphasise that this pattern of results was not replicated for the other tasks.

Table 6.13.

Correlations Between Amount of Movement from Trait Standing and Performance in Each Task for Those with Low, Average, and High Adaptive Personality Regulation Scores

	Presentation	Negotiation	Group
Low Adapters	-.204	-.088	-.490*
Average Adapters	-.056	.091	-.198
High Adapters	-.016	.039	-.214

Note. * $p < .05$.

6.3.5. Results summary.

CFA supported the conceptualisation of adaptive personality regulation as an individual difference that generalises across traits and situations. This higher-order structure was supported with both observer- and self-ratings of adaptive personality regulation. Correlation analyses revealed independence between adaptive personality regulation and theoretically similar constructs including personality traits, cognitive ability, self-monitoring, and motivation.

The predictive utility of observer-rated adaptive personality regulation was demonstrated in a series of regression models. Both state and trait adaptive personality regulation explained incremental variance in performance outcomes over and above personality traits, cognitive ability, and motivation.

Finally, with respect to the nature of adaptive personality regulation, results demonstrated significant negative associations between the amount of deviation from trait standing and adaptive personality regulation, suggesting that the further an individual is required to move from their preferred personality level, the harder adaptive personality regulation becomes. However, findings also suggested that sustained personality regulation might have detrimental effects on performance for those low in adaptive personality regulation, providing further evidence for the adaptive nature of this construct.

6.4. Discussion

The purpose of this study was to examine the hypotheses that would begin to establish proof of concept for adaptive personality regulation through an examination of the nature and utility of this proposed construct. To this end, the structure of adaptive personality regulation was investigated, and its relationship

with similar theoretical constructs and performance outcomes was explored. As the first investigation of its kind, this study has generated a number of interesting findings, which are discussed below.

6.4.1. Measuring adaptive personality regulation.

The value of any theoretical and practical insights gained from this study is dependent upon accurate measurement of adaptive personality regulation. CFA offered support for the hypothesised structure of adaptive personality regulation, with scores derived from both observer- and self-ratings across multiple personality states and situations fitting a single-factor model. While these results offer support for the approach taken to the measurement of adaptive personality regulation in this study, there are some caveats that should be considered.

First, when estimating single factor models for task-specific adaptive personality regulation, some scores did not load. Specifically, for observer-ratings, these scores represented adaptive personality regulation scores along agreeableness and conscientiousness in the negotiation task. For self-ratings, these scores represented adaptive personality regulation along agreeableness in the negotiation and group exercises, and along agreeableness and conscientiousness in the trust exercise. The failure of these factors to load could be taken as evidence that adaptive personality regulation does not generalise across traits. However, the fact that adaptive personality regulation scores along these traits did load in other situations (e.g., observer-ratings in the group task), suggests that the removal of these factors might instead reflect situation or task specific measurement errors, or a lack of trait activation within some tasks. Trait activation theory (Tett, Simonet, Walser, & Brown, 2013) asserts that in order to be expressed, personality traits must be activated by relevant environmental cues.

Previous research and expert ratings were used to inform the traits expected to be relevant in each task *a priori* (see section 6.1). However, if the tasks did not activate certain traits as expected, then this could account for the failure of some factors to load onto the general factor. For example, if the interaction between a pair of participants during the negotiation exercise did not trigger the activation of conscientiousness (perhaps due to the dominance of the social nature of the task, combined with the lack of structure and relatively short time period), then conscientiousness would not have been deemed relevant for performance in that particular task and would not have been a candidate for personality regulation.

Another key point to highlight here is the respective value of observer- and self-ratings of adaptive personality regulation. Although both sets of scores conformed to a structure aligned with theoretical expectations, a closer examination suggests they might not be synonymous. The correlation between observer- and self-ratings of adaptive personality regulation was small and non-significant ($r = .144, p > .05$). This is substantially weaker than levels of self-other agreement typically reported in the personality literature (e.g., Connelly & Ones, 2010 report mean observed self-other correlations between .29 and .41 for the Big Five). This finding suggests that the two sets of scores are unlikely to be capturing the same phenomenon.

Multicollinearity was observed within the model of self-ratings of adaptive personality regulation. Indeed, a number of error terms were allowed to correlate in order to achieve adequate model fit. These correlations all reflected shared variance between adaptive personality regulation measured along the same personality dimension (i.e., extraversion, neuroticism, conscientiousness, etc.) in different tasks. A plausible explanation here is that the pattern of shared

variance represents individuals' underlying trait levels of personality, suggesting that self-ratings of personality states might be contaminated by individuals' perceptions of their underlying traits¹⁹. For example, an individual who is low on trait extraversion might be more likely to rate their extraverted personality states as lower than someone high on trait extraversion, even in a situation where the level of extraverted states manifested by the two individuals is the same. This process could be explained by anchoring, a cognitive bias that leads humans to make judgement formations based upon an initial value (in this case their trait standing position), and make insufficient adjustments from that initial value, or 'anchor' when establishing a final value (Bazerman & Moore, 2009).

Personality traits are inherent to an individual's self-concept, forming a strong benchmark for self-identity. This can make it hard for people to distance themselves from their trait standing scores when required to make objective assessments of their *in situ* personality states. This is not to say that individuals are incapable of recognising variation in their personality states. Indeed, there is a large body of evidence demonstrating that individuals are aware of variation in their personality states (e.g., Fleeson, 2001, 2007; Fleeson & Gallagher, 2009; P. Gallagher et al., 2011; McCabe & Fleeson, 2012; Sherman et al., 2015). However, if personality traits do influence individuals' perceptions of their personality states then it follows that adaptive personality regulation scores derived from these ratings will be less accurate than those derived from observer-ratings.

¹⁹ Such an interpretation would also account for why the association between self-ratings of adaptive personality regulation and performance are far weaker than observer-ratings.

Given that observer-ratings did not suffer these issues with multicollinearity and predicted performance better than self-ratings, it appears on first pass that observer-ratings offer superior measurement than self-ratings. However, it should be noted that observer-ratings are limited to that which can be directly observed, and therefore cannot reflect the accompanying thoughts and emotions that are also crucial components of personality. Further research will be necessary in order to establish the extent to which observer-ratings of adaptive personality regulation truly reflect the functional regulation of one's personality as described in this thesis. For example, it could be that individuals are not truly regulating their personality, but simply changing the display of their outward behaviour according to what they consider to be most desired or beneficial in that moment²⁰. Such a finding would have important theoretical implications for adaptive personality regulation and the findings of this study discussed below should be interpreted with this limitation of observer-ratings of adaptive personality regulation in mind.

6.4.2. The structure of adaptive personality regulation.

Adaptive personality regulation has been defined in this thesis as an individual difference that reflects a person's ability to regulate expression of personality in an adaptive manner across traits and situations. In other words, regardless of the situation or target trait, individuals high in adaptive personality regulation are expected to be more adept at regulating their expression of personality than individuals low in adaptive personality regulation. Evidence that adaptive personality regulation can be conceptualised as an individual difference

²⁰ A similar distinction is recognised in the emotion regulation literature between deep and surface acting (Grandey, 2000).

is supported by the fact that there was enough variation in scores to successfully execute a measurement model²¹, and the fact that the standard deviation of adaptive personality regulation scores suggests substantial dispersion around the mean. In addition, further support for proof of concept is provided by evidence of independence from other theoretically similar constructs including personality traits, cognitive ability, self-monitoring, and motivation.

With respect to the structure of adaptive personality regulation, the results of this study support the assertion that this construct generalises across personality traits and situations. This finding significantly advances that reported in Cook (2016), who first examined this phenomenon along the trait of extraversion. Until now, however, it was not known the extent to which this apparent ability would demonstrate stability across traits and situations. However, here, adaptive personality regulation scores derived from multiple personality traits in several different situations were found to conform to a single-factor model.

6.4.3. The utility of adaptive personality regulation.

A series of regression models revealed strong support for the predictive utility of observer-rated adaptive personality regulation. Specifically, both state and trait adaptive personality regulation emerged as significant predictors of task performance. In addition, adaptive personality regulation was able to explain incremental variance in performance outcomes over and above personality traits,

²¹ The adaptive personality regulation scores for extraversion in the proofreading task were the only exception to this. However, this finding is consistent with the notion that adaptive personality regulation can become improved with experience and practice over time. Given the number of exams and private study hours university students are accustomed to, manifesting introverted personality states for a short 12-minute period is something they would be well practiced in. The task was not a strong enough test of regulation to evidence enough variation across this particular group of individuals.

cognitive ability, and motivation. Specifically, when performance across all tasks was aggregated into an overall score, adaptive personality regulation accounted for an additional 12% of the variance over personality traits, 11% of the variance over cognitive ability, and 11% of the variance over motivation. It is worth highlighting that had it been possible to examine the incremental utility of adaptive personality regulation over these other variables simultaneously, its influence may well be diminished. Future research with larger samples will be needed to examine the extent to which incremental effect sizes reported here generalise in models that are better able to account for the shared variance amongst personality, cognitive ability, and motivation.

The results of this study suggest that self-report ratings of adaptive personality regulation have a much weaker predictive utility than their observer-report counterparts. Although self-rated state adaptive personality regulation scores were significantly associated with in-task performance in three of the five tasks, the effect sizes were consistently smaller than those achieved by observer-ratings, and aggregated self-rated trait scores did not significantly predict performance in any task. These results are consistent with the considerable body of evidence that demonstrates that self- and other-ratings capture different aspects of an individual's personality and have differential relationships with performance outcomes (McAbee & Connelly, 2016; Vazire, 2010). Specifically, other-ratings, which are more reflective of an individual's reputation, are stronger predictors of performance than self-ratings, which reflect a person's self-concept (Connelly & Ones, 2010). One possible explanation for this is advocated by the current author, namely, that in comparison to self-ratings, observer-ratings provide more objective assessments of *in situ* behaviour and

capture variance relevant to task-performance that are not biased by self-concepts²².

That is not to say that observer-ratings of personality states are the more accurate reflection of an individual's experience. Indeed, it seems somewhat counterintuitive to suggest that an observer has greater insight into a target's experienced thoughts and feelings than the target himself (see section 6.4.1.). However, the variance captured by observer-ratings is arguably what matters most for performance, particularly within social environments such as the workplace. For example, an employee asked to present the findings of his or her team to senior executives might appear calm and confident to their audience. The employee may excel at clear communication and audience engagement, projecting personality states of moderately high extraversion and conscientiousness, and low neuroticism. This *external* projection of personality is arguably more relevant to subsequent evaluations of his performance and resulting outcomes, than the employee's *experienced* personality states, which he or she may describe as more neurotic and less extraverted when accounting for their *internal* state. Thus, while self-ratings may be a better reflection of personality *experience*, observer-ratings appear to better capture personality *expression*, or at least the aspects of personality expression that are relevant when it comes to using these ratings for the purposes of prediction.

Overall, these results paint an encouraging picture of the potential predictive utility of adaptive personality regulation, at least with respect to

²² It is important to note that although level of acquaintance is usually a positive moderator of the personality-performance relationship with other-ratings of traits (e.g., Connelly & Ones, 2010), it is likely that this would negatively impact the validity of state ratings as the rater's preconceptions are more likely to introduce bias into ratings in a similar manner to self-ratings.

observer-ratings. From a practical perspective, not only are results consistent with the existence of a unique individual difference that is able to account for incremental variance in performance outcomes, but also they suggest that this construct can be measured in a brief and efficient enough manner that would make it appropriate for use in a selection context.

6.4.4. The nature of adaptive personality regulation.

Adaptive personality regulation is proposed as a goal-directed and adaptive process. The goal-directed nature of this construct is supported not only by the positive association between adaptive personality regulation and task performance, but also the positive relationship between adaptive personality regulation and motivation ($r = .254, p < .05$). This finding suggests that the more motivated individuals are to achieve a goal, the more likely they are to regulate their personality states accordingly. Thus, the conceptualisation of adaptive personality regulation as a goal-directed process is supported.

At the outset of this chapter it was posited that trait adaptive personality regulation might have a protective function, such that individuals high in adaptive personality regulation are less susceptible to the potentially maladaptive consequences of sustained personality regulation. The results of this study provide some evidence to support this assertion. Specifically, the results demonstrated that in the group exercise, the performance of individuals low in trait adaptive personality regulation suffered as a consequence of increased movement from trait standing ($r = -.490, p < .05$), while no such difference was observed for individuals with high or moderate scores. This finding is consistent with those of Schaubroeck and Jones (2000) who found that emotional adaptability mediated the relationship between emotional labour and negative

physical symptoms such that emotionally adaptable individuals were less likely to suffer negative consequences following false positive emotional displays.

Although this finding is arguably weakened by the fact it did not replicate across all tasks, there might be an explanation for this. Specifically, while an effort was made to counterbalance the order of the tasks, logistical practicalities meant it was necessary for the group exercise to be performed last. Hence, the reason a negative correlation between movement and task performance is observed for low adapters in only this task might suggest that there is greater adverse impact for individuals low in trait adaptive personality regulation that attempt to sustain regulation of their personality states over longer periods. Such an interpretation is consistent with Muraven and Baumeister's (2000) limited strengths model, which asserts that self-control (posited as necessary to perform any act of self-regulation) is a limited and depleting resource. Future research is necessary to establish whether self-control governs adaptive personality regulation or not. However, it is plausible that were this assertion supported, the observed difference between those with low trait adaptive personality regulation scores, rather than moderate or high scores, might reflect underlying differences with respect to the size of individuals' self-control resources. Alternatively, it might be simply that the former use less effective strategies for regulation.

6.4.5. Limitations.

The findings reported here should be interpreted within the context of a number of limitations to the present study. First, the relatively small sample size is threatened by a number of issues including diminished generalizability, reduced statistical power, and unavailability of more sophisticated data analysis techniques such as structural equation modelling. The sample size also meant it

was necessary to examine the incremental predictive utility of adaptive personality regulation above other study variables (i.e., personality traits, cognitive ability, and motivation) in separate analyses. As discussed above (see section 6.4.3), it is possible that the incremental utility of adaptive personality regulation would be diminished with a larger sample that allowed all factors to be considered simultaneously. However, for a time-intensive, repeated measures, experimental study, the sample size is not uncharacteristically small (e.g., Fleeson & Law, 2015). Although some significant effects may have been disguised by Type II errors resulting from insufficient power, the fact that adaptive personality regulation emerged as such a powerful predictor of performance within a sample of this size is arguably testament to the strength of its effect. The sizeable number of analyses conducted in this study means that there is also a reasonable chance of some Type I errors. While this is recognised, it is argued that the consistency of the results for adaptive personality regulation are such that the substantive conclusions with regard to this phenomenon can be considered relatively stable. Nevertheless, future research will be necessary to demonstrate that the findings reported here generalise to other samples.

A second limitation relates to the sample composition. The sample was comprised of university students, predominantly on postgraduate courses, and the sample is not therefore representative of the wider population. This may influence the generalizability of findings. For instance, the IQ of this sample will be much higher than the population average. The restriction of range here might explain why the association between cognitive ability and adaptive personality regulation was weaker than perhaps expected. Indeed, cognitive ability likely affects how well individuals are able to appraise situations and identify the

personality states optimal for goal attainment, both of which are proposed to be crucial components of any successful act of adaptive personality regulation. The conclusions about the relationship between adaptive personality regulation and cognitive ability are therefore tentative at this stage and should be investigated using more diverse samples in future research.

A final important limitation of this study relates to the failure to achieve reliable observer-ratings of personality states in the proofreading exercise. This limits conclusions about adaptive personality regulation to socially oriented tasks. It is not surprising that it was difficult for observers to rate participants' personality states in the proofreading task given this exercise was a solo activity conducted in silence. Therefore, there was inevitably a lack of observable variation in personality states compared to the other three tasks. It is expected that trait adaptive personality regulation predicted adaptability in this task but that it could not be adequately adjudicated. The finding that trait adaptive personality regulation significantly predicts performance in the proofreading exercise supports this interpretation. If adaptive personality regulation did not generalise across task type then one would not necessarily expect adaptive personality regulation scores derived from socially oriented tasks to predict performance in a non-socially oriented task. However, the results do not rule out the possibility that while adaptive personality regulation does appear to generalise across different tasks, it does not necessarily generalise across different *types* of task (e.g., socially oriented and non-socially oriented).

6.4.6. Summary.

In summary, Study 2 provides evidence to suggest that adaptive personality regulation, defined as a person's ability to successfully regulate their

expression of personality in order to maximise goal attainment, can be conceptualised as a unique individual difference. What is more, adaptive personality regulation appears to generalise across personality traits and (at least some) situations. In addition, adaptive personality regulation scores derived from observer-ratings of personality states appear to have considerable predictive utility. Indeed, in this study these scores were significantly associated with performance across a range of assessment-centre style tasks and were able to account for incremental variance in performance outcomes over and above personality traits, cognitive ability, self-monitoring, and motivation. Collectively, Study 2 provides initial evidence to support the proof of concept for the construct of adaptive personality regulation, suggests it is conceptually distinct from other individual differences (e.g., personality traits, cognitive ability, motivation), and offers support for the predictive utility of this construct. Further examination of adaptive personality regulation will be undertaken in Study 3, in which the nature and utility of adaptive personality regulation will be examined within a new sample in order to establish the extent to which the findings reported here generalise beyond the present sample.

Chapter 7

Study 3: Further Exploring the Construct and Utility of Adaptive Personality Regulation: A Replication and Extension

Study 1 of this thesis found that employees report their job roles require varied expression of personality to be successful. Study 2 found preliminary evidence for the existence of adaptive personality regulation, an individual difference that describes the self-regulation of personality states to facilitate goal attainment. Further, evidence in support of the concept was offered with respect to a number of the key theoretical assumptions outlined in chapter 4. Specifically, adaptive personality regulation was found to: (i) generalise across personality traits and (most) situations, (ii) explain incremental variance in performance outcomes over and above personality traits, cognitive ability, self-monitoring and motivation, and (iii) act as a protective mechanism, enabling individuals high in trait adaptive personality regulation to undergo sustained regulation of their personality traits without suffering maladaptive consequences.

However, the previous study was the first known empirical examination of many of the theoretical concepts proposed in this thesis. In addition, the sample size – although typical for investigations of this type – was small, meaning conclusions must be interpreted tentatively given the potential concerns over issues such as generalizability, effect sizes, and Type I and II errors. Therefore, the purpose of the present study is to therefore serve as a replication and extension of Study 2 in order to: (i) assure key results obtained in Study 2 are reliable and valid, (ii) improve the generalizability of findings, (iii) further theoretical understanding of adaptive personality regulation by broadening the scope of the methodological design.

7.1. Introduction

Replication studies are the intentional repetition of prior research for the purposes of corroborating or disconfirming previous results (Wright & Sweeney, 2016). Replication studies can serve to support or raise questions regarding the findings of previous empirical investigations, as well as shed light on the psychological processes that underpin a particular effect, and/or help identify its boundary conditions (e.g., Burger, 2009; Lakens, 2012; Proctor & Chen, 2012). They are therefore imperative for theoretical development. Indeed, replication evidence is widely considered to be the gold standard for evaluating scientific claims, yet this type of research is rare within the psychological sciences (Bonett, 2012).

In a historical review of the field, Makel, Plucker, and Hegarty (2012) reported the replication rate of the top 100 psychology journals with the highest five-year impact factors to be just 1.07%. However, in recent years there has been something of a call to arms, with a number of scholars actively calling for more replication research (e.g., Bonett, 2012; Makel, et al., 2012; Wright & Sweeney, 2016). Encouragingly, an increasing number of prestigious psychology journals are willing to publish both failed and successful replication attempts (e.g., *Journal of Experimental Social Psychology*, *Journal of Personality and Social Psychology*, *Perspectives on Psychological Science*, *Psychological Science*).

Despite this, there remain no universally agreed criteria to guide the design of effective replication studies (Brandt et al., 2014; Makel & Plucker, 2014). Lykken (1968) proposed that replication studies could be literal, operational, or constructive. Literal replications involve the exact duplication of

the primary study with respect to sampling procedure, experimental conditions, measurement techniques, and methods of analysis. Operational replications duplicate only sampling and experimental conditions, while constructive replications purposefully avoid imitating the primary study's methodology to establish if conclusions hold when utilising different methods of sampling, measurement, and data analysis.

The approach taken in the present study was to keep the replication of the core aspects of Study 2 as close as possible (i.e., as exact as is possible for a replication to be in psychology: Brandt et al., 2014; Rosenthal, 1991; Tsang & Kwan, 1999) to enable more rigorous testing of the key findings from the previous study. However, in order to try and extend the theoretical findings of the previous study in an important direction, some intentional adjustments were made to certain aspects of the methodological procedure. These are described in detail in the sections that follow. The sampling procedure, measurement techniques, and data analysis methods all remain consistent.

7.1.1. Proof of concept for adaptive personality regulation.

This study seeks to further examine the propositions that would provide proof of concept for the proposed construct of adaptive personality regulation by building on the findings of Study 2. Earlier in this thesis it was proposed that adaptive personality regulation can be understood with respect to four key characteristics: (i) it is underpinned by a regulatory mechanism; (ii) it is an individual difference; (iii) it generalises across personality traits and situations; and (iv) it has adaptive consequences (see section 4.2). Demonstrating proof of concept for adaptive personality regulation requires evidence that each of these key characteristics holds. Table 7.1 presents the criteria that must be met in order

to do this in each case and also indicates which of these constitute hypotheses in the present study. Those that are the focus of the current investigation are considered in turn below. To avoid unnecessary repetition, the reader is referred to earlier chapters of this thesis where relevant.

Table 7.1.

Proof of Concept Statements for Each Key Characteristic of Adaptive

Personality Regulation, and Which Are Explored in the Current Empirical

Investigation

Proof of Concept Statement	Study 2 Hypothesis	Study 3 Hypothesis
Adaptive personality regulation is underpinned by a regulatory mechanism		
- Adaptive personality regulation is goal-directed	X	X
- Adaptive personality regulation is a conscious, controlled process		X
- Adaptive personality regulation becomes more efficient with practice over time		
Adaptive personality regulation generalises across personality traits and situations		
- Adaptive personality regulation scores across traits and situations conform to a general factor	X	X
Adaptive personality regulation is an individual difference		
- Adaptive personality regulation scores vary across individuals	X	X
- Adaptive personality regulation is separate from theoretically similar constructs previously identified in the literature	X	X
Adaptive personality regulation is adaptive		
- Adaptive personality regulation is positively associated with adaptive outcomes	X	X
- Adaptive personality regulation is distinct from personality variability more generally	X	X
- Individuals high in adaptive personality regulation are less susceptible to the potentially maladaptive consequences of sustained personality regulation than individuals low in the construct	X	X
Theoretical model of adaptive personality regulation		
- Adaptive personality regulation is dependent on the ability to accurately appraise situations		
- Adaptive personality regulation is dependent on the ability to accurately appraise ongoing personality states		
- Adaptive personality regulation is dependent on the ability to accurately determine the personality states conducive to goal attainment		X
- Adaptive personality regulation is dependent on the		

7.1.1.1. Adaptive personality regulation is goal-directed.

Regulation is a goal-directed process (e.g., Carver & Scheier, 1982). Thus, if adaptive personality regulation is a regulatory process, it follows that it is also goal-directed. Previous research supports the role of goal-pursuit in personality variation (Heller et al., 2007; Huang & Ryan, 2011; McCabe & Fleeson, 2012; McCabe et al., 2013; Minbashian et al., 2010; Nikitin & Freund, 2013; Snyder & Gangestad, 1986) and Study 2 found positive associations between adaptive personality regulation and both motivation and task performance. This finding suggests that the more motivated a person is to achieve a goal (in this case task performance), the more likely they are to adaptively regulate their personality states – and attain their goal as a result.

Although previous findings are consistent with the goal-directed nature of adaptive personality regulation, other interpretations cannot be ruled out. For instance, McCabe and Fleeson (2012) report that people increase their extraversion states when pursuing extraversion-related goals such as trying to have fun, or making new friends. However, it is possible that this pattern of results reflect changes in the situations individuals are experiencing such that when at a social event or gathering (as opposed to at work or at home), extraverted personality states are activated, resulting in the pursuit of more extraverted goals. Thus, it remains possible that goals are actually the consequence, rather than the antecedent, to functional personality variation.

Therefore, a more stringent test of this claim would be to have individuals undertake the same task, in the same environment, but provide them with

different goals. A within-person goal manipulation would allow a more explicit examination of the extent to which individuals regulate their personality states in response to changing goals. Such an approach was therefore decided upon for the current study.

Hypothesis 1: Adaptive personality regulation is goal-directed

7.1.1.2. Adaptive personality regulation is a conscious, controlled process.

Conscious control is another commonly accepted feature of self-regulation (Carver & Scheier, 1982; Higgins, 1987; Muraven & Baumeister, 2000; Pyszczynski & Greenberg, 1987). Previous research has demonstrated that individuals can regulate their personality states on demand, according to instructions provided by researchers (e.g., Cook, 2016; Fleeson & Wilt, 2010; P. Gallagher et al., 2011; McNiel & Fleeson, 2006). Although over time it is likely that acts of self-regulation performed repeatedly in the same context might become automatised (i.e., executed with relatively little or no conscious control) (Denissen et al., 2013; Mauss et al., 2007), one would expect that the goal-directed execution of personality states in any given context initially requires conscious control (see section 4.2.1.2).

In Study 2, the conscious nature of adaptive personality regulation was inferred by manipulating the situations and goals of participants through the different tasks they undertook. However, a more explicit test of this claim would be to ask participants to reflect and report on their contra-trait behaviour and examine the relationship with adaptive personality regulation. For instance, participants could be asked to rate the frequency with which they perceive variation in their personality, and the extent to which they feel this is within or

beyond their control. Evidence that individuals are aware of fluctuations in their personality states and a positive association between self-efficacy around personality variation and adaptive personality regulation would suggest that people are aware of their ability to undertake adaptive personality regulation, offering further support for the assertion that this is a conscious and controlled process.

Hypothesis 2: Adaptive personality regulation is a conscious and controlled process

7.1.1.3. Adaptive personality regulation scores across traits and situations conform to a general factor.

Adaptive personality regulation is hypothesised to generalise across personality traits and situations such that, regardless of the situation or target trait, individuals high in adaptive personality regulation will be more adept at regulating their expression of personality than those low in adaptive personality regulation (see section 4.2.4). The findings of Study 2 were consistent with this assumption. Specifically, adaptive personality regulation scores derived from multiple personality traits in several different situations were found to conform to a single-factor model.

Hypothesis 3: Adaptive personality regulation scores across traits and situations conform to a general factor

7.1.1.4. Adaptive personality regulation scores vary across individuals.

Adaptive personality regulation is proposed as an individual difference, meaning that stable between-person differences are expected with respect to an individual's ability to adaptively regulate their expression of personality.

Previous research has evidenced stable between-person differences with respect to both the extent (e.g., Fleeson, 2001, 2007; Fleeson & Gallagher, 2009) and nature (e.g., Fleeson, 2007; Fleeson & Gallagher, 2009; Heller et al., 2007; Judge et al., 2014; McCabe & Fleeson, 2012) of personality variation.

The findings of Study 2 offer more direct evidence. Here, it was demonstrated that in addition to conforming to its expected structure, adaptive personality regulation scores measured across a variety of personality traits and situations vary substantially across individuals, with scores evidencing substantial dispersion around the mean (see section 6.3.1.4.3).

Hypothesis 4: Adaptive personality regulation scores vary across individuals

7.1.1.5. Adaptive personality regulation is separate from other theoretically similar constructs previously identified in the literature.

In addition to showing variation across individuals, demonstrating that adaptive personality regulation is a unique individual difference also requires a demonstration of discriminant validity. That is, evidence is needed that adaptive personality regulation is separate from other theoretically similar constructs already identified in the extant literature (Campbell & Fiske, 1959). It is generally accepted that correlations between two constructs of $< .85$ can be said to be discriminant.

Chapter 4 identified a range of theoretically similar constructs, all of which share some degree of conceptual overlap with adaptive personality regulation (see Table 4.1). Study 2 examined the relationship between adaptive personality regulation and personality traits, cognitive ability, and self-

monitoring. The results supported discriminant validity with respect to these constructs. In the present study, personality traits were measured again given their centrality to this thesis. However, measures of cognitive ability and self-monitoring were replaced with measures of self-control and adaptive performance in order to broaden the scope of this proof of concept demonstration. The discussion that follows thus focuses on these core constructs.

The conceptual distinction between personality traits and adaptive personality regulation has been discussed elsewhere in this thesis. Briefly, while personality traits contain meaningful information about an individual's *typical* or *preferred* personality expression, adaptive personality regulation holds meaningful information regarding the extent to which an individual is able to regulate their personality expression away from this preferred state when conducive to goal attainment. The findings from Study 2 supported this distinction with respect to the Big Five personality traits ($r = .035 - .216$).

Hypothesis 5: Adaptive personality regulation is a separate construct from personality traits

Self-control is concerned with the suppression of dominant responses (e.g., Baumeister et al., 2006). For example, with respect to adaptive personality regulation, this might mean that an extraverted individual, who desires to express introverted personality states in order to attain a goal, must first suppress his or her extraversion. Self-control has been implicated in contra-trait behaviour by some researchers (e.g., P. Gallagher et al., 2011; McCrae & Lockenhoff, 2010). A significant positive association between adaptive personality regulation and self-control might suggest a dependency that helps account for observed differences between high and low adapters. For instance, it could be that

individuals high in adaptive personality regulation benefit from a larger self-control resource that enables them to suppress their trait-typical behaviour for longer periods without experiencing depletion (e.g., Muraven & Baumeister, 2000). Alternatively, it might be that individuals high in adaptive personality regulation are more proficient at habituating, or automating personality regulation, meaning that these individuals generally rely less on self-control for the execution of adaptive personality regulation. However, previous empirical findings have not always been consistent regarding the role of self-control in the manifestation of contra-trait personality states (e.g., P. Gallagher et al., 2011). Further, if self-control were implicated in adaptive personality regulation it would not be a sufficient explanation for the underlying process given its exclusive focus on the suppression of dominant responses which would not account for the up-regulation of desired personality states necessary for adaptive personality regulation.

Hypothesis 6: Adaptive personality regulation is a separate construct from self-control

Adaptive performance has been described as an individual's ability to change behaviour in order to meet situational demands (Ployhart & Bliese, 2006). Adaptive performance has been proposed as a trait that reflects performance across a number of areas that require adaptability such as handling stress, problem solving, and learning new technology and procedures. As such, adaptive performance is conceptualised solely by outcomes, with no explanation of the underlying explanatory mechanisms. Although adaptive personality regulation is applicable to a much larger range of contexts than just performance, it is possible that within a performance context adaptive personality regulation

provides an account of the mechanisms underlying adaptive performance outcomes. Preliminary research has provided tentative evidence that the eight proposed dimensions of adaptive performance conform to a general factor model (Hamtaux, Houssemand, & Vrignaud, 2013). This is consistent with the proposed theoretical structure of adaptive personality regulation.

Hypothesis 7: Adaptive personality regulation is conceptually distinct from adaptive performance

7.1.1.6. Adaptive personality regulation is positively associated with adaptive outcomes.

As implied in the construct label, adaptive personality regulation is expected to serve an adaptive function for the individual. Specifically, this trait is hypothesised to enable individuals to regulate their expression of personality in order to achieve desired goals. The findings of Study 2 support this claim. Not only did observer-rated adaptive personality regulation emerge as a significant predictor of task performance, it also accounted for a significant amount of incremental variance in performance over and above personality traits (12%), cognitive ability (11%), and motivation (10%).

Hypothesis 8: Adaptive personality regulation is positively associated with task performance

7.1.1.7. Adaptive personality regulation is distinct from personality variability more generally.

Adaptive personality regulation is distinguished from personality variability by its adaptive nature. Previous research on personality variability has identified it can be both functional (e.g., McCabe & Fleeson, 2012) and

dysfunctional (e.g., Côté et al., 2012; Miskewicz et al., 2015) by nature.

Adaptive personality variability is posited as a specific type of personality variability, which results specifically from adaptive personality regulation. Study 2 explicitly examined the relationship between variation resulting from adaptive personality regulation and the total amount of personality variation observed across a series of assessment centre-style tasks. The largest observed association between adaptive personality variation and total personality variation in a task was moderate in size ($r = -.553$). This suggests that not all personality variation is adaptive because if it were one would expect the magnitude of the relationship between these variables to suggest equivalence (i.e., $\geq .85$).

Hypothesis 9: Adaptive personality regulation is distinct from personality variability more generally

7.1.1.8. Individuals high in adaptive personality regulation are less susceptible to the potentially maladaptive consequences of sustained personality regulation than individuals low in the construct.

It is expected that adaptive personality regulation serves not only a short-term adaptive function in supporting goal attainment, but also a longer-term adaptive function (see section 4.2.2). Specifically, adaptive personality regulation is expected to offer a protective factor or buffer against any potentially maladaptive consequences of personality regulation. Previous research has suggested that consistently enacting personality states that are contrary to one's underlying traits may be unsustainable due to the associated cognitive demands (e.g., P. Gallagher et al., 2010; B. R. Little, 2008). To the author's knowledge

there has been very little research explicitly examining this claim to date²³.

However, if this were the case, one would expect that the more an individual were required to regulate their personality expression away from their trait standing position, the higher the cognitive burden.

Study 2 examined this explicitly by considering the extent to which manifesting personality states that deviated from one's trait standing scores had implications for performance among participants with high, average, and low adaptive personality regulation scores. For three of the four tasks no significant association was observed between distance moved from trait standing and performance for individuals with either high, average, or low adaptive personality regulation scores. However, for the group exercise (which was typically performed last due to logistical practicalities), a sizeable significant negative correlation was found between distance moved from trait standing and performance ($r = -.490, p < .05$). These findings might suggest that the differing adverse impact of personality regulation on performance for low adapters as compared to moderate or high adapters only becomes pronounced following a sustained period of attempted personality regulation. However, further investigation is needed to examine the robustness of this finding. To this end, the present study replicates the approach followed in Study 2, but switches the order of the tasks such that the presentation task, rather than the group exercise are undertaken last.

²³ Within the emotion regulation literature, however, emotional adaptability has been found to mediate the relationship between emotional labour and negative physical symptoms (Schaubroeck & Jones, 2000).

Hypothesis 10: Individuals high in adaptive personality regulation are less susceptible to the potentially maladaptive consequences of personality regulation than individuals low in the construct

7.1.1.9. Adaptive personality regulation is dependent on the ability to accurately determine the personality states conducive to goal attainment.

Earlier in this thesis, a proposed theoretical model of adaptive personality regulation was presented (see section 4.3). Here, it was suggested that successful adaptive personality regulation is dependent upon the individual accurately inferring the personality states conducive to goal attainment. As adaptive personality regulation is hypothesised to be a conscious and controlled process, an inability to determine the optimal personality expression may lead to ineffective or even maladaptive personality regulation.

One way of examining this claim is to present individuals with a personality measure and have them indicate for each item which position on the accompanying scale they believe reflects optimal personality expression for goal attainment in a given situation. If adaptive personality regulation were dependent on the ability to determine this correctly, one would expect a high level of agreement between the ratings of individuals high in adaptive personality regulation and those of expert raters. If the corresponding level of agreement for individuals low in adaptive personality regulation were poor, this might suggest that the ability to accurately appraise optimal personality states is a key differentiator between high and low adapters. In contrast, if individuals low in adaptive personality regulation *are* able to accurately identify the optimal states

for goal attainment, this would suggest that this ability is not a key differentiator between high and low adapters.

Hypothesis 11: Adaptive personality regulation is dependent on the ability to accurately determine the personality states conducive to goal attainment

7.2. Method

7.2.1. Design overview.

As a replication and extension of Study 2, the experimental design of this study was very similar to that outlined in the previous chapter (see section 6.1). The study was again set up to reflect a graduate assessment centre, with demographic and self-report measures completed online around two weeks prior to attendance. Participants undertook three tasks in total. Two of these, a negotiation exercise and a group exercise, were identical to those used in the previous study. The other, a presentation task, was set up somewhat differently in order to provide a more stringent test of the goal-directed nature of adaptive personality regulation via a goal manipulation. The changes to this task are described in detail below (see section 7.2.3.6.1).

To determine optimal personality states for each component of the new presentation task, six of the original eight independent personality experts provided ratings. A task description, performance objective, and the Bipolar Big Five Marker Scale (Goldberg, 1992) were again used for this purpose (see Appendix G).

7.2.2. Sample.

Participants were recruited using internal contact lists from the University of Manchester and through advertisements placed in relevant groups on Facebook. Advertisements presented participants with an overview of the study and provided the author's contact details for those who had further questions or wished to register their interest in study participation (see Appendix H).

This strategy led to a final sample of 79 participants. The nature of participant recruitment meant that all were students from the University of Manchester. There were considerably more females (64.6%) than males (35.4%) in the sample. Ages ranged from 18 to 31 years ($M = 22$ years). The final sample comprised 65.8% undergraduate students and 34.2% postgraduate students. For 67.1%, English was not the participant's first language. The sample was diverse with regard to ethnicity: European/White = 30.4%, East Asian = 24.1%, South Asian = 12.7%, Black = 8.9%, Hispanic = 6.3%. A complete demographic breakdown of the final sample is presented in Table 7.2.

Table 7.2.

Demographic Characteristics of Sample by Frequency (%)

Gender	Male 28 (35.4)		Female 51 (64.6)			
Ethnicity	European/ White 24 (30.4)	East Asian 19 (24.1)	South Asian 10 (12.7)	Black 7 (8.9)	Hispanic 5 (6.3)	Other 14 (17.6)
Degree	Undergraduate 52 (65.8)			Postgraduate 27 (34.2)		
First Language	English 26 (32.9)			Other 53 (67.1)		

7.2.3. Measures.

Data were collected through a laboratory study and an online questionnaire following the same methodology as outlined in the previous chapter for Study 2. The online questionnaire was completed by participants up to two weeks prior to their involvement in the laboratory session and consisted of measures of self-report personality traits, contra-trait behaviour, self-control, adaptive performance and demographic items (detailed above). Here, the measures used in both components of the study are described. The reader is referred to the previous chapter (see section 6.2.2) for a more detailed account of measures duplicated in the current study. A full list of additional materials can be found in Appendix I.

7.2.3.1. Personality traits.

The Bipolar Big Five Marker Scale (Goldberg, 1992) was used to measure the Big Five personality traits. This scale has previously demonstrated good internal consistency ($\alpha = .76 - .88$) and the scales have good discriminant validity (Goldberg, 1992). Each set of paired adjectives is presented on a 9-point rating scale where one adjective anchors the extreme points of the scale at 1 and 9. An example pair of adjectives from the Extraversion scale are: '*Introverted*' and '*Extraverted*' (where, 1 = *Introverted*, and 9 = *Extraverted*).

7.2.3.2. Contra-trait behaviour.

In order to assess the extent to which participants feel they express behaviours that are different from their trait standing position, the following question was presented to participants immediately following the Bipolar Big Five Marker Scale: '*Please think about the answers you have provided above*

regarding your typical personality expression and consider the extent to which your behaviour, thoughts, and feelings deviate from the responses you have provided'. Participants were asked to indicate the frequency with which their personality expression deviated from the trait level responses they had described using a 7 point scale where, 1 = never, 2 = less than once per month, 3 = 1-2 times per month, 4 = once per week, 5 = 2-3 times per week, 6 = daily, and 7 = multiple times per day.

7.2.3.3. Self-efficacy of contra-trait behaviour.

To establish the extent to which participants felt contra-trait behaviour to be the result of conscious, purposeful regulation, the following question was asked: '*How much confidence do you have that you can adjust your personality expression when desired?*' Responses were made on a 7-point Likert scale where, 1 = no confidence, and 7 = complete confidence.

7.2.3.4. Self-control.

Self-control was measured using the 13-item Self-Control Scale (Tangney et al., 2004). Previous research has established that this measure has high internal consistency ($\alpha = .85$) and test-retest reliability (.87) (Tangney et al., 2004). An example item is; '*People would say that I have iron self-discipline*'. Responses are made on a 5-point Likert scale where, 1 = strongly disagree, and 5 = strongly agree.

7.2.3.5. Adaptive performance.

Previous research has identified eight dimensions of adaptive performance including crisis, cultural, work stress, learning work tasks, technologies and procedures, interpersonal, physical, creativity, and uncertainty

(Ployhart & Bliese, 2006). For the purposes of brevity, only the three dimensions identified as most relevant to performance in the laboratory tasks were selected for use in the current study. Specifically, the 21 items from the I-ADAPT-M scale (Ployhart & Bliese, 2006) that measure work stress adaptability, work interpersonal adaptability, and work uncertainty adaptability were utilised. Previous research has demonstrated that each of these dimensions has adequate reliability ($\alpha = .67 - .74$). An example item from the work stress adaptability dimension is; *'I feel unequipped to deal with too much stress'*. Responses are made on a 5-point Likert scale where, *1 = strongly disagree*, and *5 = strongly agree*. The example item is reverse-scored.

7.2.3.6. Performance.

Performance was measured through an assessment of task performance on four assessment centre-style exercises. To enable as much comparison as possible with Study 2, these tasks were kept as similar as possible. Two of the tasks (the negotiation exercise and the group task) were direct replications of the exercises described in Study 2. The presentation task was minimally adapted for purpose by introducing a goal manipulation, essentially resulting in two presentation tasks, with two independent scores and personality ratings. The purpose of this was to provide a more rigorous assessment of the goal-directed nature of adaptive personality regulation. This is described in detail below.

7.2.3.6.1. Presentation.

Two weeks prior to attending the laboratory session participants were instructed to prepare a five-minute talk. Unlike in the previous study where participants chose their own topic, this time participants were allocated a current

affairs topic to research and discuss. No further instructions were given. An effort was made to ensure participants attending the same session were allocated different topics. Example topics include: ‘*University fees*’; ‘*Global warming*’; and ‘*Privacy vs. national security*’ (see Appendix I for a comprehensive list of presentation topics).

On the day of the laboratory study, before the presentation task began, participants were informed that they would be required to adapt their style during the delivery of their prepared talk in accordance with two different goals. The first half of the talk was to be delivered with the goal of making the audience like them, and the second half with the goal of convincing the audience that their opinion on the topic they were discussing was right. The purpose of this goal manipulation was to provide a more stringent test of the goal-directed nature of adaptive personality regulation. At the end of the mock assessment centre a brief goal manipulation check was issued, in which participants were asked to rate on a scale of 1-10 (where *1 = not at all*, and *10 = completely*) the extent to which they considered that they had adopted these two goals when instructed.

Both participant observers and the two research assistants completed rating sheets to provide a measure of performance in each aspect of this task. The rating sheets required ratings on a 1 – 10 scale (where *1 = extremely poor*, and *10 = extremely good*) for how successful participants were at coming across as likeable and opinionated when required. Participants’ score in the likeable manipulation of the presentation task was calculated by taking the mean of the performance ratings for likeability. The same approach was followed for measuring performance in the opinionated manipulation of this task.

7.2.3.6.2. Negotiation.

The negotiation task was a paired role-play exercise outlined in Barry and Friedman (1998). A comprehensive description of the task and measure of performance is detailed in the previous chapter (see section 6.2.2.5.2).

7.2.3.6.3. Group task.

The group exercise was based on an exercise used by a Manchester-based recruitment firm for maximum ecological validity. A comprehensive description of the task and measure of performance is detailed in the previous chapter (see section 6.2.2.5.5).

7.2.3.7. Situation appraisal.

Situation appraisal was measured by asking participants to rate the personality expression they believed to be most conducive to success in two of the tasks: namely, the negotiation task and the group exercise. The Bipolar Big Five Marker Scale (Goldberg, 1992) was utilised for this purpose. Situation appraisal was limited to two tasks due to time constraints and to minimise the likelihood of participant fatigue or boredom.

After providing the ratings for optimal personality expression, participants were then asked the following question: *'To what extent do you feel you acted according to the behaviour you have described here during the task?'* Participants answered this question for both the negotiation and the group exercise using a 10-point Likert scale, where *1 = not at all*, and *10 = completely*.

7.2.3.8. Adaptive personality regulation.

For a detailed description of the approach taken to the measurement of adaptive personality regulation please refer to the previous chapter (see section

6.2.2.6.1). Briefly, adaptive personality regulation was measured by calculating the absolute difference between optimal personality and expressed personality across the Big Five in each of the tasks. Optimal personality was determined by the mean of eight independent experts' ratings. Due to the limitations of self-rated adaptive personality regulation identified in Study 2, only observer-rated adaptive personality regulation was utilised in the current investigation.

7.2.3.8.1. Observer-rated adaptive personality regulation.

Two observers provided ratings of each participant's state personality expression in each of the five tasks using the Bipolar Big Five Marker Scale (Goldberg, 1992)²⁴. The instructions were minimally adjusted to make them appropriate for use with other-ratings of state personality.

As was the case in Study 2, items were considered candidates for removal if (a) $\geq 20\%$ data was missing, or (b) inter-rater agreement was poor – as evidenced by a non-significant polychoric correlation. This process resulted in 17 items being removed across the four tasks (equivalent to 18.8% of the total number of items). A comprehensive of omitted items can be seen in Appendix J. Table 7.3 presents inter-rater agreement (polychoric correlation) and reliability estimates (McDonald's Omega) at the scale level.

²⁴ The exception to this was the group exercise. Due to a shortage of resource, it was not possible to have the number of research assistants required to provide multiple ratings of personality states during this exercise simultaneously present. Each participant therefore only received one observer-rating of their personality during this exercise.

Table 7.3.

Inter-Rater Agreement and Reliability of Observer-Ratings of the Big Five in Each Task

	Presentation (Likeable)	Presentation (Opinionated)	Negotiation	Group
Extraversion	.544 (.930)	.467 (.897)	.500 (.889)	-.959
Agreeableness	-	-	.574 (.854)	-.854
Conscientiousness	.624 (.929)	.397 (.872)	.536 (.936)	-.923
Openness	.390 (.906)	.561 (.927)	.612 (.956)	-.903
Neuroticism	.574 (.878)	.332 (.813)	.579 (.819)	-.925

Note. McDonald's Omega is used to estimate scale reliability and is presented in parentheses.

Having established a satisfactory level of reliability in the measurement of personality states, adaptive personality regulation scores were then calculated. To do this, the absolute difference between optimal personality expression (determined by the mean of the expert ratings) and observed personality expression (determined by the mean of the two observer ratings) was calculated. This was first done at the item level. Item-level scores were then aggregated into scale scores, which were used to examine the structure of adaptive personality regulation (see section 7.3.1.1).

7.2.4. Procedure.

The procedure closely followed that outlined for Study 2 in the previous chapter. It is repeated here for clarity and for the purpose of highlighting where the procedure for this study differed.

Participants were recruited to the study through advertisements sent via course co-ordinators and placed on various of the university's social networking pages, which offered students the opportunity to attend a mock assessment centre and receive feedback on their performance as part of a doctoral research study.

Participants were advised they would each receive £10 on completion of the study. The decision to compensate participants was in part to acknowledge the time investment required for participation in the study, and in part to try and increase uptake and the likely sample size from the previous study (see section 6.2.1.). Interested students contacted the author via e-mail and were informed that the study involved attendance at a laboratory session, as well as an online questionnaire, which was to be completed up to two weeks prior. Participants were provided with a link to the questionnaire, which contained demographic items in addition to measures of personality traits, contra-trait behaviour, self-efficacy of contra-trait behaviour, self-control, and adaptive performance. At this stage participants were also informed that they would need to prepare a five-minute talk on a current affairs topic allocated to them.

Participants were informed that they were free to withdraw from the study at any time. Information sheets were issued on arrival at the laboratory session and participants were asked to sign consent forms and were given the opportunity to ask questions. They were then issued with name badges to ensure the research assistants who would be rating their personality states could easily identify them. In total, 13 sessions were run across a three-week period, with an average of six participants in attendance, along with the author and up to four research assistants.

Participants then undertook each of the exercises while up to two observers rated their *in situ* personality states. The findings from Study 2 suggested that individuals who are low in adaptive personality regulation suffer greater adverse impact as a result of sustained personality regulation than individuals who are moderate or high in the construct (see section 6.3.4). In order

to examine the robustness of this finding, an effort was made to ensure that the presentation exercise was consistently performed last wherever possible.

Before the presentation task began, participants were informed that there were two parts to this exercise – each with a different goal. The goal of the first part of the exercise was to endear themselves to their audience and come across as likeable. The goal of the second part of the exercise was to come across as opinionated and convincing about their beliefs on the topic discussed.

Participants were instructed to deliver the content they had prepared but to adapt their delivery as instructed to meet these two aims in order to perform well in the task. All participants began their presentation with the likeable goal. A hand signal from the author (made half-way through the allocated time for the task) indicated when the participant should switch to the opinionated goal. The negotiation and group exercises followed an identical procedure to Study 2.

After all the tasks had been undertaken, participants were asked to complete the situation appraisal measures for the negotiation and group exercises. They also completed the goal manipulation check before being debriefed and dismissed.

7.2.5. Analysis strategy.

Analyses were conducted in Mplus 7.4 (Muthén & Muthén, 1998-2015) and SPSS 22.0. The analysis strategy followed that outlined in Study 2 (see section 6.2.4). Briefly, CFA was first conducted on established scales to test for unidimensionality. Model fit was determined by consulting the Comparative Fit Index (CFI), the Tucker Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). Where the data were judged to be continuous, the

Standardised Root Mean Square Residual (SRMR) was also consulted. Model fit was considered to be good by values within the range of $\geq .90$ – $.95$ for the CFI and TLI, $\leq .06$ – $.08$ for the RMSEA, and < 1 for the SRMR (Hu & Bentler, 1998, 1999; Schermelleh-Engel et al., 2003).

The study's hypotheses were examined using a variety of multivariate techniques. CFA was utilised to examine the structure of adaptive personality regulation and Pearson bi-variate correlation analysis was conducted to examine the relationship between study constructs. The predictive validity of adaptive personality regulation with respect to task performance was estimated using a series of multiple and hierarchical multiple regressions. Finally, Pearson bi-variate correlation analysis was utilised again to explore the nature of adaptive personality regulation and its relationship with personality variability and maladaptive outcomes, as well as situation appraisal and self-efficacy of contra-trait behaviour.

7.3. Results

7.3.1. Measurement models.

7.3.1.1. Personality traits.

A CFA was conducted on the Bipolar Big Five Marker Scale (Goldberg, 1992) that was used to measure personality traits. The results showed adequate fit to the data ($\chi^2 (265) 448.473, p < .001$; CFI = .923; TLI = .913; RMSEA = .094). Table 7.4 depicts the measurement model for this scale including factor loadings, squared multiple correlations, average variance extracted, and McDonald's Omega.

7.3.1.2. Self-control.

Tangney et al. (2004) proposed the Brief Self-Control Scale (BSCS) as a unidimensional measure of self-control. However, the authors never examined this empirically and subsequent examinations of the factor structure failed to support a one-factor model (e.g., Maloney, Grawitch, & Barber, 2012). Fitting a single-factor model to the present data also evidenced poor fit (χ^2 (65) 128.638, $p < .001$; CFI = .774; TLI = .728; RMSEA = .112).

Maloney et al. (2012) explored the factor structure of the BCSC across three independent samples comprised of both students and working adults ($N = 909$, $N = 364$, and $N = 175$, respectively). Results supported a two-factor structure, comprised of impulsivity (i.e., one's tendency to act on spontaneous thoughts or feelings) and restraint (i.e., one's ability to override impulses). Although related, these factors were shown to have differential relationships with workplace outcomes (Maloney et al., 2012).

Fitting Maloney et al.'s (2012) two-factor model to the current dataset demonstrated reasonable fit (χ^2 (26) 32.327, $p > .05$; CFI = .942; TLI = .920; RMSEA = .056). The measurement model for this solution can be found in Table 7.4. Negative loading items (i.e., SC2 and SC7) were reverse-coded and scale scores were calculated for each of the two factors to be utilised in subsequent analyses.

7.3.1.3. Adaptive performance.

The I-ADAPT measure of adaptive performance (Ployhart & Bliese, 2006) seeks to capture an individual's capacity to adapt to changing environments through an assessment of eight theoretically derived dimensions. The authors propose a second-order eight-dimensional structure to adaptive

performance, but did not provide empirical validation for their measure.

However, Hamtiaux et al. (2013) reported a relatively poor fit when fitting a second-order model (χ^2 (1422) 2519.198, $p < .01$; CFI = .775; RMSEA = .042).

It is common for researchers to select and measure only the dimensions of adaptive performance considered most relevant (e.g., Cullen, Edwards, Casper, & Gue, 2014). Accordingly, work stress adaptability, interpersonal adaptability, and uncertainty adaptability were selected for use in the current investigation. Fitting a CFA for these factors with no higher-order factor demonstrated inadequate fit to the data (χ^2 (186) 311.572, $p < .01$; CFI = .898; TLI = .884; RMSEA = .093). Closer inspection of the model revealed that two items (*I am able to make effective decisions without all relevant information* and, *I tend to perform best in stable situations and environments*) from the uncertainty dimension did not load onto their factor (.099, $p > .05$ and .154, $p > .05$, respectively). Removing these items improved model fit considerably (χ^2 (149) 247.796, $p < .01$; CFI = .921; TLI = .909; RMSEA = .092). However, no correlation was observed between the factors representing work stress adaptability and interpersonal adaptability ($r = .096$, $p > .05$), and the model failed to converge when an attempt was made to include a factor representing higher-order adaptive performance. This finding is consistent with that reported in Hamtiaux et al. (2013).

As such, the present findings are more aligned with Pulakos, Arad, Donovan, and Plamondon's (2000) conceptualisation of adaptive performance, in which no general adaptability factor is generalised. The final measurement model is presented in Table 7.4 below.

Table 7.4.

Measurement Models for Study Measures Including Items, Standardised Factor Loadings, Squared Multiple Correlations (SMCs), Average Variance Extracted (AVE), and Reliability (Ω)

Item	Loading	SMC
Personality		
Extraversion		
Introverted – Extraverted	.705	.497
Silent – Talkative	.733	.537
Timid – Bold	.767	.588
Inactive – Active	.924	.854
Unassertive – Assertive	.770	.593
		AVE = .614
		Ω = .884
Agreeableness		
Unkind – Kind	.826	.682
Uncooperative – Cooperative	.770	.593
Selfish – Unselfish	.786	.618
Distrustful – Trustful	.763	.582
Stingy – Generous	.924	.854
		AVE = .666
		Ω = .888
Conscientiousness		
Disorganised – Organised	.657	.432
Irresponsible – Responsible	.930	.865
Careless – Thorough	.783	.613
Lazy - Hardworking	.784	.615
Extravagant – Thrifty	.216	.047
		AVE = .514
		Ω = .802
Openness		
Unintelligent – Intelligent	.688	.473
Unanalytical – Analytical	.618	.382
Unreflective – Reflective	.543	.295
Unimaginative – Imaginative	.868	.753
Uncreative – Creative	.915	.837
		AVE = .548
		Ω = .761
Emotional Stability		
Tense – Relaxed	.860	.740
Nervous – At ease	.831	.691
Unstable – Stable	.801	.642
Discontented – Contented	.771	.594
Emotional – Unemotional	.206	.042
		AVE = .542
		Ω = .821
Self Control		
Impulsivity		
I do certain things that are bad for me, if they are fun	.583	.340
Pleasure and fun sometimes keep me from getting work done	.466	.217

Item	Loading	SMC
I have trouble concentrating	.525	.276
Sometimes I can't stop myself from doing something, even if I know it is wrong	.625	.390
I often act without thinking through all the alternatives	.230	.053
		AVE = .255
		Ω = .66
Restraint		
I am good at resisting temptation	.603	.364
I have a hard time breaking bad habits	-.471	.222
I wish I had more self-discipline	-.410	.168
People would say I have iron self-discipline	.588	.346
		AVE = .275
		Ω = .63
Adaptive Performance		
Work Stress		
I usually over-react to stressful news	.578	.334
I feel unequipped to deal with too much stress	.706	.498
I am easily rattled when my schedule is too full	.731	.534
I am usually stressed when I have a large workload	.671	.450
I often cry or get angry when I am under a great deal of stress	.823	.677
		AVE = .499
		Ω = .832
Interpersonal		
I believe it is important to be flexible in dealing with others	.638	.407
I tend to be able to read others and understand how they are feeling at any particular moment	.610	.372
My insight helps me to work effectively with others	.821	.674
I am an open-minded person in dealing with others	.822	.676
I am perceptive of others and use that knowledge in interactions	.773	.598
I try to be flexible when dealing with others	.806	.650
I adapt my behaviour to get along with others	.511	.261
		AVE = .520
		Ω = .821
Uncertainty		
I need for things to be "black and white"	-.279	.078
I become frustrated when things are unpredictable	-.398	.158
When something unexpected happens, I readily change gears in response	.678	.460
I can adapt to changing situations	.917	.841
I perform well in uncertain situations	.685	.469
I easily respond to changing conditions	.874	.764
I can adjust my plans to changing conditions	.894	.799
		AVE = .510
		Ω = .810

7.3.1.4. Adaptive personality regulation.

Item-level adaptive personality regulation scores were calculated by taking the absolute difference between optimal personality expression and

observed personality expression for each personality item in each task. Here, optimal personality was determined by taking the mean of six independent experts' ratings and actual personality expression was rated by taking the mean of two trained observers' ratings. Thus, the higher the score on adaptive personality regulation, the greater the discrepancy between expressed and optimal personality. To aid interpretation of subsequent analyses, adaptive personality regulation was reverse scored such that higher scores represent better adaptive personality regulation.

To examine the structure of adaptive personality regulation, scale scores representing the mean level of adaptive personality regulation observed along each of the Big Five within each task were subject to CFA. Hypothesis 3 proposed that adaptive personality regulation generalises across personality traits and situations. As was the case in Study 2, if this hypothesis were supported then one would expect that adaptive personality regulation scores taken from different traits across a range of situations should fit a single factor model, with the single higher-order factor representing 'trait' adaptive personality regulation (i.e., the extent to which an individual is able to adaptively regulate his or her personality expression, regardless of the situation or target trait).

Before a higher-order factor could be considered, it was first necessary to establish that adaptive personality regulation generalises across traits within situations. To this end, a measurement model was specified in which task-specific adaptive personality regulation scores loaded onto a latent factor representing adaptive personality regulation within each of the four tasks. The fit of this model fell slightly short of conventionally accepted levels (χ^2 (99) 179.891, $p < .01$; CFI = .841; TLI = .808; RMSEA = .102; SRMR = .099). A

closer inspection of the model revealed that all but one of the adaptive personality regulation scores were loading significantly onto their respective latent factors. The score that loaded poorly represented adaptive personality regulation along agreeableness in the negotiation exercise (.144, $p > .05$), and was therefore removed²⁵. However, the modification indices suggested that the model fit could be further improved by allowing a number of error terms to correlate. Freeing the error terms for a total of six pairings substantially improved the fit of the model, resulting in acceptable fit ($\chi^2(78) = 111.305$, $p < .01$; CFI = .934; TLI = .911; RMSEA = .074; SRMR = .089). The resulting model fit was acceptable, particularly if one adopts more relaxed criteria than that suggested by Hu and Bentler (1999), whose goodness-of-fit criteria have been suggested to be too restrictive (e.g., Marsh, Hau, & Grayson, 2005).

The correlated errors either represented adaptive personality regulation scores along the same dimension correlating across tasks (e.g., adaptive personality regulation along extraversion in the first presentation task with adaptive personality regulation along extraversion in the second presentation task), or adaptive personality regulation scores along dimensions known to share unique variance correlating within a task (e.g., adaptive personality regulation along openness and extraversion in the negotiation exercise). It seems likely that this variance is either capturing trait and situation specific adaptive personality regulation, and/or that it reflects stability in personality expression across traits and tasks (i.e., trait standing). However, future research will be needed to establish this.

²⁵ It is of note that these scores did not load onto the latent factor in the previous study either, supporting the argument that this personality state was either hard to measure in this particular task, or was not as integral to task performance as expected *a priori*.

Adding a higher-order factor also evidenced adequate fit to the data (χ^2 (80) 116.588, $p < .01$; CFI = .927; TLI = .904; RMSEA = .077; SRMR = .090), providing support for Hypothesis 3, which asserted that adaptive personality regulation generalises across traits and situations. The higher-order factor represents ‘trait’ adaptive personality regulation and adaptive personality regulation scores derived across the Big Five in four different tasks all load significantly onto this higher-order factor. The measurement model is presented in Table 7.5.

Table 7.5.

Pattern Matrix Showing Standardised Factor Loadings, Squared Multiple Correlations (SMCs) and Average Variance Extracted (AVE) for Observer-Rated Adaptive Personality Regulation Scores Across Personality Traits and Situations

APR	Loading	SMC
Presentation (Likeable)		
Extraversion	.698	.487
Neuroticism	.883	.780
		AVE = .634
Presentation (Opinionated)		
Extraversion	.841	.707
Conscientiousness	.716	.513
Openness	.710	.504
Neuroticism	.389	.151
		AVE = .469
Negotiation		
Extraversion	.719	.517
Conscientiousness	.683	.466
Openness	.507	.257
Neuroticism	.856	.733
		AVE = .493
Group		
Extraversion	.795	.632
Agreeableness	.364	.132
Conscientiousness	.832	.692
Openness	.690	.476
Neuroticism	.750	.563
		AVE = .499
Trait APR		
Presentation (Likeable)	.928	.861
Presentation (Opinionated)	.921	.848
Negotiation	.537	.288
Group	.466	.217

Note. APR = adaptive personality regulation. ** $p < .01$. *** $p < .001$.

7.3.1.4.1 State and trait adaptive personality regulation.

Having demonstrated support for the hypothesised structure of adaptive personality regulation using scale scores of item-level indicators (see section 7.3.1.4.), the next step was to create aggregated state and trait adaptive personality regulation scores for use in subsequent analyses. This process was described comprehensively in the previous chapter (see section 6.3.1.4.3.). Briefly, *state* adaptive personality regulation scores represent the mean level of adaptive personality regulation observed *within* each task. *Trait* adaptive personality regulation scores represent the mean level of adaptive personality regulation observed *across* all tasks. As such, state adaptive personality regulation was calculated for each task by summing the scale scores representing the average amount of adaptive personality regulation observed for each of the relevant Big Five, and taking the mean. For example, Figure 7.1 below demonstrates how state adaptive personality regulation was scored for the group exercise. The five scores representing adaptive personality regulation along each of the Big Five in this task (x1, x2, x3, x4, and x5) were first summed together. Next, the mean was taken to ensure state scores remained on commensurate scales. State scores for all four of the tasks comprised in this study were generated in the same way.

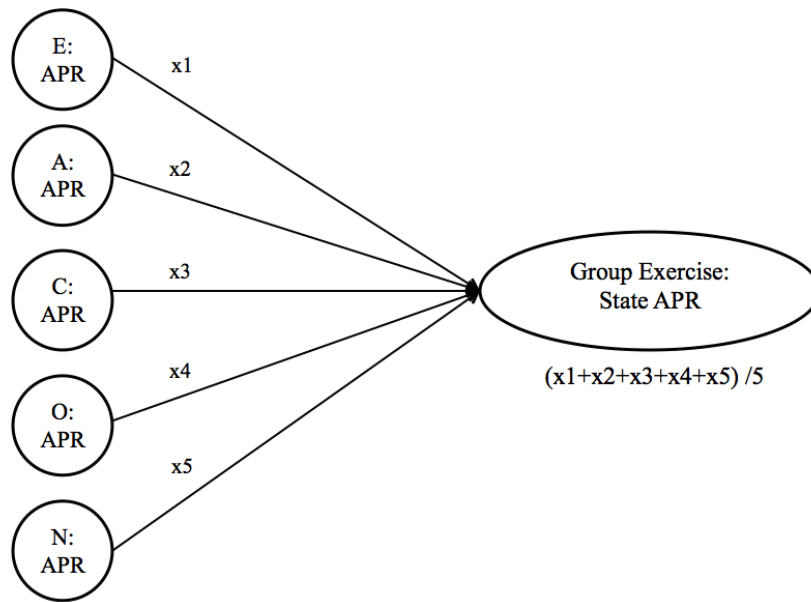


Figure 7.1. Graphical representation of how state adaptive personality regulation was scored in the group exercise.

Trait adaptive personality regulation was scored by aggregating the state adaptive personality regulation scores from each of the four tasks into one overall score representing the average amount of adaptive personality regulation an individual displayed across the Big Five personality traits in all four of the tasks comprised in this study. Table 7.6 presents the range, mean and standard deviation of both state and trait observer-rated adaptive personality regulation. There was adequate variation in scores to successfully execute a measurement model, and the standard deviation of scores suggests substantial dispersion around the mean (see Table 7.6). Therefore, support is provided for Hypothesis 4, which stated that adaptive personality regulation scores vary across individuals.

Table 7.6.

Minimum, Maximum, Mean and Standard Deviation of Both State and Trait

Adaptive Personality Regulation Scores

	Minimum	Maximum	Mean	Std. Dev.
State APR				
Presentation (Likeable)	5.00	8.00	7.35	.817
Presentation (Opinionated)	5.00	9.00	7.37	.837
Negotiation	4.00	8.00	7.30	.839
Group	4.00	8.00	7.42	.837
Trait APR				
Overall	5.00	8.00	7.35	.609

Note. APR = adaptive personality regulation

7.3.2. Relationships between study constructs.

Bivariate correlation analysis was employed using Pearson's r to examine the relationships between study variables. Adaptive personality regulation is posited as a unique individual difference and as such, should evidence discriminant validity from theoretically similar constructs including personality traits, self-control, and adaptive performance. Hypotheses 5, 6 and 7 assert that adaptive personality regulation is a separate construct from personality traits, self-control, and adaptive performance, respectively. Table 7.7 presents the correlations between the constructs explored in this study.

As can be seen in Table 7.7, adaptive personality regulation is not significantly associated with any of the Big Five personality traits. The factor most closely related is extraversion ($r = .143, p > .05$), closely followed by emotional stability ($r = .136, p > .05$). Adaptive personality regulation was negatively associated with the self-control factor of restraint and positively associated with the self-control factor of impulsivity (see Table 7.7), although neither reached statistical significance. Finally, Table 7.7 demonstrates that adaptive personality regulation was positively associated with all three of the

dimensions of adaptive performance considered in this study, namely work stress adaptability, interpersonal adaptability, and uncertainty adaptability. Although these relationships were in the hypothesised direction, none achieved statistical significance. Thus, Hypotheses 5, 6 and 7 are supported.

Table 7.7.

Standardised Correlations Between Adaptive Personality Regulation, Personality Traits, Self-Control, and Adaptive Performance

		M	SD	1	2	3	4	5	6	7	8	9	10
1	APR	7.35	0.61	-									
2	E	6.33	1.57	.143	-								
3	A	7.43	1.27	-.005	.211	-							
4	C	6.98	1.32	-.127	.292**	.392***	-						
5	O	7.24	0.99	-.011	.405***	.275*	.402***	-					
6	ES	5.79	1.43	.136	.369**	.562***	.255*	.153	-				
7	Impulsivity	13.31	3.60	.189	-.226*	-.347**	-.507***	-.295**	-.236*	-			
8	Restraint	11.76	2.96	-.222	-.011	.355**	.351**	.295	.296**	-.442***	-		
9	Work Stress	3.31	0.93	.165	.070	.352**	.253*	.058	.626***	-.232*	.245*	-	
10	Interpersonal	4.26	0.48	.135	.258*	.435***	.198	.311**	.311**	-.176	.238*	.095	-
11	Uncertainty	3.61	0.39	.223	.225*	.258*	.259*	.413***	.183	-.124	.124	.090	.498***

Note. APR = adaptive personality regulation; E = extraversion; A = agreeableness; C = conscientiousness; O = openness; ES = emotional stability; Impulsivity = self-control – impulsivity; Restraint = self-control – restraint; Work Stress = adaptive performance – work stress; Interpersonal = adaptive performance – interpersonal; Uncertainty = adaptive performance - uncertainty. * $p < .05$, ** $p < .01$, *** $p < .001$.

7.3.3. The predictive utility of adaptive personality regulation.

Hypothesis 1 states that adaptive personality regulation is goal-directed, and Hypothesis 8 asserts that adaptive personality regulation will be positively associated with task performance. A series of linear regression models were estimated in order to explore these hypotheses empirically.

7.3.3.1. Adaptive personality regulation and performance.

First, adaptive personality regulation was entered as the sole predictor in order to establish its relationship with performance outcomes across the four tasks comprised in this study. The results are presented in Table 7.8. As can be seen, state adaptive personality regulation is a significant predictor of performance in all tasks, accounting for between 4% and 38% of the variance. With the exception of the group exercise, trait adaptive personality regulation also significantly predicts performance across all tasks, accounting for between 9% and 33% of the variance. Trait adaptive personality regulation also significantly predicts overall performance across the four tasks comprised in this study, accounting for a total of 24% of the variance (see Table 7.8).

Table 7.8.

Simple Regression Coefficients Predicting Task Performance from Observer-Rated State and Trait Adaptive Personality Regulation

	DV: Presentation (Likeable) Performance	
	State	Trait
APR	.490***	.585***
R ²	.240***	.342***
Adjusted R ²	.230***	.333***
F value	22.153***	36.462***
	DV: Presentation (Opinionated) Performance	
	State	Trait
APR	.625***	.358**
R ²	.390***	.128**
Adjusted R ²	.381***	.116**

DV: Presentation (Opinionated) Performance		
	State	Trait
<i>F</i> value	44.772***	10.281**
DV: Negotiation Performance		
	State	Trait
APR	.226*	.311**
R ²	.051*	.096**
Adjusted R ²	.039*	.085**
<i>F</i> value	4.134*	8.219**
DV: Group Exercise Performance		
	State	Trait
APR	.350**	.195
R ²	.123**	.038
Adjusted R ²	.111**	.026
<i>F</i> value	10.766**	3.045
DV: Overall Performance		
	State	Trait
APR	-	.498***
R ²	-	.248***
Adjusted R ²	-	.237***
<i>F</i> value	-	23.131***

Note. APR = adaptive personality regulation; *** $p < .001$; ** $p < .01$; * $p < .05$.

7.3.3.2. Incremental prediction of adaptive personality regulation.

Next, hierarchical multiple regression models were estimated in order to examine the incremental prediction of adaptive personality regulation over and above personality traits, self-control, and adaptive performance.

7.3.3.2.1. Incremental prediction of adaptive personality regulation over the Big Five.

The incremental prediction of adaptive personality regulation over the Big Five personality traits was examined first. The results of these hierarchical regression models can be seen in Table 7.9. As can be seen, adaptive personality regulation explains significant incremental variance in all performance outcomes. The only exception is state adaptive personality regulation in the negotiation exercise, which failed to achieve significance. In the other models, the additional variance accounted for by adaptive personality regulation over and above the Big Five was between 4% and 36% for state scores, and 8% and 34% for trait scores.

Table 7.9.

Hierarchical Multiple Regression Coefficients to Show the Incremental Variance of State and Trait Observer-Rated Adaptive Personality Regulation over Personality Traits

DV: Presentation (Likeable) Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Extraversion	-.121	.043	-.121	-.026	
Agreeableness	-.009	.065	-.009	-.033	
Conscientiousness	.023	-.009	-.023	-.047	
Openness	.102	-.033	.102	.086	
Neuroticism	-.008	.026	-.008	-.082	
APR		.507***		.599***	
R ²	.015	.245**	.015	.356***	
ΔR ²		.229***		.341***	
Adjusted R ²	.060	.174**	.060	.295***	
F value	0.202	3.453**	0.202	5.891***	
DV: Presentation (Opinionated) Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Extraversion	.115	.070	.115	.190	
Agreeableness	-.015	.054	-.015	-.030	
Conscientiousness	-.030	-.008	-.030	-.075	
Openness	.115	.051	.115	.104	
Neuroticism	.043	.074	.043	-.006	
APR		.613***		.391**	
R ²	.035	.399***	.015	.179*	
ΔR ²		.364***		.145**	
Adjusted R ²	.040	.342**	.060	.103*	
F value	0.465	7.070***	0.967	2.333*	
DV: Negotiation Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Extraversion	.197	.186	-.208	-.164	
Agreeableness	.075	.104	-.089	-.103	
Conscientiousness	-.156	-.130	.157	.103	
Openness	-.057	-.058	.060	.058	
Neuroticism	.044	.087	-.074	-.119	
APR		.212		.289*	
R ²	.043	.086	.045	.123	
ΔR ²		.043		.078*	
Adjusted R ²	.000	.009	.021	.049	
F value	0.684	1.165	0.684	1.661	
DV: Group Exercise Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Extraversion	.290*	.235	-	-	
Agreeableness	-.316*	-.285*	-	-	
Conscientiousness	-.046	.006	-	-	
Openness	.107	.069	-	-	
Neuroticism	-.171	-.128	-	-	
APR		.227*		-	

DV: Group Exercise Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
R ²	.175*	.219**	-	-	
ΔR ²		.043*			
Adjusted R ²	.118*	.153*	-	-	
F value	3.060*	3.213**	-	-	
DV: Overall Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Extraversion	-	-	.224	.148	
Agreeableness	-	-	.054	.072	
Conscientiousness	-	-	-.218	-.163	
Openness	-	-	-.100	-.087	
Neuroticism	-	-	.002	-.057	
APR		-		.466**	
R ²			.078	.284	
ΔR ²				.206***	
Adjusted R ²			.007	.217**	
F value			1.094	4.233**	

Note. APR = adaptive personality regulation; * $p < .05$; ** $p < .01$; *** $p < .001$.

7.3.3.2.2. Incremental prediction of adaptive personality regulation over self-control.

Next the incremental prediction of adaptive personality regulation over self-control was considered, by entering the self-control factors of impulsivity and restraint as control variables. Results are presented in Table 7.10. As can be seen, both impulsivity and restraint are negatively associated with task performance. Adaptive personality regulation accounts for significant incremental variance in all performance outcomes. Specifically, the additional variance accounted for by state adaptive personality regulation scores is between 6% and 35%, and for trait scores is between 7% and 32%.

Table 7.10.

Hierarchical Multiple Regression Coefficients to Show the Incremental Variance of State and Trait Observer-Rated Adaptive Personality Regulation over Self-Control

DV: Presentation (Likeable) Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Impulsivity	-.071	-.007	-.071	-.106	
Restraint	-.223	-.043	-.223	-.118	
APR		.477***		.579***	
R ²	.041	.242***	.041	.361***	
ΔR ²		.202***		.320***	
Adjusted R ²	.012	.208***	.012	.332***	
F value	1.438	7.145***	1.438	12.609***	
DV: Presentation (Opinionated) Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Impulsivity	-.155	-.102	-.155	-.176	
Restraint	-.227	-.091	-.227	-.164	
APR		.606***		.345**	
R ²	.044	.397***	.044	.158**	
ΔR ²		.353***		.113**	
Adjusted R ²	.016	.370***	.016	.120**	
F value	1.574	14.711***	1.574	4.181**	
DV: Negotiation Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Impulsivity	-.015	-.087	-.015	-.045	
Restraint	-.258*	-.304*	-.258*	-.212	
APR		.258*		.270*	
R ²	.063	.126*	.063	.132*	
ΔR ²		.062*		.069*	
Adjusted R ²	.039	.090*	.039	.097*	
F value	2.542	3.547*	2.542	3.753*	
DV: Group Exercise Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Impulsivity	-.073	-.094	-	-	
Restraint	-.169	-.103	-	-	
APR		.326**		-	
R ²	.023	.123*	-	-	
ΔR ²		.100**		-	
Adjusted R ²	.003	.088*	-	-	
F value	0.884	3.472*	-	-	
DV: Overall Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Impulsivity	-	-	-.041	-.069	
Restraint	-	-	-.336*	-.254*	
APR		-		.452***	
R ²	-	-	.102*	.297***	

ΔR^2	-				.195***
DV: Overall Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Adjusted R ²	-	-	.076*	.266***	
F value	-	-	3.876*	9.441***	

Note. APR = adaptive personality regulation; * $p < .05$; ** $p < .01$; *** $p < .001$.

7.3.3.2.3. *Incremental prediction of adaptive personality regulation over adaptive performance.*

Finally the incremental prediction of adaptive personality regulation over adaptive performance was considered. Three dimensions of adaptive performance were considered in this investigation: namely, work stress, interpersonal, and uncertainty. The results of the hierarchical multiple regression models are presented in Table 7.11, which demonstrates that adaptive personality regulation also accounts for significant incremental variance in task performance over and above adaptive performance.

Table 7.11.

Hierarchical Multiple Regression Coefficients to Show the Incremental Variance of State and Trait Observer-Rated Adaptive Personality Regulation over Adaptive Performance

DV: Presentation (Likeable) Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Work Stress	.128	.055	.128	.050	
Interpersonal	.137	.137	.137	.126	
Uncertainty	.203	.133	.203	.095	
APR		.445***		.542***	
R ²	.073*	.299***	.073*	.386***	
ΔR^2		.186***		.273***	
Adjusted R ²	.113*	.257***	.113*	.349***	
F value	2.845*	7.054***	2.845*	10.388***	
DV: Presentation (Opinionated) Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Work Stress	.206	.109	.206	.159	
Interpersonal	-.132	-.125	-.132	-.139	
Uncertainty	.153	.004	.153	.087	

DV: Presentation (Opinionated) Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
APR		.617***			.328**
R ²	.063	.411***	.063		.163*
ΔR ²		.348***			.100**
Adjusted R ²	.021	.376***	.021		.112*
F value	1.508	11.525***	1.508		3.211*
DV: Negotiation Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Work Stress	.043	.029	.043		.005
Interpersonal	.055	.047	.055		.024
Uncertainty	.038	.038	.038		.018
APR		.219			.302*
R ²	.009	.057	.009		.096
ΔR ²		.048			.087*
Adjusted R ²	.000	.005	.000		.047
F value	0.224	1.101	0.224		1.948
DV: Group Exercise Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Work Stress	-.035	-.025	-		-
Interpersonal	-.064	-.031	-		-
Uncertainty	-.240	-.217			
APR		.300**			-
R ²	.080	.168**	-		-
ΔR ²		.087**			-
Adjusted R ²	.043	.122**	-		-
F value	2.158	3.675**	-		-
DV: Overall Performance					
	State		Trait		
	Step 1	Step 2	Step 1	Step 2	
Work Stress	-	-	.132		.064
Interpersonal	-	-	.078		.068
Uncertainty	-	-	.113		.019
APR		-			.471***
R ²	-	-	.050		.256**
ΔR ²		-			.206***
Adjusted R ²	-	-	.008		.211**
F value	-	-	1.177		5.683**

Note. APR = adaptive personality regulation; * $p < .05$; ** $p < .01$; *** $p < .001$.

Collectively, the results presented in this section provide strong evidence to support Hypotheses 1 and 8, namely that adaptive personality regulation is goal-directed and associated with task performance. Specifically, the predictive utility of both state and trait adaptive personality regulation supports the assertion that this construct predicts task performance. It is of note that this construct also explains significant incremental variance in performance outcomes

over and above the Big Five personality traits, self-control, and the adaptive performance dimensions of work stress, interpersonal, and uncertainty. That this pattern of findings also holds up within the two variants of the presentation task – when participants were required to adapt their personality states within the same situation in order to meet varying goals – provides more robust evidence that adaptive personality regulation is goal-directed.

7.3.4. The nature of adaptive personality regulation.

7.3.4.1. Adaptive personality regulation is underpinned by a regulatory mechanism.

Evidence supporting Hypothesis 1, namely that adaptive personality regulation is a goal-directed process, supports the notion that this construct is underpinned by a regulatory mechanism. However, if this were indeed a regulatory process, one would also expect the results to support Hypothesis 2, that adaptive personality regulation is a conscious and controlled process.

In order to examine the extent to which participants are consciously aware of changes in their personality they were asked two questions before their attendance at the laboratory session. The first question asked them to report how frequently they felt their personality varied from their trait standing position. The second question asked them how confident they felt in their ability to adjust their personality when desired. With regard to the first question, there was considerable variation in responses, ranging from reports of contra-trait behaviour never occurring, to occurring multiple times per day. The frequency of responses can be seen in Table 7.12. There was no significant association between reported frequency of contra-trait behaviour and trait adaptive

personality regulation ($r = -.052, p > .05$) providing further support for Hypothesis 9, that not all personality variation is adaptive. If this were the case, one would expect that only high adapters would report contra-trait behaviour.

Table 7.12.

Frequency, Percentage, and Cumulative Percentage of Frequency with Which Participants Report Engaging in Contra-Trait Behaviour

	Frequency	Percentage	Cumulative Percentage
Never	1	1.3	1.3
Less than once per month	9	11.5	12.8
1-2 times per month	18	23.1	35.9
Once a week	19	24.4	60.3
2-3 times per week	17	21.8	82.1
Daily	11	14.1	96.2
Multiple times per day	3	3.8	100.0

There was also considerable variation in responses to the second question ($M = 5.37, SD = 1.01$). Correlation analysis revealed a significant positive relationship between the extent to which individuals reported being confident in their ability to adjust their personality expression when desired and adaptive personality regulation ($r = .276, p < .05$). Collectively, these findings offer tentative support for Hypothesis 2 as they suggest that not only are people aware of fluctuations in their personality states, but they also appear to have some awareness of their ability to control such fluctuations. This awareness provides initial support for the argument that adaptive personality regulation might be a conscious and controlled process.

7.3.4.2. Adaptive personality regulation is adaptive by nature.

In order to examine Hypothesis 9, which asserts that not all personality variation is adaptive, the association between adaptive personality variation and overall variation was considered both within and across tasks. Variation scores were calculated as outlined in the Study 2 (see section 6.3.4.). Briefly, variation scores were calculated by taking the absolute difference between trait and state personality scores and as such do not differentiate between adaptive and non-adaptive variation in the way that adaptive personality regulation scores do. Recall that adaptive personality regulation = optimal personality – expressed personality.

Correlations revealed significant negative associations between deviation from trait standing and adaptive personality regulation scores in all of the tasks (see Table 7.13). These results suggest that the further an individual is required to move from his or her trait standing position, the less attainable adaptive personality regulation becomes. These results support Hypothesis 9 because if all personality variation were adaptive one would expect to see correlations of a magnitude that suggested equivalence between these scores (i.e., $\geq .85$).

Table 7.13.

Pearson Correlations (r) of Adaptive Personality Regulation with Deviation from Trait Standing in Each Task

Adaptive Personality Regulation	Total Task Deviation
Presentation (Likeable)	-.495***
Presentation (Opinionated)	-.420***
Negotiation	-.405***
Group	-.431***

Note. *** $p < .001$.

To explore Hypothesis 10, that individuals high in adaptive personality regulation are less susceptible to the potentially negative consequences of personality regulation than are individuals low in the construct, the sample was once again divided into three groups according to trait adaptive personality regulation scores as outlined in the previous chapter (see section 6.3.4.). Briefly, individuals in the ‘high’ group had trait adaptive personality regulation scores in the top 33.3% of the sample, those in the ‘average’ group had scores in the middle 33.3% of the sample, and those in the ‘low’ group had scores in the bottom 33.3% of the sample. Correlation analyses were then performed to look at the association between the amount of deviation from trait standing and task performance for individuals with high, average, and low adaptive personality regulation scores to examine differences across these groups. The results of these analyses, which are presented in Table 7.14, provide support for Hypothesis 10. For individuals high in adaptive personality regulation, the extent to which an individual is required to move from their trait standing position does not have a significant impact on performance. However, for those low in adaptive personality regulation, sustained personality regulation had negative implications for performance, as evidenced by the negative correlations between distance moved from trait standing and performance in the likeable and opinionated manipulations of the presentation task, which was performed last ($r = -.588, p < .05$; $r = -.603, p < .05$, respectively).

There was also a negative correlation between distance moved and task performance for those with average adaptive personality regulation scores in the group exercise ($r = -.369, p < .05$). This finding was somewhat surprising given the same pattern of results was not observed for those low in adaptive personality

regulation ($r = -.046, p > .05$). Further research will be needed to establish whether this finding is a statistical artefact (most likely resulting from a Type I error), or if it generalises across samples, suggesting the need for further theoretical refinement.

Table 7.14.

Correlations Between Amount of Movement from Trait Standing and Performance in Each Task for Those with Low, Average, and High Adaptive Personality Regulation Scores

	Presentation (Likeable)	Presentation (Opinionated)	Negotiation	Group
Low Adapters	-.588*	-.603*	-.443	-.046
Average Adapters	-.088	-.136	-.004	-.369*
High Adapters	-.196	.224	-.118	.049

Note. * $p < .05$.

7.3.4.3. Theoretical model of APR.

Hypothesis 11 holds that adaptive personality regulation is dependent on the ability to accurately determine the personality states conducive to goal attainment. Participants rated optimal personality for both the negotiation and group exercises. These scores were compared to those provided by the expert raters and scores were subsequently created to represent the level of agreement across each item. These were then aggregated such that each participant ended up with two single scores, one for the negotiation task, and one for the group task. These scores represented the distance between the participant's rating of what personality states were optimal for performance in each of these tasks, and the mean of the expert ratings.

There was no significant association between accuracy of situation appraisal and adaptive personality regulation in either the negotiation or group task ($r = .048, p > .05$, and $r = .151, p > .05$, respectively). While this finding might suggest that the process of adaptive personality regulation is engaged below conscious awareness such that high adapters are not necessarily able to appraise situations accurately at a conscious level, a closer examination of the situation appraisals suggests otherwise.

Means, range, and standard deviation of aggregated situation appraisal scores for both the negotiation and group exercise are presented in Table 7.15. Given that the possible range for these scores is 9 (as optimal personality ratings were made on a 9-point response scale), there is actually very little observed variation in scores. Indeed, the largest deviation between participant and expert appraisal was just 2.25. This suggests that all participants, regardless of their level of adaptive personality regulation, were able to fairly accurately appraise the personality states optimal for success in both tasks. Thus, collectively the evidence suggests that the ability to accurately appraise the personality states conducive to goal attainment is likely to be necessary, but not sufficient, for adaptive personality regulation.

Table 7.15.

Mean, Range, and Standard Deviation for Scores Demonstrating How Accurately Participants Were Able to Identify the Personality States Conducive for Goal Attainment in the Negotiation and Group Exercises

	Minimum	Maximum	Mean	Std. Dev.
Negotiation	0.47	2.25	1.25	0.41
Group	0.64	2.19	1.24	0.32

Hypothesis 12 asserts that adaptive personality regulation is dependent on the successful execution of goal-directed personality variation. There is now considerable evidence to support this claim. However, the finding that the ability to accurately appraise required personality states is not a consistent differentiator between high and low adapters suggests that the key differentiator might rather be an individual difference that governs this ability to *execute* desired regulation of personality states.

7.3.5. Results summary.

CFA supported the conceptualisation of adaptive personality regulation as an individual difference that generalises across traits and situations. Correlation analyses revealed independence between adaptive personality regulation and theoretically similar constructs including personality traits, self-control, and adaptive performance.

The predictive utility of observer-rated adaptive personality regulation was demonstrated in a series of regression models. Both state and trait adaptive personality regulation explained incremental variance in performance outcomes over and above personality traits, self-control, and adaptive performance.

Finally, with respect to the nature of adaptive personality regulation, results offered support for both the regulatory and adaptive nature of this phenomenon. Interestingly, the findings also suggested that the ability to accurately appraise the personality states optimal for goal attainment is necessary, but not sufficient for adaptive personality regulation.

7.4. Discussion

The purpose of this study was to replicate and extend the findings of Study 2 in order to further establish proof of concept for adaptive personality regulation. To this end, both the structure and nature of adaptive personality regulation were explored in a new sample. The findings from this investigation, as well as the extent to which they are consistent with those reported in the previous study are discussed below.

7.4.1. The structure of adaptive personality regulation.

CFA offered support for the hypothesised structure of adaptive personality regulation, with scores derived across multiple personality states and situations fitting a single-factor model. Adaptive personality regulation also evidenced discriminant validity from theoretically similar constructs including personality traits, self-control, and adaptive performance. These findings are consistent with those reported in Study 2 and offer further proof of concept that adaptive personality regulation is an individual difference that generalises across traits and situations.

However, the factor representing adaptive personality regulation scores along agreeableness in the negotiation task did not load and was therefore removed from the model. This finding might be said to contradict the hypothesised structure of adaptive personality regulation. However, this same factor failed to load in the previous study and thus provides further evidence to suggest that the trait may not have been activated in the task, as was hypothesised *a priori* in this study. Indeed, the social nature of this exercise meant that there were many variable factors, including how the fellow participant

each individual was paired with behaved and responded to them. As such, the level of agreeableness most conducive to task success may well have been variable depending on the participant pair, which may account for the failure of this factor to load in the model.

7.4.2. The utility of adaptive personality regulation.

A series of regression models provided support for the predictive utility of adaptive personality regulation. This construct was also able to account for a significant amount of incremental variance in performance outcomes over and above personality traits (15%), self-control (19%), and adaptive performance (13%). The findings reported here mirror those reported in Study 2 and thus provide further evidence of the adaptive nature of adaptive personality regulation. The fact that this construct is associated with task performance, accounting for significant amounts of incremental variance over and above theoretically similar constructs, suggests that there is substantial value in measuring adaptive personality regulation as a predictor of performance.

The effect sizes reported here are comparable to those seen for observer-ratings of personality in Study 2 (see section 6.3.3). The replication of the direction of the effects, but also the similarity in the strength of the effects, in an entirely new sample lends new weight to these findings. The only exception to this was within the group exercise. The beta coefficient was substantially smaller in this study than in Study 2, and non-significant (Study 2: $\beta = .425, p < .001$; Study 3: $\beta = .195, p > .05$, respectively). There is no immediate theoretical explanation for this finding or any practical problems that occurred during data collection. Thus, given the consistency across the other findings concerning the predictive nature of adaptive personality regulation, it seems likely that this

finding reflects the limitations with respect to accuracy and reliability associated with only using one rating of personality states for this exercise, rather than two. However, future research will be required to examine this further, and to establish the extent to which observer-ratings of adaptive personality regulation suffer according to the number of raters.

7.4.3. The nature of adaptive personality regulation.

7.4.3.1. Adaptive personality regulation is underpinned by a regulatory mechanism.

Adaptive personality regulation is proposed as a regulatory process, which suggests that it is (i) goal-directed, and (ii) conscious and controlled. The results of this study offer strong support for the goal-directed nature of adaptive personality regulation. In addition to replicating the finding from Study 2 that this construct is associated with task performance, the current study also found more robust evidence to support this claim through the goal manipulation of the presentation task. By holding the situation constant, and changing only the participants' goals (i.e., from being perceived as likeable to opinionated), one can be more confident that changes in personality states arise in response to changes in goals, as opposed to vice versa or a reliance on situational cues.

There was also evidence to suggest that adaptive personality regulation is a conscious and controlled process. Participants were asked questions relating to the frequency with which they engaged in contra-trait behaviours, and the extent to which they felt this was within or beyond their control. Responses suggested that not only were participants *aware* of fluctuations in their personality states (which is consistent with previous research findings e.g. Fleeson, 2001; Fleeson

& Gallagher, 2009; McCabe & Fleeson, 2012), but also that the more people felt such fluctuations to be within their control, the higher they were likely to be in adaptive personality regulation.

7.4.3.2. Adaptive personality regulation is adaptive by nature.

Adaptive personality regulation is hypothesised to be adaptive not only to the extent that it facilitates goal attainment, but also to the extent that it serves a protective function against the potentially maladaptive consequences of sustained personality regulation. Previous scholars have proposed that the persistent manifestation of personality states that are not aligned with a person's trait standing position will likely be unsustainable due to the associated cognitive demands (e.g., P. Gallagher et al., 2010; B. R. Little, 2008). However, the results of the current study demonstrated that while the performance of individuals low in adaptive personality regulation suffers following a sustained period of personality regulation, no such impact was observed for those moderate or high in adaptive personality regulation.

This pattern of results mirrors that observed in the previous study. The order of the tasks was rearranged in the current study to provide a more rigorous test of this finding. Whereas in Study 2, the group exercise was performed last, in the present study the presentation task was performed last. Despite this, effect sizes were still comparable, lending greater weight to this finding.

The fact that the differences between high and low adapters were pronounced in the final task suggests that those high in adaptive personality regulation are advantaged not only in the effectiveness of their personality regulation, but also with respect to reduced susceptibility to the adverse impact

that can accompany the continued manifestation of personality states that are not aligned with one's trait standing position. In the previous chapter, it was noted that this finding was consistent with theoretical models of self-control, a limited and depleting resource that has been posited to underpin acts of self-regulation (e.g., Muraven & Baumeister, 2000; see section 6.4.4). However, results from the present investigation are not suggestive of an association between adaptive personality regulation and self-control. It therefore seems unlikely that observed differences between those with low and moderate or high adaptive personality regulation scores can be accounted for by differences in the size of individuals' self-control resources. Indeed, this finding suggests that the regulatory mechanism underpinning adaptive personality regulation is independent from self-control altogether. This is perhaps less surprising if one considers that the conceptualisation of self-control is typically limited to the suppression of responses, rather than the manifestation of novel ones (e.g., Muraven & Baumeister, 2000). Thus, the observed depletion might just be fatigue, rather than self-control *per se*.

7.4.3.3. Theoretical model.

The proposed theoretical model of adaptive personality regulation suggests that this process is dependent on the ability to accurately determine the personality states conducive to goal attainment. Without being able to identify the correct end state, any subsequent attempts at personality regulation will be unsystematic. Thus, the accurate determination of optimal personality states is unquestionably necessary for adaptive personality regulation and the results of the current investigation tentatively support this. The finding that was perhaps somewhat more surprising was that individuals low in adaptive personality

regulation were also able to identify the personality states conducive for goal attainment in each of the two tasks for which they were required to provide ratings. This suggests that the ability to identify optimal states is not a key differentiator between high and low adapters. In other words, it is not the case that all individuals are capable of regulating their personality states to the same extent, but individuals low in adaptive personality regulation are simply less able to aptly appraise situations and identify the appropriate personality states for goal attainment in that particular situation. This might explain why cognitive ability was only observed to be a modest correlate in Study 2 (see section 6.3.2). However, given that this ability is likely dependent upon cognitive ability, one might expect between-person differences here to arise in a sample that is more diverse with respect to IQ. The fact that the current sample was comprised of university students from a leading university means that the mean IQ of the sample will undoubtedly be higher than the population average.

Future research will need to explore this explicitly but even if such differences did emerge in a more diverse sample, the ability to identify personality states conducive to goal attainment is clearly not sufficient to account for between-person differences in adaptive personality regulation. Indeed, the findings presented here suggest that the key differentiator might rather be an individual difference that governs the ability to *execute* desired regulation of personality states. Again, future research will be needed to identify the precise ways in which this process can become derailed but viable candidates worth exploring might be a lack of motivation to attain the end goal, disruption from negative affect, and the regulation strategy chosen.

7.4.4. Limitations.

There are a number of limitations to the current study that should be considered. The first limitation relates to the size of the sample. Although the sample size was not uncharacteristically small for research of this nature (e.g. Fleeson & Law, 2015), smaller samples pose obvious question marks over the generalizability of findings. However, as large components of the present study were a direct replication of the previous study, primary concerns relating to sample size should be attenuated given key findings were replicated here in an entirely new sample.

Although a new sample was utilised in the present study, it was not dissimilar in composition to that of the previous study. All participants were university students and are therefore not reflective of the wider population. The possibility that restriction of range in cognitive ability masked differences between individuals high and low in adaptive personality regulation that might have been observed in a more representative sample have been discussed previously (see section 6.4.5). The fact that the findings of these two studies evidence such strong support for adaptive personality regulation, despite the homogenous nature of the sample, can actually be said to lend greater weight to the robustness of the findings. One would only expect to see even greater between-person differences across samples where there is greater range across variables such as cognitive ability, age, and motivation. Nevertheless, until the research is replicated in more representative samples such assumptions are tentative and one should be cautious about the extent to which the results reported here are generalised to other populations.

The final limitation of the current study is that all of the tasks across which adaptive personality regulation was examined are socially oriented tasks. The study was designed in this way to enable observer-ratings of personality states, which were observed in the previous study to have much greater predictive utility than self-ratings. However, such a design precludes conclusions about the extent to which adaptive personality regulation can be said to generalise across non-socially oriented tasks. The fact that in the previous study adaptive personality regulation scores derived from socially oriented tasks were found to predict performance in a proofreading exercise (i.e., a non-socially oriented task), provides promising evidence that adaptive personality regulation does indeed generalise across different task types as theorised. However, further research is required.

7.4.5. Summary.

In summary, Study 3 provides further evidence to suggest that adaptive personality regulation, defined as a person's ability to successfully regulate their expression of personality in order to maximise goal attainment, can be conceptualised as a unique individual difference. What is more, this ability appears to generalise across personality traits and situations and is able to explain incremental variance in performance outcomes over and above theoretically similar constructs including personality traits, self-control, and adaptive performance. When considered in conjunction with the findings of the previous study, the similarity of not only the findings but also the effect sizes across two entirely separate samples suggests these results are robust. Collectively, Study 2 and Study 3 provide substantial evidence for the proof of concept of adaptive personality regulation and offer support for the predictive utility of this construct.

Chapter 8

General Discussion

At the outset of this thesis it was proposed that individuals might be able to control their expression of personality to help them better achieve desired outcomes. Building on this initial concept of *'personality adaptability'* first introduced by Cook (2016), a potential individual difference termed *'adaptive personality regulation'* was introduced. Adaptive personality regulation was defined as, "*an individual difference that reflects the extent to which people are able to successfully regulate their expression of personality in order to maximise goal attainment in their current situation*". Four key characteristics of this construct were proposed, namely that adaptive personality regulation is: (i) underpinned by a regulatory mechanism; (ii) adaptive; (iii) an individual difference; and (iv) generalisable across personality traits and situations. The criteria necessary for demonstrating proof of concept with respect to these key characteristics have been reproduced in Table 8.1 below.

This thesis set out to provide proof of concept for the construct of adaptive personality regulation and examine the extent to which accounting for purposeful and targeted variation in personality expression in this way could help explain the prediction gap that prevails in personality research. It is therefore pertinent to examine the contributions made by this research within the context of this initial goal. To this end, the chapter begins by examining the key insights offered by this thesis, before considering the theoretical contribution. This is followed by an exploration of the practical implications of this research. Finally, the limitations of the current body of work are outlined, and recommendations

are made for future research. The chapter closes with a summary of the key contributions made by this investigation, which will conclude this thesis.

Table 8.1.

Proof of Concept Statements for Each Key Characteristic of Adaptive Personality Regulation

Proof of Concept Statement
<p>Adaptive personality regulation is underpinned by a regulatory mechanism</p> <ul style="list-style-type: none"> - Adaptive personality regulation is goal-directed - Adaptive personality regulation is a conscious, controlled process - Adaptive personality regulation becomes more efficient with practice over time
<p>Adaptive personality regulation is adaptive</p> <ul style="list-style-type: none"> - Adaptive personality regulation is positively associated with adaptive outcomes - Adaptive personality regulation is distinct from personality variability more generally - Individuals high in adaptive personality regulation are less susceptible to the potentially maladaptive consequences of sustained personality regulation than individuals low in the construct
<p>Adaptive personality regulation is an individual difference</p> <ul style="list-style-type: none"> - Adaptive personality regulation scores vary across individuals - Adaptive personality regulation is separate from theoretically similar constructs previously identified in the literature
<p>Adaptive personality regulation generalises across personality traits and situations</p> <ul style="list-style-type: none"> - Adaptive personality regulation scores across traits and situations conform to a general factor
<p>Theoretical model of adaptive personality regulation</p> <ul style="list-style-type: none"> - Adaptive personality regulation is dependent on the ability to accurately appraise situations - Adaptive personality regulation is dependent on the ability to accurately appraise ongoing personality states - Adaptive personality regulation is dependent on the ability to accurately determine the personality states conducive to goal attainment - Adaptive personality regulation is dependent on the successful execution of goal-directed personality variation

8.1. Key Insights from This Thesis

8.1.1. Adapting one’s personality may be necessary to succeed in the modern workplace.

Study 1 examined the extent to which modern job roles are perceived to require variation in personality expression in order to perform well. Results demonstrated that, across two independent samples of working adults, not only is personality variation a requirement at work, but it is also something consciously

recognised by employees. If individuals recognise personality variation as conducive to performance, then it follows that capturing systematic variation in personality expression might improve the predictive utility of this construct as compared to an assessment of mean-level trait scores alone. Thus, this study provided the theoretical rationale required to investigate the proposed construct of adaptive personality regulation within a performance context.

8.1.2. The nature and utility of adaptive personality regulation.

Study 2 was the first empirical study to directly examine proof of concept for adaptive personality regulation through an exploration of both the nature and utility of this construct. Study 3 served to examine the reliability and generalizability of these findings, as well as furthering theoretical understanding of adaptive personality regulation through a replication and extension of Study 2. The theoretical contributions of these studies are considered below with respect to the key characteristics of adaptive personality regulation as presented in Table 8.1.

8.1.2.1. Adaptive personality regulation is underpinned by a regulatory mechanism.

Acts of self-regulation are conceptualised within the extant literature as purposeful, goal-directed changes to one's current state in order to attain a desired outcome (Baumeister et al., 2006; Carver & Scheier, 1982; Carver & Scheier, 2001; Denissen et al., 2013). It was therefore proposed at the outset of this thesis that proof of concept with respect to this key characteristic could be inferred through evidence of: (i) adaptive personality regulation being goal-directed; and (ii) adaptive personality regulation being a conscious and controlled

process. In response to evidence that acts of self-regulation can become habitualised and automatised over time (e.g., P. Gallagher et al., 2011), the probability that (iii) adaptive personality regulation becomes more efficient with practice over time was also acknowledged.

Evidence that adaptive personality regulation is a goal-directed process was evident in both Study 2 and Study 3. In both studies, participants were given assigned goals – to perform to the best of their ability in a series of assessment-centre style tasks. Providing participants with uniform goals enabled a direct comparison across individuals of their ability to adapt their personality states across the tasks to meet these goals. The finding that adaptive personality regulation was a positive predictor of task performance in both studies, which each utilised an independent sample, provides support for the goal-directed nature of variation arising from adaptive personality regulation. These findings build on preliminary results reported by Cook (2016) – which evidenced a similar pattern of findings for the trait of extraversion – by demonstrating that they extend to other personality traits and novel situations too.

Further evidence of the goal-directed nature of adaptive personality regulation was provided in Study 2, where a positive association was observed between adaptive personality regulation and self-rated motivation. This highlights that increased motivation to achieve a goal results in an increased likelihood of successfully regulating one's personality states accordingly. However, arguably the most convincing evidence for the goal-directed nature of adaptive personality regulation came from Study 3. Here, a goal manipulation was introduced within the presentation task such that participants were given two different goals within the same situational context. The finding that individuals

varied their personality expression in response to a change in goal, despite no change in situational cues allows one to be more confident that changes in personality states can arise in response to changes in goals, rather than solely emerging in response to changes in situational cues.

Although collectively this evidence provides substantial support for the assertion that individuals can adaptively regulate their expression of personality in order to achieve situational goals, it is of note that this research did not explore this phenomenon within the context of goals individuals set for themselves. Previous experience-sampling research that has examined the relationship between goals and personality states in people's daily lives suggests that a similar pattern of results can be expected. For example, people report manifesting more extraverted personality states when pursuing goals for which this would be beneficial such as trying to have fun (McCabe & Fleeson, 2012). However, this will need to be examined explicitly, with the potential for the moderating effects of personal goals explored.

Study 3 also found evidence to suggest that the process of adaptive personality regulation is conscious and purposeful, providing further support for the regulatory nature of this construct. The finding that individuals are aware of variation in their personality expression is consistent with previous research (e.g., Fleeson, 2001; Fleeson & Gallagher, 2009; McCabe & Fleeson, 2012). However, the positive association between adaptive personality regulation and the perception that such variation is within one's control is novel. This finding suggests that people differ with regard to the extent to which they feel variation in their personality states is purposeful, but those who feel they have more control over such variation are more likely to be higher in adaptive personality

regulation, alluding to conscious awareness in the process of adaptive personality regulation.

Thus, overall there is convincing evidence to support the assertion that adaptive personality regulation is underpinned by a regulatory mechanism. However, it is of note that this evidence is indirect, and the regulatory nature of this construct is being inferred through evidence that it operates in a manner that is characteristic of other acts of self-regulation. Although the very nature of self-regulation as a latent process inevitably makes explicit testing difficult, there are ways that future research could seek to examine this more directly. For example, researchers could incorporate retrospective qualitative interviews or even in the moment think-aloud protocols in order to capture a greater level of insight into the cognitive processes that people engage in when moving their behaviour away from their trait standing position. Evidence and insight gathered through such a design would potentially shed further light on any regulatory mechanisms employed. In addition, the suggestion that adaptive personality regulation might become more efficient with practice is yet to be examined empirically. Previous research suggests that contra-trait behaviours are no more effortful to perform than trait-typical behaviours once habituated (P. Gallagher et al., 2011). This suggests that consistent regulation of personality states within the context of a recurring situation or goal might eventually happen automatically, below the individual's level of conscious awareness. Future research should utilise longitudinal designs to examine this directly within the context of adaptive personality regulation.

8.1.2.2. Adaptive personality regulation serves an adaptive function.

Adaptive personality regulation is posited to serve an adaptive function. To be considered truly adaptive, the advantageous outcomes associated with adaptive personality regulation should not come at a cost that is ultimately detrimental to the individual. Thus, at the outset of this thesis it was suggested that proof of concept with respect to this key characteristic of adaptive personality regulation could be demonstrated through evidence that: (i) adaptive personality regulation is positively associated with adaptive outcomes; (ii) adaptive personality regulation is distinct from personality variability more generally; and (iii) individuals high in adaptive personality regulation are less susceptible to the potentially maladaptive consequences of sustained personality regulation than individuals low in the construct.

In both Study 2 and Study 3, a series of regression models provided support for the adaptive nature of this construct with regard to its association with situational goal attainment. Indeed, both state and trait adaptive personality regulation emerged as significant predictors of task performance in both studies. Further, Study 2 demonstrated that adaptive personality regulation accounted for incremental variance in performance outcomes over and above personality traits (12%), cognitive ability (11%), and motivation (10%), and Study 3 evidenced a similar pattern of results with respect to personality traits (15%), self-control (19%), and adaptive performance (13%). Similarity in effect sizes observed across the two studies suggests this finding is robust. Future research should seek to examine the relationship between adaptive personality regulation and adaptive outcomes in a more diverse range of contexts (i.e., beyond task performance outcomes). In addition, the relationship between this construct and long-term

adaptive outcomes such as job success, psychological wellbeing, and relationship quality need to be explored. Establishing evidence for such associations would lend further weight to claims of the general adaptive nature of the construct.

Study 2 and Study 3 also supported the distinction between adaptive personality regulation and personality variation more generally. In both studies, significant small to moderate associations ($r = -.243 - -.553$) were observed between total personality variation observed in each task and adaptive personality regulation. This finding suggests independence, which is in line with previous research that has demonstrated personality variation can serve both an adaptive (Bleidorn, 2009; Fleeson, 2007; Fleeson & Law, 2015; Fournier et al., 2002; Heller et al., 2007; Judge et al., 2014; McCabe & Fleeson, 2012; Minbashian et al., 2010; Moskowitz, et al., 1994; Sherman et al., 2015) and maladaptive (Côté et al., 2012; Miskewicz et al., 2015) function for the individual. Future research should seek to further examine the distinction between adaptive personality regulation and personality variability in order to identify the antecedents to each, and the extent to which they overlap. There is some evidence that some personality variation is reactive and unplanned, triggered by hypersensitivity to external cues rather than as a systematic response to goal pursuit (e.g., Judge et al., 2014; Miskewicz et al., 2015), but more research is needed.

The final proof of concept statement proposed that demonstrating the adaptive nature of adaptive personality regulation would require evidence that individuals high in adaptive personality regulation are less susceptible to the potentially maladaptive consequences of sustained personality regulation than individuals low in the construct. To this end, the relationship between total

observed personality variation and performance was examined amongst individuals with low, moderate, and high adaptive personality regulation scores. Interestingly, in both Study 2 and Study 3 results indicated no significant difference between distance moved from trait standing and performance in all but one task. In both studies, the task in which negative repercussions *were* observed was in the task that was generally performed last i.e., the group exercise in Study 2 and the presentation exercise in Study 3. In both cases, the performance of participants low in adaptive personality regulation was observed to suffer as a consequence of increased movement from trait standing ($r = -.490, p < .05$, and $r = -.588, p < .05$, respectively), while no such difference was observed for individuals with moderate or high adaptive personality regulation scores.

Collectively, these findings suggest that while acting contra-trait does not always have negative repercussions, there does appear to be a greater adverse impact for individuals low in adaptive personality regulation that attempt to sustain regulation of their personality states over longer periods. Although the pattern of findings was consistent across both studies, with similar effect sizes reported in each, it is nevertheless tentative and requires replication in future samples. In addition, a number of questions raised by this finding currently stand unanswered. For example, are individuals with moderate or high adaptive personality regulation scores completely immune from potentially negative repercussions associated with personality regulation, or are they just immune for a longer period of time? What differentiates low adapters from moderate and high adapters that can account for this distinction? Do individuals higher in adaptive personality regulation simply have a greater capacity for personality regulation than those low in the construct, or is regulation less effort for them

because they are more efficient at automatizing contra-trait behaviours? Future research should seek to answer questions such as these that are beyond the scope of this thesis.

8.1.2.3. Adaptive personality regulation is an individual difference.

Adaptive personality regulation has been proposed as an individual difference that reflects a person's ability to adaptively regulate his or her expression of personality across situations to maximise goal attainment. This characteristic of adaptive personality regulation is necessary if the construct is to have any predictive utility. Both Study 2 and Study 3 offered supportive evidence. Indeed, in both studies there was sufficient variation in adaptive personality regulation scores to successfully execute a measurement model, and the standard deviation suggested considerable dispersion around the mean.

Demonstrating that adaptive personality regulation is a viable individual difference also requires one to also establish discriminant validity from other theoretically similar concepts. Table 4.1 presented a list of the constructs hypothesised to be most closely related to adaptive personality regulation from the extant literature. Across Study 2 and Study 3, the relationship between adaptive personality regulation and several of these constructs was examined. Results demonstrated that not only is adaptive personality regulation different from personality traits, cognitive ability, self-monitoring, self-control, and adaptive performance; it is also able to account for more variance in performance outcomes. This not only supports construct validity for adaptive personality regulation but also suggests it might be better at explaining regulation success in personality than other concepts that are operationalised similarly such as adaptive performance and self-control.

Two related theoretical points are worth highlighting at this juncture. The first concerns the relationship between adaptive personality regulation and cognitive ability. Although never examined empirically, it has been suggested that one of the reasons why cognitive ability predicts performance much more strongly than personality is because it is associated with a person's ability to control his or her expression of personality (Schmidt et al., 2008). The observed correlation between adaptive personality regulation and cognitive ability reported in Study 2 ($r = .241, p < .05$) was far smaller than one would expect if cognitive ability were the mechanism that underpins the process of adaptive personality regulation. However, it is important to re-emphasise that this finding needs to be interpreted within the context of the sample composition for Study 2. Indeed, the fact that the sample was comprised predominantly of postgraduate university students undoubtedly resulted in a restriction of range that might well have made the association between these variables appear weaker. The nature of cognitive ability as a construct that reflects speed of information processing (e.g., Gottfredson, 1997; Jensen, 1998) means it would be expected to offer advantages at certain phases of the process of adaptive personality regulation such as appraising situations, and identifying the personality states optimal for goal attainment. Further research with samples that are more diverse with respect to cognitive ability is needed to better understand the relationship between cognitive ability and adaptive personality regulation.

The second point to be made concerns self-control. This construct is often implicated in acts of self-regulation and scholars have previously suggested that expressing personality states that differ from one's underlying trait levels requires self-control (P. Gallagher et al., 2011; McCrae & Lockenhoff, 2010;

vanDellen & Hoyle, 2010). It therefore follows that individuals high in self-control might be expected to be higher in adaptive personality regulation as they have a greater capacity for self-control, and are thus able to regulate their personality states to a greater extent and/or for longer periods. However, Study 3 revealed no significant relationship between adaptive personality regulation and self-control, suggesting either a limitation to the approach to measuring self-control utilised in this research, or that adaptive personality regulation is not dependent on self-control as it is currently operationalised. A plausible alternative is that for individuals high in adaptive personality regulation, varying their expression of personality does not require the active suppression of trait typical behaviours at all. Indeed, this process might be heavily focused on ‘up-regulation’. More research, with larger and more diverse samples, is needed in order to better establish the extent to which self-control plays a role in adaptive personality regulation. However, the results reported in the current thesis suggest that if self-control *is* involved, then additional moderating factors must be at play, which are masking true relationships in the current research.

Thus, collectively, the studies presented in this thesis provide evidence that adaptive personality regulation is an individual difference that demonstrates discriminant validity from a number of theoretically similar constructs previously identified in the extant literature. However, the question as to whether adaptive personality regulation is a completely novel individual difference or a compound variable (i.e., a variable comprised of multiple individual homogenous variables; Hough & Schneider, 1996) is yet to be definitively addressed. Future research should further explore the discriminant validity of adaptive personality regulation, extending these investigations to additional variables other than those

considered here. For example, the relationship between adaptive personality regulation and emotion regulation should be considered. Given personality's positioning in the literature as a construct that covers thoughts, behaviours, and emotions, it is possible that adaptive personality regulation is a global mechanism that encompasses emotion regulation. Such questions are of theoretical importance and need to be addressed by future research in order to continue to evidence construct validity for adaptive personality regulation.

8.1.2.4. Adaptive personality regulation generalises across traits and situations.

Adaptive personality regulation is proposed to generalise across both personality traits and situations such that the successful regulation of a particular personality trait in one situation is expected to be associated with the success of regulating not only that same trait in other situations, but also other personality traits too. Findings from both Study 2 and Study 3 offer support for this assertion. Specifically, in both studies, adaptive personality regulation scores derived across multiple personality states and situations were observed to fit a single-factor model. The single factor can be said to represent 'trait' adaptive personality regulation, or the extent to which an individual is able to adaptively regulate his or her personality expression, regardless of the situation or focal trait. This is a significant novel contribution of the current research. Previous investigations into this phenomenon have been confined to the task level and focused exclusively on extraversion, leaving question marks over stability across traits or situations (Cook, 2016).

Although the overall pattern of findings suggested adaptive personality regulation does indeed generalise across traits and situations, there are

nevertheless some caveats that are worth reinforcing at this juncture. Firstly, in both Study 2 and Study 3 low-loading factors had to be removed from the final model, suggesting that these scores did not conform to the proposed structure. In Study 2, these scores represented adaptive personality regulation scores along agreeableness and conscientiousness in the negotiation task. In Study 3, these scores represented adaptive personality regulation scores along agreeableness only in the negotiation task.

Some level of inconsistency in results from primary studies is to be expected, particularly with smaller sample sizes (Hunter & Schmidt, 2004). However, the finding that agreeableness scores in the negotiation task failed to load in both studies potentially warrants further consideration. This result might suggest that adaptive personality regulation does not generalise across all of the Big Five personality traits as hypothesised, and that perhaps the regulation of agreeableness is governed or moderated by additional factor(s) that are yet to be identified. However, the fact that adaptive personality regulation scores along agreeableness in another task (i.e., the group exercise) did load on the general factor in both studies casts some doubt on this interpretation. If there were something unique or distinctive about adaptive personality regulation along agreeableness then one would expect to see evidence of this across all tasks in which this was measured, not just one. As such, it arguably seems more likely that this finding either reflects measurement error, or a lack of trait activation of agreeableness within this task.

Measurement error could have resulted from inaccurate expert ratings of the optimal level of agreeableness needed to perform well in this task, or *in situ* ratings of this personality state. It is also possible that agreeableness simply was

not as integral to performance in this task and hence was not activated as expected. Research suggests that personality traits must be activated by environmental cues in order to be expressed (e.g., Tett et al., 2013). Thus, if the negotiation task did not activate agreeableness as anticipated, this might account for the failure of these scores to load on the general factor of trait adaptive personality regulation. Future research should seek to examine this more carefully, perhaps by videotaping the negotiation task whilst it is being undertaken and seeking to validate the initial assumptions around the importance and level of agreeableness required in this task through further consultation with personality experts. Utilising think-aloud protocols or retrospective qualitative interviews as suggested above would also likely offer insight into the extent to which individuals perceived agreeableness to be relevant to performance in this task and sought to regulate their expression of it accordingly.

The second caveat to be highlighted here is that this research has only provided evidence that adaptive personality regulation generalises across tasks that are socially oriented. Although Study 2 included two non-socially oriented tasks (i.e., the proof-reading and trust exercise), the reliance on observer-ratings for reliable and valid measurement of adaptive personality regulation meant that it was not possible to attain ratings for these tasks. The socially oriented tasks required levels of observable behaviour that enabled personality states to be adequately adjudicated by observers in a way that the non-socially oriented tasks did not. Study 2's finding that trait adaptive personality regulation scores predicted performance in the proof-reading exercise support the assertion that adaptive personality regulation does generalise more broadly across different task types. However, future research will need to examine this explicitly. Thus,

so far, conclusions about the generalizability of adaptive personality regulation are limited to socially oriented tasks.

8.1.3. Theoretical model of adaptive personality regulation.

In addition to defining the key characteristics of adaptive personality regulation, this thesis also proposed a theoretical model describing how this process might operate (see section 4.3.). The aim was to provide a testable theoretical framework of the operation of adaptive personality regulation by breaking down the assumed component stages. Specifically, it was proposed that adaptive personality regulation is dependent on: (i) the ability to accurately appraise situations; (ii) the ability to accurately appraise ongoing personality states; (iii) the ability to accurately determine the personality states conducive to goal attainment; and (iv) the successful execution of goal-directed personality variation.

The proposal that adaptive personality regulation requires the ability to accurately appraise situations and ongoing personality states was not explicitly tested in any of the research studies comprised in this thesis. However, the fact that both Study 2 and Study 3 found evidence to support the assertion that individuals are able to alter their expression of personality in a functional way to enable situational goal attainment can be said to offer indirect support for these assertions, particularly given the results suggest that adaptive personality regulation is a conscious process (see section 8.1.2.1.). Indeed, unless this process happened below an individual's level of conscious awareness it is hard to conceptualise how it would be possible for an individual to manifest changes to their ongoing state to facilitate situational goal attainment without being able to accurately appraise both the current situation and their existing ongoing states.

Although these assertions are also aligned with other prominent theoretical models of self-regulation (e.g., Carver & Scheier, 1982), future research should seek to test these theoretical assumptions of the proposed model of adaptive personality regulation explicitly.

One proposal of the theoretical model of adaptive personality regulation that was examined directly was that this process is dependent on the ability to accurately determine the personality states conducive to goal attainment. Indeed, it is rational to expect that an inability to identify an appropriate end state would likely result in any subsequent attempt at personality regulation to be ineffective or maladaptive. Study 3 had participants rate what they believed to be the optimal personality expression for goal attainment in two of the tasks that comprised this study, which were subsequently compared to those provided by personality experts *a priori*.

Results suggested that individuals high in adaptive personality regulation were not significantly better at identifying the states most conducive to goal attainment than those low in adaptive personality regulation in either task. In fact, regardless of their level of adaptive personality regulation, participants were all able to appraise the personality states conducive for performance with considerable accuracy in both tasks. This finding suggests that if the ability to accurately appraise the personality states conducive to goal attainment is necessary for successful execution of adaptive personality regulation, it does not appear to be sufficient. It seems unlikely that *all* individuals possess a comparable ability to accurately appraise optimal personality states required in any given situation. As discussed in chapter 7 (see section 7.4.3.3.), future research should explore the extent to which this finding generalises across other

samples, particularly those that are more diverse with respect to cognitive ability given the relevance of this construct to such a process and the restriction of range in the sample utilised here.

This finding might also have implications for the final proof of concept statement for the theoretical model; namely that adaptive personality regulation is dependent on the successful execution of goal-directed personality variation. If individuals low in adaptive personality regulation are able to identify the personality states required for goal attainment with comparable accuracy to those high in adaptive personality regulation then it suggests that the ability to *execute* goal-directed personality variation might be the key differentiator between high and low adapters. At present, this finding has been indirectly inferred, rather than directly proven and so it is important that it is examined explicitly in future research. However, if it were the case, then a crucial next step in the theoretical development of adaptive personality regulation would be to understand the antecedents to successful and unsuccessful execution of attempted personality regulation. Chapter 4 (section 4.3.7.) discussed a number of factors that might be of relevance here including the regulation strategy adopted, negative affect, and beliefs about the malleability of personality. For instance, research on emotion regulation has revealed that individuals utilise different strategies to pursue the same emotion regulation goals, but that some are more effective than others (e.g., Pugh, 2001). If this were also true for personality regulation then it would be important to identify the strategies utilised and examine whether strategy choice differs according to individual's levels of adaptive personality regulation. It might be that individuals who are low in adaptive personality regulation simply choose ineffective strategies.

8.2. Theoretical Integration

This thesis has made a number of theoretical contributions to the literature. Firstly, building on the concept of ‘*personality adaptability*’ initially introduced by Cook (2016), a theoretical framework for a proposed individual difference termed ‘*adaptive personality regulation*’ has been introduced and partly tested. Although no single set of studies in isolation could ever be expected to provide conclusive proof of concept for a newly proposed construct, the empirical work presented in this thesis makes a promising start (see section 8.1). A novel research paradigm for investigating this newly proposed construct has also been introduced, and using this approach to capture adaptive personality regulation has been shown to account for incremental variance in performance outcomes over existing personality approaches. The introduction of adaptive personality regulation to the literature therefore goes some way in addressing the prediction gap that typifies personality research by demonstrating that the predictive utility of personality can be improved by also capturing systematic variation in the construct. Although few personality researchers would now dispute that meaningful variation in personality exists, approaches to personality measurement are yet to move far beyond a sole assessment of stability within the construct (i.e., trait standing), particularly when seeking to predict behavioural outcomes. The conceptualisation and measurement of adaptive personality regulation thus offers a novel and important contribution to the literature.

Having introduced adaptive personality regulation and established evidence to support proof of concept, it is imperative to next explore how this construct can be integrated with other theoretical models of personality. The remainder of this section serves to integrate adaptive personality regulation with

other prominent theoretical models of personality in order to demonstrate how this newly proposed construct could serve to compliment, and potentially extend, current understandings in the field. It is pertinent to begin this discussion by reviewing how adaptive personality regulation is consistent with the vast body of evidence supporting the existence of personality traits. This is followed by a consideration of how adaptive personality regulation might be able to enrich two of the most prominent models of personality that account for variation in the construct, namely whole trait theory (WTT; Fleeson, 2012; Fleeson & Jayawickreme, 2015) and cybernetic Big Five theory (CB5T; DeYoung, 2015).

8.2.1. Adaptive personality regulation and personality traits.

The relationship between personality traits and adaptive personality regulation has already been explored elsewhere in this thesis (see section 6.1.2.4). However, the importance of demonstrating the compatibility of these concepts means it is worth briefly revisiting at this juncture. Indeed, there is a large and diverse body of evidence supporting personality traits (e.g., DeYoung, 2010; Church, 2009; Roberts et al., 2006), and as such, it is imperative that any proposed theory of personality is consistent with the existence of traits. The existence of adaptive personality regulation does not challenge the existence of personality traits. Indeed, that individuals have a preferred set point, or trait standing position, is a key assumption of the theoretical framework that underpins this process. Where adaptive personality regulation diverges from trait theory, is in its focus on variation, rather than stability in the construct. Trait scores contain meaningful information about an individual's *preferred* personality expression but do not offer any insight into an individual's ability to regulate their personality expression away from this position when required for

goal attainment. In contrast, while adaptive personality regulation does not reflect typical or preferred styles, it does indicate the extent to which an individual is able to regulate their personality traits away from their preferred position when desired. Thus, personality traits and adaptive personality regulation are distinct but compatible approaches to understanding and quantifying personality. As the research contained in this thesis has demonstrated, examining adaptive personality regulation alongside personality traits can explain significant incremental variance in performance outcomes and is thus worthy of consideration in future investigations, particularly where one is trying to predict complex behavioural outcomes.

8.2.2. Adaptive personality regulation and whole trait theory.

Whole trait theory (WTT; Fleeson, 2012; Fleeson & Jayawickreme, 2015) was one of the first theories to attempt to reconcile the apparent contradiction between stability and variability within the construct of personality. According to this theory, personality is best understood through a consideration of both *how* and *why* individuals differ from one another. Personality traits are regarded as useful in understanding how individuals differ, while social-cognitive perspectives are considered informative in understanding why. There is a sizeable body of evidence in support of WTT (e.g., Fleeson, 2007; Fleeson & Gallagher, 2009; McCabe & Fleeson, 2012), none of which is inconsistent with the assumptions of adaptive personality regulation. For example, McCabe and Fleeson (2012) observed that when pursuing goals related to extraversion such as trying to have fun or make new friends, people manifest more extraverted personality states. The notion that personality states can be utilised to facilitate goal attainment is central to adaptive personality regulation. In this example,

adaptive personality regulation would be posited as the mechanism that enables individuals to manifest more extraverted personality states in order to facilitate goal attainment.

WTT asserts that observed behaviour reflects the specific links an individual has between particular inputs (e.g., environment or internal events), intermediates (e.g., interpretation, goals, etc.), and the behavioural output (i.e., trait manifestation in behaviour). Although WTT is not presented as a self-regulation theory *per se*, one can see how these components can be aligned with a regulatory framework such as the one proposed to underpin the process of adaptive personality regulation. Indeed, by integrating WTT with adaptive personality regulation in this way, one can go a step further in accounting for precisely *how* an individual might utilise information gathered from the environment and their interpretation of what is required to achieve their goal that ultimately dictates trait manifestation in behaviour.

In addition, such integration might also go some way in addressing one of the major weaknesses of WTT as it is currently described. WTT's depiction of personality traits as little more than statistical artefacts does not adequately account for the meaningful biological differences that have been observed to uphold across cultures (e.g., Yamagata et al., 2006). By considering an individual's trait standing position as his or her natural 'starting point', and then integrating a model of self-regulation as the mechanism by which an individual can systematically vary the personality manifested in behaviour away from this, adaptive personality regulation can potentially address this weakness. Thus, adaptive personality regulation is not only consistent with WTT but it might also enrich it.

8.2.3. Adaptive personality regulation and cybernetic Big Five theory.

In common with adaptive personality regulation, cybernetic Big Five theory (CB5T; DeYoung, 2015) asserts that personality is governed by a goal-directed, self-regulatory system. Personality traits are considered to have evolved from relatively stable psychobiological cybernetic mechanisms and are thus responsible for consistency in patterns of thinking, feeling, and behaving. Social-cognitive mechanisms are seen as independent entities that result in characteristic adaptations, which can be either consistent or inconsistent with one's underlying traits.

By positioning traits as resulting from fundamental cybernetic mechanisms, CB5T accounts for personality traits in a way that much more adequately explains the considerable body of evidence demonstrating that traits have biological underpinnings (e.g., DeYoung et al., 2010; W. Johnson et al., 2005) than does WTT. However, one aspect of CB5T that is arguably less clear is precisely how individuals are proposed to move from traits to characteristic adaptations. The theory holds that characteristic adaptations are informed by an individual's goals (i.e., desired end states), interpretations (i.e., understanding of current states), and strategies (i.e., tactics for moving from current states to desired end states). However, CB5T does not speak to exactly *how* goals, interpretations and strategies influence personality traits so strongly as to result in characteristic adaptations.

Adaptive personality regulation can potentially address this missing link by offering a possible candidate mechanism through which people move from trait standing to characteristic adaptations effectively. Specifically, adaptive

personality regulation would enable individuals to move from trait standing to different characteristic adaptations through systematic variation of their personality expression. This is perhaps best illustrated with an example. Let one consider a trial lawyer who is high in trait agreeableness. Such a career choice might not be considered typical for someone who is trusting and cooperative by nature and values social harmony. Nevertheless, this person could still have a successful career as a trial lawyer if he or she were able to regulate their high agreeableness states when at work and instead manifest more disagreeable and argumentative states. Although this might be effortful at first, over time this behaviour could be expected to become habitualised such that the individual automatically embodies disagreeable and argumentative personality states when required at work. At this point, the trial lawyer's behaviour would be considered a characteristic adaptation that facilitates performance in his or her chosen profession.

As adaptive personality regulation is an individual difference, one would expect that those high in the construct would be able to adapt more effectively and/or more quickly than those low in the construct. Future research should seek to investigate adaptive personality regulation within the context of CB5T to explore whether there is evidence to support the reasoning presented here. If there were, then adaptive personality regulation might emerge as the missing link in personality cybernetics.

8.3. Practical Implications

The impetus to this thesis was a desire to solve a very practical problem; namely, why the predictive utility of personality is so often disappointingly low (Morgeson et al., 2007). It is therefore pertinent to consider the practical

implications of the work presented here but it is also important to be mindful that research into adaptive personality regulation is still very much in its infancy. It would be premature to make any substantive practical recommendations before further research has been conducted and the practical implications explored below should be considered with this caveat in mind.

The primary practical implications of the work presented in this thesis relate to personnel selection. Study 1 found evidence that many modern job roles require individuals to vary their expression of personality in order to perform well, whilst Studies 2 and 3 found evidence to suggest that the ability to meet this requirement through regulation of one's personality states is a stable individual difference. Collectively, these findings suggest two key practical implications relating to personnel selection. Firstly, organisations should consider taking into account the extent to which a particular job role necessitates variation in personality expression when considering the requirements of that role. Secondly, personnel selection is likely to be more effective if organisations measure candidates' ability to vary their personality expression to meet different situational demands through an assessment of their adaptive personality regulation.

With regard to the first key practical implication, organisations should consider incorporating assessments of required personality variation into job analyses. Although there was evidence in Study 1 that individuals across a wide range of jobs feel variation in personality expression is a requirement of their role, one would nevertheless expect there to be differences with respect to both the amount and nature of required variation across both job roles and organisations. Thus, job analyses that consider the variation requirements for

specific roles within the context of a particular organisation are expected to be more fruitful. Variation requirements should be incorporated into job descriptions and person specifications to improve transparency, improve self-selection into job roles, and justify the assessment of adaptive personality regulation during the selection process.

The second key practical implication is that personnel selection will likely be more effective if adaptive personality regulation is considered as part of the selection process. In both Study 2 and Study 3 adaptive personality regulation emerged as a consistent predictor of task performance, accounting for significant amounts of incremental variance over and above other theoretically similar constructs which are often assessed either directly or indirectly during selection including personality traits, cognitive ability, and motivation. This suggests that if organisations capture adaptive personality regulation, the validity of the selection process is likely to improve, leading to greater accuracy in person-job fit, better job performance, and thus ultimately improving the success of the organisation.

The research presented in this thesis suggests that adaptive personality regulation can indeed be measured in a manner brief and efficient enough to justify its use in a selection context. Thus far, the evidence suggests that adaptive personality regulation is best captured through an assessment-centre style set-up in which observers rate the *in situ* personality states of candidates as they undergo various different exercises. The precise exercises are likely best determined through a consideration of the specific variation requirements of the role at hand (i.e., by consulting the job analysis).

Maximum prediction would be expected when an assessment of adaptive personality regulation is integrated with other valid selection measures such as work sample tests. For example, different tasks typical of the role that are dependent on the manifestation of different personality states could comprise an assessment centre for selection. The fact that adaptive personality regulation has been shown to generalise across traits and situations suggests that it would not be necessary to assess candidates' ability to regulate across *all* personality states for which the job required variation. Rather, an assessment across one or two traits through a few key tasks would be expected to provide sufficient insight into an individual's trait adaptive personality regulation score. Behavioural observers would rate the personality states of candidates during each task. The resulting scores would be compared to optimal ratings of personality expression to determine each candidate's underlying level of adaptive personality regulation. Task performance should be judged independently as an additional indicator of potential future performance in the role. Such a design would maximise on the predictive utility of existing methods of selection whilst also affording the advantages offered by adaptive personality regulation, with minimal additional burden on required resource or candidate time.

The framing of this thesis within the context of occupational psychology, and predicting performance more specifically, naturally limits the scope of practical implications to those that pertain to this area at present. However, if future research continues to support the proposed theoretical framework of adaptive personality regulation, one would expect practical implications to emerge across many other domains of psychology including educational, clinical, and sports psychology. For example, one would expect adaptive personality

regulation to predict academic success, particularly for exams or courses that require both teamwork and individual contributions, and both oral and written examinations. Nevertheless, further research examining the construct of adaptive personality regulation within such domains is needed before wider practical implications can be considered.

8.3.1. Applying adaptive personality regulation to personnel selection

Although further research is required before adaptive personality regulation can be applied in practice, it is still possible to speculate on what this application might look like in the future using the evidence available to date. This section builds on the previous section by examining exactly how an assessment of adaptive personality regulation might be applied to a real-world selection problem.

To explore this, consider a hypothetical scenario in which a large bank is looking to increase the calibre of talent within its HR function to help drive future performance. To support this, a rotational graduate programme has been designed in an attempt to attract, develop, and retain employees in this area of the business. Integrating a measure of adaptive personality regulation into the selection process for this programme would be expected to considerably improve its validity for comparatively little additional investment in terms of time or resources.

As the rotational programme is new to the organisation, the first task would likely be to conduct a job analysis in order to identify the key tasks or responsibilities that comprise the role. Questionnaires and/or structured interviews would likely be used to this end, with the resulting information

informing the development of a job description and person specification outlining the knowledge, skills, and abilities required to enter the graduate programme. Next, the extent to which success on the graduate programme is likely to require adaptive personality regulation would need to be considered by examining the extent to which personality variation is required to perform key tasks successfully. This could be approached in a number of ways. One possibility would be to ask current employees who regularly undertake each of the key tasks to rate the personality states they believe would be most likely to lead to success using a psychometrically robust personality inventory. Alternatively, this information could be gathered from psychologists using detailed task descriptions generated from the job analysis. A multi-source approach to the collection of this data in which both job incumbents and psychologists provided optimal personality ratings would be advantageous, but may not necessarily be feasible in practice where time and resources are limited. The mean of gathered ratings would be used to quantify optimal personality expression in each of the key tasks that comprise the job. The amount of variation required in personality to perform these tasks well is indicative of the extent to which adaptive personality regulation would likely be required in the role.

With this information acquired, the next step would be to utilise it to inform the design of a selection process for the graduate programme. Essential knowledge and skills (e.g., having achieved a good grade on a relevant undergraduate degree programme) might inform criteria against which applications to the programme could initially be filtered. Successful candidates might then be invited to a telephone interview in which they are asked a series of

structured interview questions to establish the extent to which they are able to demonstrate that they have applied job-relevant knowledge or competencies with success in the past. Candidates who were successful at this stage could then be invited to an assessment centre.

The assessment centre would be comprised of tasks identified from the job analysis as being relevant for job performance. To enable an assessment of adaptive personality regulation, the tasks selected should also require different personality states in order to be successful. For example, the job analysis may have revealed that HR graduates would be required to facilitate training sessions during their rotation in the Learning & Development team, and create insight reports using workforce data (e.g., absence, turnover, productivity, engagement, etc.) during their rotation with the People Analytics team. Let us assume that ratings from present job incumbents suggest that delivering training sessions requires extraverted and agreeable states, whereas creating insight reports requires introverted and disagreeable states. These tasks could be adapted into assessment centre exercises requiring candidates to deliver prepared training material and produce an insight report from fictional workforce data. While they were undertaking each exercise, two trained observers would rate the personality states expressed by each candidate. These ratings would then be compared to optimal personality ratings to inform task-specific adaptive personality regulation scores, which would then be compiled into a single score indicative of each candidate's trait level of adaptive personality regulation.

Adaptive personality regulation scores would then be utilised along with other data gathered throughout the selection process (e.g., academic record, structured interview performance, assessment centre task performance, etc.) to

help inform selection decisions for the HR graduate programme. The bank should examine how adaptive personality regulation scores (as well as other components of the selection process) predict job performance over time in order to monitor the validity of their selection process and adjust it as required. This example demonstrates how an assessment of adaptive personality regulation could be easily integrated into an organisation's existing selection process to increase its overall validity at minimal additional cost.

8.4. Limitations

Limitations that are specific to each study have been addressed in the discussion sections of the corresponding chapters. To prevent repetition, the discussion here will be focused on key overarching limitations that apply to the collective body of research presented in this thesis.

The first key limitation relates to the samples utilised. All samples were convenience samples and small to moderate in size. Although not uncharacteristically small for research of this nature (e.g., Fleeson & Law, 2015), the size of the samples in Study 2 ($n = 68$) and Study 3 ($n = 89$) does raise questions about the generalizability of findings. Although the consistency in results and effect sizes does go some way to attenuate these concerns, both samples nevertheless lack diversity with respect to key demographic and individual difference variables. Specifically, the samples in Study 2 and Study 3 were comprised solely of university students, resulting in a positive skew and restriction of range on key variables such as educational background and cognitive ability. Bonett (2012) emphasises the importance of examining effects across different study populations in order to determine the extent to which results observed with one population can be extended. Indeed, effect sizes that

differ across study populations implies moderator variables might be at play (i.e., a variable that influences the magnitude of the effect size). Future research should seek to take a more purposive approach to sampling to ensure greater diversity and representation. Until then, conclusions are tentative and one should be cautious about generalising the findings reported here to other populations.

The second key limitation also relates to generalizability, but the question is the extent to which the findings reported here are ecologically valid. Proof of concept for the construct of adaptive personality regulation was examined in Study 2 and Study 3. Both these studies were laboratory assessments, taking place in an artificial environment rather than studying individuals within the natural pursuit of their lives. For the purposes of an initial investigation into a proposed construct, the advantages offered by a laboratory study were thought to outweigh potential biases arising from factors such as demand characteristics and experimenter expectancy (e.g., Schmuckler, 2001). Indeed, as Cook (2016) points out, experimenter cues and demand characteristics arguably exert no more pressure on individuals to regulate their personality expression than do external pressures they face in their everyday lives. Nevertheless, one should be cautious in making any assumptions regarding the ecological validity of the construct or process of adaptive personality regulation until it has been studied outside the laboratory.

The final key limitation relates to the measurement of adaptive personality regulation, which has been discussed in detail elsewhere in this thesis (see section 6.4.1). Arguably the primary limitation here concerns the reliance on observer-ratings of adaptive personality regulation within socially oriented tasks. This means one cannot rule out the possibility that it is actually behavioural

regulation, not personality regulation, which is being captured. However, behaviour is a fundamental component of personality (e.g., Funder, 2001), a construct that is known to vary (e.g., Fleeson & Gallagher, 2009), and previous research supports the use of observer ratings to measure personality in this way (e.g., Fleeson & Law, 2015). Such arguments offer support for the interpretation of results offered in this thesis – namely that observer-ratings of adaptive personality regulation capture an individual’s ability to regulate their personality states. Nevertheless, further research will be needed to address this explicitly given the implications for the theory of adaptive personality regulation and its positioning within the wider literature. One way to approach this would be by incorporating biological metrics into future investigations of adaptive personality regulation. If biological markers of personality traits are shown to vary alongside outward changes in behavioural expression then this would provide much more conclusive evidence that it is indeed personality being regulated, not just outward expressions of behaviour. How such a study might be approached is outlined below (see section 8.5).

An additional limitation relating to the measurement of adaptive personality regulation concerns the approach taken to identifying optimal personality expression. It is possible that the method adopted in this thesis was too simplistic, or reductionist. Specifically, the approach followed here assumes that there is just one optimal expression of personality that is most conducive to success in a particular situation. In the present thesis this was identified from the mean of a number of independent personality experts’ ratings. However, it remains possible, or even likely, that there is not *one* objectively right way to regulate one’s personality in order to meet a situational goal. Indeed, as is the

case for emotion regulation, it seems plausible that in any given situation multiple different expressions of personality might ultimately support goal attainment, with some being more or less effective than others. For example, when negotiating, a person might see equal levels of success through hard-bargaining tactics driven by low agreeableness states, as they do through cooperation and trust building driven by high agreeableness states. This is an issue that lies beyond the scope of the current thesis but is one that should be prioritised in future investigations of adaptive personality regulation. Ultimately, if there are indeed multiple personality expressions that can be utilised to attain particular goals then incorporating this information into one's measure of adaptive personality regulation would increase the validity of the measure, likely resulting in greater predictive utility.

8.5. Future Research

Suggestions for future research have been noted throughout this chapter and indeed at other relevant junctures throughout this thesis. Undoubtedly, the most important recommendation for future research is simply that more be conducted. Here, those avenues for future research that are expected to be the most fruitful are discussed in more detail.

Further research into adaptive personality regulation should seek to replicate and extend the findings reported in this thesis so as to continue to demonstrate proof of concept and further theoretical understanding of this construct. Key to this will be a closer examination of the regulatory nature of this construct, which has currently been inferred rather than directly tested. Although the explicit examination of any latent process such as self-regulation is inherently difficult, there are certain advantages that might be afforded through the

implementation of a qualitative design. For instance, interviews or thought-aloud protocols, in which people talk through their conscious thoughts and feelings could be utilised in order to gain deeper insight into how people experience adaptive personality regulation and the extent to which it is truly comparable to other self-regulatory processes. Indeed, recent theoretical developments suggest that regulatory processes are dynamic and change momentarily in response to feedback (Gross, 2015; Koole & Veenstra, 2015). This would suggest that both situational goals (i.e., desired outcomes) and regulatory goals (i.e., desired personality states) are likely to change across the course of a single event, interaction, or task, making the process of adaptive personality regulation potentially far more complex than the theoretical model presented here might suggest. The additional depth and detail that qualitative data can provide are likely to be very valuable in understanding such complexities.

An example of a qualitative design that might afford some of these insights would be a study in which the experimental set-up was similar to the mock assessment centre designs utilised in Study 2 and 3 of this thesis. However, rather than relying solely on behavioural observation to infer adaptive personality regulation, observer-ratings of personality states could be supplemented with data from *in situ* interviews in which participants are asked questions about what they were thinking and experiencing during each task, and what was motivating them to adapt their personality states when they were observed to do so. Such a design should provide more insight into the extent to which regulation of personality states is a conscious process for people, as well as exposing the extent to which, and nature of, any dynamic changes to goals that arise as the situation unfolds.

Asking people to talk about their experience during adaptive personality regulation should also clarify whether or not there are differences in the regulation of different personality states. This possibility was acknowledged earlier in this thesis (see section 4.2.4), but is yet to be examined empirically. However, if individuals are interviewed directly following attempts at regulation of different personality states, this would expose the extent to which there are differences in the regulation of different states, and whether this differs across individuals or situations. For example, high-pressure situations that increase negative affect might make adaptive personality regulation harder, particularly for those high in neuroticism who are more sensitive to such stimuli (Pytlik Zillig et al., 2002). This is because negative affect has been shown to disrupt regulatory processes by promoting a re-evaluation of goals to diminish negative affect (Scheier & Carver, 1982; Simon, 1967).

In addition to examining what additional insights could be gained from collecting qualitative as well as quantitative data, future research should also prioritise the study of adaptive personality regulation outside of the laboratory in order to demonstrate the ecological validity of findings. Study 2 reported that self-report adaptive personality regulation scores were of limited value, suggesting that a traditional experience-sampling study in which participants are asked to report on their personality states multiple times a day as they undergo different aspects of their daily lives may not be appropriate. However, one could employ a study in which the target individual could provide ratings on his or her current context (perhaps utilising a measure that captures the psychological features of situations such as the DIAMOND; Rauthman et al., 2014), and their

momentary goal, and a third-party provided ratings of their expressed personality states.

Although such a design would not always be appropriate, one can imagine that it could be effectively employed in the workplace. For example, an employee could report on their situation (e.g., team meeting, client call, report writing, desk research), their current goal (e.g., influence others, make a sale, produce a report, solve a problem, etc.) multiple times a day over a specified time period (e.g., two weeks). A colleague who works alongside the target participant could then provide supplementary ratings on the participants' personality states, which could be utilised to inform a measure adaptive personality regulation. The relationship between adaptive personality regulation and performance could then be examined, either through self-ratings of task performance or, preferably, manager-ratings or even objective ratings where available. For instance, objective data on sales performance might be possible to obtain, but determining the quality of a written report would require subjective judgement. If adaptive personality regulation were found to predict performance in such a design, it would provide evidence of the predictive utility of this construct in a real world context, which would lend much greater weight to the generalisability of the findings presented in this thesis.

The final key priority for future research relates to measurement. Firstly, future research should seek to examine adaptive personality regulation across a broader spectrum of personality traits and in more diverse contexts. For example, examining whether adaptive personality regulation extends beyond the 'bright' side of personality to dark traits such as manipulativeness and callousness would be interesting from both a practical and theoretical standpoint. Secondly, as

mentioned above, incorporating biological metrics into future investigations would allow for a more robust test of the extent to which those who appear to be regulating their personality expression are *truly* adapting, or if they are just acting i.e., only changing their outward behavioural expression. Although the psychobiological underpinnings of all personality traits are yet to be fully established, there is a convincing body of evidence for both extraversion and neuroticism (de Geus & Neumann, 2008) that could be utilised in future investigations of adaptive personality regulation. For example, neuroticism reflects an increased sensitivity to stress cues and negative affect and has been positively linked with daily cortisol levels (e.g., Nater, Hoppmann, & Klumb, 2010). One could therefore implement a design that required participants to undertake performance tasks that involve elements of socio-evaluative threat such as the Group Trier Social Stress Test (TSST-G; von Dawans, Kirschbaum, & Heinrichs, 2011), which has been shown to significantly increase stress responses as indicated by spikes in cortisol production and heart rate increases (Childs, Vicini, & De Wit, 2006). By measuring cortisol and heart rate in addition to observed personality states and task performance, one could better establish the extent to which those who appear to be able to successfully regulate their neuroticism states are truly adapting on a biological level. If personality regulation functions similarly to emotion regulation, then one would expect potentially maladaptive long-term consequences such as stress and burnout if people are only changing their outward behavioural expression during personality regulation (e.g., Grandey, 2003). Longitudinal designs in which the effects of adaptive personality regulation are examined over time will thus be

imperative to determining the extent to which this construct can truly be said to be adaptive and what differentiates high and low adapters long-term.

8.6. Conclusion

This thesis began with a review of the literature on personality and prediction and the presentation of a testable theoretical framework for the proposed construct of adaptive personality regulation. Study 1 found evidence to support the assertion that modern job roles require individuals to express personality states across the spectrum of personality, suggesting that one of the reasons traditional mean-level personality scores offer limited predictive utility is because they fail to account for variation in the construct. This warranted further investigation of the construct of adaptive personality regulation, and initial proof of concept was evidenced in Study 2. The replication of results observed in Study 3 lent additional weight to the robustness of these findings.

Collectively, the findings of these studies not only suggest that adaptive personality regulation exists as an individual difference, but also that it explains incremental variance in performance outcomes over and above key individual differences such as personality traits, intelligence, and motivation. Taken together, the research presented in this thesis demonstrates that when personality is conceptualised and measured appropriately, it can offer impressive levels of prediction. Future research should continue to explore the dynamic nature of personality and the construct of adaptive personality regulation in order to better understand the mechanisms underpinning this process and establish an evidence base that will hopefully facilitate the measurement of this construct in practice within personnel selection and beyond.

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Appendix A

Study 1 BFI Survey

Note to readers: Items presented in scale clusters and labelled for added clarity.

The purpose of this research study is to examine the range of demands individuals' jobs place upon them. This questionnaire asks you to respond to questions about the demands of your job. Your participation in this study is voluntary and you may choose not to participate. If you choose to partake in this research survey you may withdraw at any time.

This survey will take approximately **10 minutes** to complete. All responses collected will remain anonymous.

I consent to take part in this study

Gender:

Male Female Other

Level of education (Select highest level completed):

No Schooling Secondary school Non-university higher education

Undergraduate university education Postgraduate university education

Employment Status:

Unemployed Employed (Full-time) Employed (Part-time) Self-employed

Student Retired Other (please specify): _____

Occupational Group:

Architecture and engineering Arts, design, entertainment, sports, and media

Building and grounds cleaning and maintenance Business and financial

operations Community and social service Computer and mathematical

Construction and extraction Education, training, and library Farming, fishing, and forestry Food preparation and serving related Healthcare practitioners and

technical Healthcare support Installation, maintenance, and repair Legal Life, physical and social science Management Military specific Office and

administrative support Personal care and service Production Protective service
 Sales and related Transportation and material moving Other
 (specify):_____

In the following questions, we want you to think about the behaviours required to be successful within your job. For each question, we want to know what is the average (i.e., usual) level of the behaviour required within your job, and what is the lowest and highest level required. For example:

My job requires me to be talkative

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:						x				
Lowest level:	x									
Highest level:										x

In the example above, the average level of talkativeness required is 6 (i.e., a medium amount of talking is usually required). The lowest level of talkativeness required is 1 (i.e., some tasks require silence) and the highest level is 9 (i.e., some tasks require a great deal of talking). This job requires a large range of talkativeness from silence to lots of talking. In the following example, the job requires a small range and low level of talkativeness:

My job requires me to be talkative

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:		x								
Lowest level:	x									
Highest level:			x							

Please read each statement carefully and indicate the average, lowest, and highest levels required in your job.

Extraversion:

My job requires me to be talkative

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to be outgoing, sociable

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to be reserved

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to be full of energy

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to generate enthusiasm

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to be quiet

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to be assertive

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to be shy, inhibited

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

Agreeableness:

My job requires me to find fault with others

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to be helpful and unselfish

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to quarrel

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to be forgiving

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to be trusting

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to cooperate

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to be cold and aloof

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to be rude

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to be kind, considerate

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

Conscientiousness:

My job requires me to be thorough

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to be careless

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to be a reliable worker

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to be disorganised

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to be lazy

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to follow through with plans

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to be efficient

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to persevere

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to be distracted

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

Neuroticism:

My job requires me to be depressed, blue

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to be relaxed

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to be tense

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to worry

Not at all									A great deal
1	2	3	4	5	6	7	8	9	

Average level:
Lowest level:
Highest level:

My job requires me to be emotionally stable

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to be moody

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to remain calm

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to get nervous

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

Openness:

My job requires me to be original, come up with new ideas

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to be curious

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to be an ingenious, deep thinker

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to have an active imagination

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to be sophisticated in art, music or literature

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to value artistic/aesthetic experiences

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to reflect/play with ideas

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to have few artistic interests

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to prefer work that is routine

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

My job requires me to be inventive

	Not at all									A great deal
	1	2	3	4	5	6	7	8		9
Average level:	<hr/>									
Lowest level:										
Highest level:										

Appendix B

Study 1 Goldberg's Marker Survey

Note to readers: Items presented in scale clusters and labelled for added clarity.

The purpose of this research study is to examine the range of demands individuals' jobs place upon them. This questionnaire asks you to respond to questions about the demands of your job. Your participation in this study is voluntary and you may choose not to participate. If you choose to partake in this research survey you may withdraw at any time.

This survey will take approximately **10 minutes** to complete. All responses collected will remain anonymous.

I consent to take part in this study

Gender:

Male Female Other

Level of education (Select highest level completed):

No Schooling Secondary school Non-university higher education

Undergraduate university education Postgraduate university education

Employment Status:

Unemployed Employed (Full-time) Employed (Part-time) Self-employed

Student Retired Other (please specify): _____

Occupational Group:

Architecture and engineering Arts, design, entertainment, sports, and media

Building and grounds cleaning and maintenance Business and financial operations Community and social service Computer and mathematical

Construction and extraction Education, training, and library Farming, fishing,

and forestry Food preparation and serving related Healthcare practitioners and technical Healthcare support Installation, maintenance, and repair Legal Life,

physical and social science Management Military specific Office and
 administrative support Personal care and service Production Protective service
 Sales and related Transportation and material moving Other
 (specify):_____

In the following questions, we want you to think about the behaviours required to be successful within your job. You will be presented with a series of adjectives that describe behaviours and working styles. Please read each carefully and indicate the frequency with which you are required to behave accordingly in your job where, *1 = never, 2 = rarely, 3 = sometimes, and 4 = often.*

Extraversion:

How often does your job require you to show the following characteristics?

	Never 1	Rarely 2	Sometimes 3	Often 4
Talkative				
Adventurous				
Bold				
Extraverted				
Active				
Energetic				
Introverted				
Inactive				
Unenergetic				
Quiet				
Unadventurous				
Bashful				

Agreeableness:

How often does your job require you to show the following characteristics?

	Never 1	Rarely 2	Sometimes 3	Often 4
Sympathetic				
Unselfish				
Warm				
Cooperative				
Agreeable				
Kind				
Cold				
Uncooperative				
Disagreeable				
Unsympathetic				
Selfish				
Unkind				

Conscientiousness:

How often does your job require you to show the following characteristics?

	Never 1	Rarely 2	Sometimes 3	Often 4
Organised				
Practical				
Thorough				
Responsible				
Conscientious				
Reliable				
Irresponsible				
Negligent				
Disorganised				
Impractical				
Careless				
Undependable				

Openness:

How often does your job require you to show the following characteristics?

	Never 1	Rarely 2	Sometimes 3	Often 4
Analytical				
Creative				
Intellectual				
Imaginative				
Cultured				
Curious				
Unimaginative				
Uncultured				
Uninquisitive				
Unanalytical				
Uncreative				
Unintellectual				

Neuroticism:

How often does your job require you to show the following characteristics?

	Never 1	Rarely 2	Sometimes 3	Often 4
Stable				
Contented				
Unenvious				
Relaxed				
Secure				
Unemotional				
Envious				
Fretful				
Insecure				
Emotional				
Discontented				
Unstable				

Appendix C

Study 2 Expert Rating Questionnaire

Thank you for agreeing to participate in this research. The current project is part of a doctoral research project within Alliance Manchester Business School that seeks to explore the concept of personality adaptability and its relationship with performance. You were invited to participate due to your background in Psychology and understanding of personality and individual differences. You will be presented with descriptions of 5 tasks that students recently undertook as part of this research. Your task is to read each task description carefully and provide personality ratings to illustrate the personality profiles you would expect to be most closely aligned with success in each of the 5 tasks.

This questionnaire should not take longer than **10 minutes** to complete. You are not obliged to answer any question you do not wish to answer, and are free to withdraw your participation at any time.

I agree to participate in the current research

Age

Gender

- Male
 Female

Ethnic Origin

What country do you currently live in?

What is your highest level of education?

What is your current job title?

The exercise we want you to consider first is a presentation/public speech. Participants were given one week to prepare a short 5-minute talk on something that they thought would be interesting to a group of fellow students. They were instructed that they could talk about any subject or topic of their choosing, so long as they felt it would be interesting to their audience.

Participants were marked on their preparation, structure, delivery, and content. Individuals who performed best in this exercise were those who were well prepared, paced themselves, did not exceed the 5-minute time slot, spoke about a topic that was interesting and engaging to their audience, and appeared calm, confident, and personable.

Below you will be presented with a series of paired adjectives that describe people's behaviour. Please read each pair of adjectives carefully and consider which point on the rating scale you feel would be best in order for someone to excel in the presentation task described above. Please note that point 5 on the bipolar rating scale (labelled 'neither') represents a mid-point on the scale between the two extremes. If you do not think a particular trait is relevant to performance in this task then please **leave the row blank**. For example, you may not think a person's extravagance/thriftiness is relevant to their performance in a presentation task. If this is the case, please leave the row corresponding to extravagance/thriftiness blank.

	Very	Moderately		Neither	Moderately		Very		
	1	2	3	4	5	6	7	8	9
Introverted									Extraverted
Silent									Talkative
Timid									Bold
Inactive									Active
Unassertive									Assertive

	Very 1	Moderately 2 3 4	Neither 5	Moderately 6 7 8	Very 9	
Unkind						Kind
Uncooperative						Cooperative
Selfish						Unselfish
Distrustful						Trustful
Stingy						Generous

	Very 1	Moderately 2 3 4	Neither 5	Moderately 6 7 8	Very 9	
Disorganised						Organised
Irresponsible						Responsible
Careless						Thorough
Lazy						Hardworking
Extravagant						Thrifty

	Very 1	Moderately 2 3 4	Neither 5	Moderately 6 7 8	Very 9	
Unintelligent						Intelligent
Unanalytical						Analytical
Unreflective						Reflective
Unimaginative						Imaginative
Uncreative						Creative

	Very 1	Moderately 2 3 4	Neither 5	Moderately 6 7 8	Very 9	
Tense						Relaxed
Nervous						At ease
Unstable						Stable
Discontented						Contented
Emotional						Unemotional

The next exercise we want you to consider here is a negotiation. Participants were put into pairs and each given a set of instructions. In this role-play exercise each member of the pair represented a different steel manufacturing company. One company had an excess of steel and were thus looking to sell some units; while the other company had a shortage of steel and were looking to purchase extra units in order to honour existing orders. Both participants were given reservation prices, which told them the maximum/minimum they could buy/sell the steel for and still make a profit. Participants were then given 10 minutes to freely negotiate a price for the steel.

In order to be successful in this task participants needed to be personable enough to cut a deal, but able to keep their company's best interests in mind to negotiate the most profitable deal. Participants who were anxious or appeared unsure of themselves were typically taken advantage of by the other player.

Below you will be presented with a series of paired adjectives that describe people's behaviour. Please read each pair of adjectives carefully and consider which point on the rating scale you feel would be best in order for someone to excel in the negotiation task described above. Please note that point 5 on the bipolar rating scale (labelled 'neither') represents a mid-point on the scale between the two extremes. If you do not think a particular trait is relevant to performance in this task then please **leave the row blank**.

	Very 1	Moderately 2		Moderately 3	Neither 4		Moderately 5	Neither 6	Moderately 7	Very 8	Very 9	
Introverted												Extraverted
Silent												Talkative
Timid												Bold
Inactive												Active
Unassertive												Assertive

	Very 1	Moderately 2		Moderately 3	Neither 4		Moderately 5	Neither 6	Moderately 7	Very 8	Very 9	
Unkind												Kind
Uncooperative												Cooperative
Selfish												Unselfish
Distrustful												Trustful
Stingy												Generous

	Very 1	Moderately 2		Moderately 3	Neither 4		Moderately 5	Neither 6	Moderately 7	Very 8	Very 9	
Disorganised												Organised
Irresponsible												Responsible
Careless												Thorough
Lazy												Hardworking
Extravagant												Thrifty

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Unintelligent										Intelligent
Unanalytical										Analytical
Unreflective										Reflective
Unimaginative										Imaginative
Uncreative										Creative

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Tense										Relaxed
Nervous										At ease
Unstable										Stable
Discontented										Contented
Emotional										Unemotional

The next exercise we want you to consider here is a proof-reading exercise. Participants were provided with an extract of text that had been edited to include a number of errors including; grammatical, typographical, and spelling. They were given 10 minutes to identify as many errors in the text as they could. There were more errors than could be identified in the time allowed.

To be successful in this task participants needed to correctly identify as many errors in the text as possible. In order to do this they needed to remain calm and ensure the task had their full attention. It was important they avoided becoming distracted by those sitting near them, their phones, building work, etc. and worked as carefully and as thoroughly as they could.

Below you will be presented with a series of paired adjectives that describe people's behaviour. Please read each pair of adjectives carefully and consider which point on the rating scale you feel would be best in order for someone to excel in the proof-reading task described above. Please note that point 5 on the bipolar rating scale (labelled 'neither') represents a mid-point on the scale between the two extremes. If you do not think a particular trait is relevant to performance in this task then please **leave the row blank**.

	Very 1	Moderately		Neither 5	Moderately		Very 9	
	2	3	4	6	7	8		
Introverted								Extraverted
Silent								Talkative
Timid								Bold
Inactive								Active
Unassertive								Assertive

	Very 1	Moderately		Neither 5	Moderately		Very 9	
	2	3	4	6	7	8		
Unkind								Kind
Uncooperative								Cooperative
Selfish								Unselfish
Distrustful								Trustful
Stingy								Generous

	Very 1	Moderately		Neither 5	Moderately		Very 9	
	2	3	4	6	7	8		
Disorganised								Organised
Irresponsible								Responsible
Careless								Thorough
Lazy								Hardworking
Extravagant								Thrifty

	Very 1	Moderately		Neither 5	Moderately		Very 9	
	2	3	4	6	7	8		
Unintelligent								Intelligent
Unanalytical								Analytical
Unreflective								Reflective
Unimaginative								Imaginative
Uncreative								Creative

	Very 1	Moderately		Neither 5	Moderately		Very 9	
	2	3	4	6	7	8		
Tense								Relaxed
Nervous								At ease
Unstable								Stable
Discontented								Contented
Emotional								Unemotional

The next exercise we want you to consider here is a decision-making task. This task is based on a classic economic game. Participants were given 10 units of experimental currency and told they must decide how much, if any, they wished to transfer to an anonymous second player (the second player was actually fictitious but participants did not find this out until later). Participants were informed that any currency they decided to transfer would be tripled before it was received by the second player, who would then have the opportunity to transfer back to them, if they so wished. Participants were instructed that the only way they could win the game was to finish with the most money out of all the other players in their position. Thus, the more experimental currency a participant decided to transfer, the greater the chance he/she stood of winning. In order to be successful in this task participants needed to be willing to risk transferring all (or most) of their initial experimental currency allowance and have trust that the individual they were playing with would be co-operative and willing to transfer (at least some) of the money back, so that ultimately they would finish with a greater amount of currency. Like most high risk/high potential reward decisions then, participants were required to behave somewhat carelessly and recklessly, putting trust in another individual in order to reap the potential rewards.

Below you will be presented with a series of paired adjectives that describe people's behaviour. Please read each pair of adjectives carefully and consider which point on the rating scale you feel would be best in order for someone to excel in the decision-making task described above. Please note that point 5 on the bipolar rating scale (labelled 'neither') represents a mid-point on the scale between the two extremes. If you do not think a particular trait is relevant to performance in this task then please **leave the row blank**.

	Very 1	Moderately 2	Neither 3	Neither 4	Neither 5	Moderately 6	Moderately 7	Very 8	Very 9	
Introverted										Extraverted
Silent										Talkative
Timid										Bold
Inactive										Active
Unassertive										Assertive

	Very 1	Moderately 2 3 4	Neither 5	Moderately 6 7 8	Very 9	
Unkind						Kind
Uncooperative						Cooperative
Selfish						Unselfish
Distrustful						Trustful
Stingy						Generous

	Very 1	Moderately 2 3 4	Neither 5	Moderately 6 7 8	Very 9	
Disorganised						Organised
Irresponsible						Responsible
Careless						Thorough
Lazy						Hardworking
Extravagant						Thrifty

	Very 1	Moderately 2 3 4	Neither 5	Moderately 6 7 8	Very 9	
Unintelligent						Intelligent
Unanalytical						Analytical
Unreflective						Reflective
Unimaginative						Imaginative
Uncreative						Creative

	Very 1	Moderately 2 3 4	Neither 5	Moderately 6 7 8	Very 9	
Tense						Relaxed
Nervous						At ease
Unstable						Stable
Discontented						Contented
Emotional						Unemotional

The final task we want you to consider is a group exercise that focuses on an individual's ability to persuade others. Participants were put into groups of 6 and instructed to write down the name of a person (fictional or otherwise) that they admired. During the next phase of the exercise participants were given a fictional scenario in which the people they had reported as admiring were all stuck on a desert island. Each participant was required to convince their fellow group members why the person *they* most admired was deserving of a place on a small lifeboat off the island. The maximum capacity of the lifeboat was 3, and

participants voted for whose argument they found most convincing (and thus who successfully won a place on the lifeboat) at the end of the task.

In order to be successful in this task participants needed to be persuasive and come up with creative and rational arguments. It was important that they were able to communicate their points well, but also that they were co-operative and respectful of other group members. Participants who came across as selfish or overly-dominant tended to be disliked by other participants and performed poorly as a result.

Below you will be presented with a series of paired adjectives that describe people's behaviour. Please read each pair of adjectives carefully and consider which point on the rating scale you feel would be best in order for someone to excel in the group exercise described above. Please note that point 5 on the bipolar rating scale (labelled 'neither') represents a mid-point on the scale between the two extremes. If you do not think a particular trait is relevant to performance in this task then please **leave the row blank**.

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Introverted										Extraverted
Silent										Talkative
Timid										Bold
Inactive										Active
Unassertive										Assertive

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Unkind										Kind
Uncooperative										Cooperative
Selfish										Unselfish
Distrustful										Trustful
Stingy										Generous

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Disorganised										Organised
Irresponsible										Responsible
Careless										Thorough
Lazy										Hardworking
Extravagant										Thrifty

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Unintelligent										Intelligent
Unanalytical										Analytical
Unreflective										Reflective
Unimaginative										Imaginative
Uncreative										Creative

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Tense										Relaxed
Nervous										At ease
Unstable										Stable
Discontented										Contented
Emotional										Unemotional

Appendix D

Study 2 Items Omitted from Adaptive Personality Regulation Measure

Items	Removed?	Reason for Removal
Presentation		
E1		
E2		
E3		
E4		
E5		
C1		
C2		
C3		
C4		
C5	✓	Relevance
O1		
O2		
O3		
O4	✓	Poor inter-rater agreement*
O5	✓	Poor inter-rater agreement*
N1		
N2		
N3		
N4		
N5		
Negotiation		
E1		
E2		
E3		
E4		
E5		
A1		
A2		
A3	✓	Poor inter-rater agreement*
A4		
A5		
C1		
C2		
C3		
C4		
C5		
O1	✓	Poor inter-rater agreement*
O2	✓	Poor inter-rater agreement*
O3	✓	Poor inter-rater agreement*
O4	✓	Poor inter-rater agreement*
O5	✓	Poor inter-rater agreement*
N1		
N2		
N3		
N4		
N5		
Proofreading		
E1	✓	Lack of observed variation*

	Items	Removed?	Reason for Removal
E2	Silent – Talkative	✓	Lack of observed variation*
E3	Timid – Bold	✓	Lack of observed variation*
E4	Inactive – Active	✓	Lack of observed variation*
E5	Unassertive – Assertive	✓	Relevance
C1	Disorganised – Organised	✓	Insufficient reliability of measurement
C2	Irresponsible – Responsible	✓	Insufficient reliability of measurement
C3	Careless – Thorough	✓	Insufficient reliability of measurement
C4	Lazy - Hardworking	✓	Insufficient reliability of measurement
C5	Extravagant – Thrifty	✓	Relevance
N1	Tense – Relaxed	✓	Insufficient reliability of measurement
N2	Nervous – At ease	✓	Insufficient reliability of measurement
N3	Unstable – Stable	✓	Insufficient reliability of measurement
N4	Discontented – Contented	✓	Insufficient reliability of measurement
N5	Emotional – Unemotional	✓	Insufficient reliability of measurement
Trust			
A1	Unkind – Kind		
A2	Uncooperative – Cooperative		
A3	Selfish – Unselfish		
A4	Distrustful – Trustful		
A5	Stingy – Generous		
C1	Disorganised – Organised	✓	Relevance
C2	Irresponsible – Responsible		
C3	Careless – Thorough		
C4	Lazy - Hardworking	✓	Relevance
C5	Extravagant – Thrifty		
O1	Unintelligent – Intelligent		
O2	Unanalytical – Analytical		
O3	Unreflective – Reflective		
O4	Unimaginative – Imaginative	✓	Relevance
O5	Uncreative – Creative	✓	Relevance
Group			
E1	Introverted – Extraverted		
E2	Silent – Talkative		
E3	Timid – Bold		
E4	Inactive – Active		
E5	Unassertive – Assertive		
A1	Unkind – Kind		
A2	Uncooperative – Cooperative		
A3	Selfish – Unselfish		
A4	Distrustful – Trustful	✓	Relevance
A5	Stingy – Generous		
C1	Disorganised – Organised		
C2	Irresponsible – Responsible	✓	Relevance
C3	Careless – Thorough		
C4	Lazy - Hardworking		
C5	Extravagant – Thrifty	✓	Relevance
O1	Unintelligent – Intelligent		
O2	Unanalytical – Analytical		
O3	Unreflective – Reflective		
O4	Unimaginative – Imaginative		
O5	Uncreative – Creative		
N1	Tense – Relaxed		
N2	Nervous – At ease		

	Items	Removed?	Reason for Removal
N3	Unstable – Stable		
N4	Discontented – Contented	✓	Relevance
N5	Emotional – Unemotional		

Note. *Items removed from observer-rated adaptive personality regulation scores only.

Appendix E

Study 2 Advertisement

Worried About Assessment Centres?

Many graduate employers now require candidates to attend an assessment centre as part of their selection process. This prospect can often be daunting, particularly if you have never attended an assessment centre before and are unsure of what to expect. People often report that the more assessment centres they attend, the easier they find them and the better they feel they perform.

Some exciting research that is taking place at Manchester Business School is offering you the chance to attend a mock assessment centre. The research is focused on finding ways that we can improve the predictive validity of selection tools and utilises **real assessment centre exercises**. Participants will also receive **personalised feedback**, as well as tips on how to improve performance in similar assessment centre exercises in the future.

Organisations offering mock assessment centre practice usually charge a considerable fee. However, both mock assessment centre attendance and personalised feedback will be offered to eligible UoM students for **free** for a limited time. Unfortunately places are limited and will be allocated on a strict **first-come first-served** basis. Sessions will be run on the following dates:

- Wednesday 18th November (10am-1pm)
- Friday 20th November (10am-1pm OR 2-5pm)
- Wednesday 25th November (10am-1pm)
- Friday 4th December (10am-1pm OR 2-5pm)

If you would like to register your interest in attending one of these sessions, or require further information, please e-mail abigail.phillips@postgrad.mbs.ac.uk quoting the date of the session you are interested in attending and the time slot (am or pm).

Appendix F

Study 2 Materials

Appendix F.1. – Online Questionnaire

Thank you for registering your interest in taking part in this research.

The aim of the project is to seek to identify novel indicators of Assessment Centre performance. To this end, the study has been designed to reflect the workings of an actual Assessment Centre as closely as possible. As a participant, you will not only have the opportunity to experience what an Assessment Centre is like, but you will also receive personalised feedback to help you improve your performance at Assessment Centres in the future.

It is common for graduate recruiters to ask candidates to complete on-line psychometric tests prior to attending an Assessment Centre. In some cases, you may be asked to re-take the tests at the Assessment Centre under strict test conditions. It is therefore important that you feel confident in tackling these tests, and do not try and rely on others for help.

Like the Assessment Centre itself, this questionnaire has been designed to reflect the types of psychometric questions you may be asked when applying for a graduate job. You should answer the questions alone, and be as honest and as open as possible if you want to gain the most from this experience.

This questionnaire should take no longer than **45 minutes** to complete and it is important that you are able to complete it in one sitting. If you do not have this amount of time available to you at the moment then please return and take the test later.

Please ensure that you are in a quiet place and that you will not be disturbed for the duration of this test before you begin. Once you have finished, you should send an e-mail to abigail.phillips@postgrad.mbs.ac.uk with your test completion code (which you will receive on completion of this questionnaire) to confirm your place at the Assessment Centre on the date you previously specified.

Please provide your name and student number

First name _____

Last name _____

Student number

Age

▼

Gender

Male

Female

Ethnic Origin

▼

What is your country of birth?

▼

Please indicate whether you are currently enrolled in an undergraduate or postgraduate degree programme

Undergraduate

Postgraduate

Please indicate whether or not English is your first language

Yes, English is my first language

No, English is not my first language

Cognitive Ability

The first section of this questionnaire is a cognitive ability test. Such tests are very common in graduate recruitment, but they will typically be personalised to the specific job that you are applying for.

In order to gain the most out of this exercise (and your subsequent feedback), you should answer the following questions yourself, without seeking help from others. If you are unsure of the answer to any particular question then just select your best guess and move on to the next question.

This section should take approximately **15 minutes** to complete.

What number is one fifth of one fourth of one ninth of 100?

- 2
- 3
- 4
- 5
- 6
- 7

Zach is taller than Matt and Richard is shorter than Zach. Which of the following statements would be most accurate?

- Richard is taller than Matt
- Richard is shorter than Matt
- Richard is as tall as Matt
- It's impossible to tell

Joshua is 12 years old and his sister is three times as old as he. When he is 23 years old, how old will his sister be?

- 35
- 39
- 44
- 47
- 53
- 57

If the day after tomorrow is two days before Thursday then what day is it today?

- Friday
- Monday
- Wednesday
- Saturday
- Tuesday
- Sunday

In the following alphanumeric series, what letter comes next?

K N P S U

- S
- T
- U
- V
- W
- X

In the following alphanumeric series, what letter comes next?

V Q M J H

- E
- F
- G
- H
- I
- J

In the following alphanumeric series, what letter comes next?

I J L O S

T

U

V

X

Y

Z

In the following alphanumeric series, what letter comes next?

Q S N P L

J

H

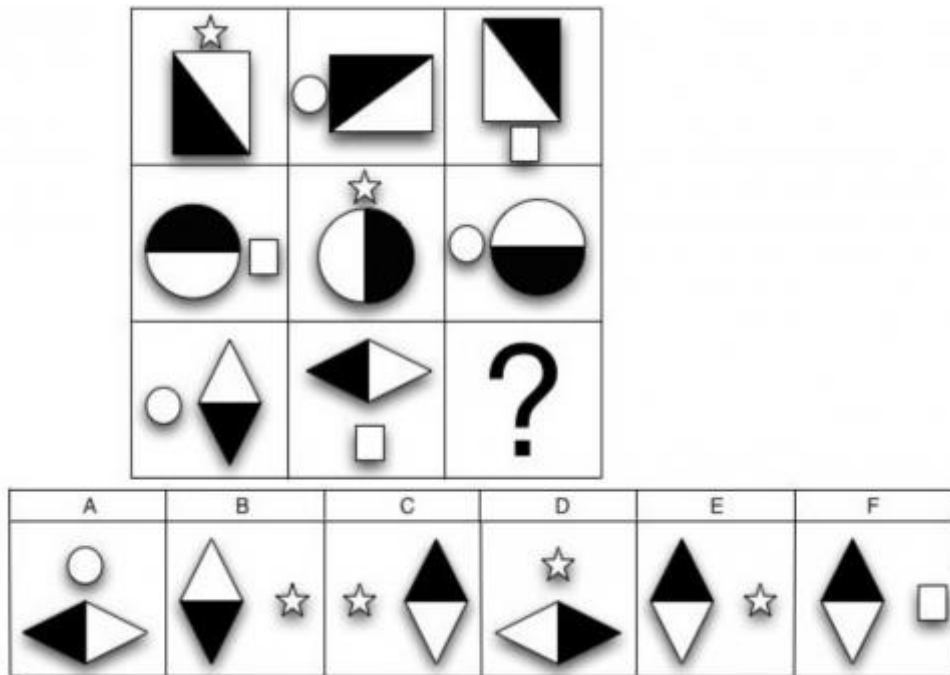
I

N

M

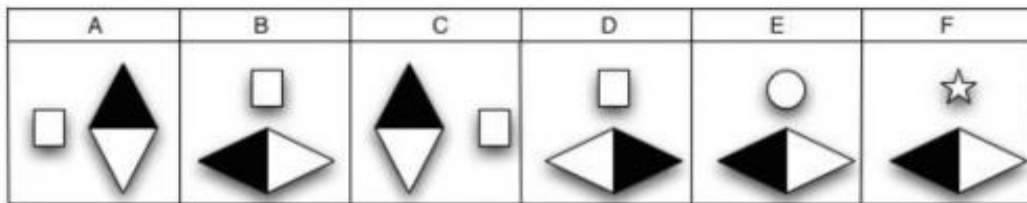
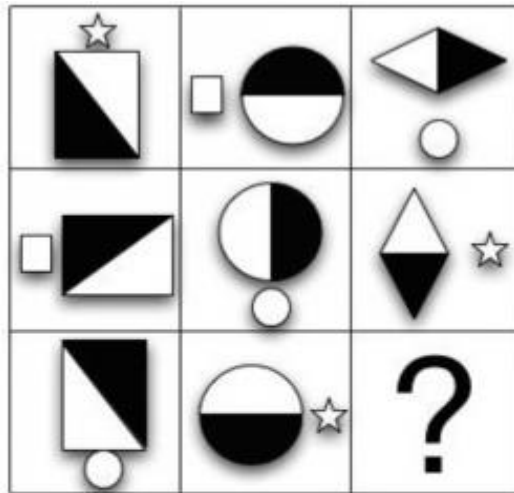
L

Please indicate which is the best answer to complete the figure below.



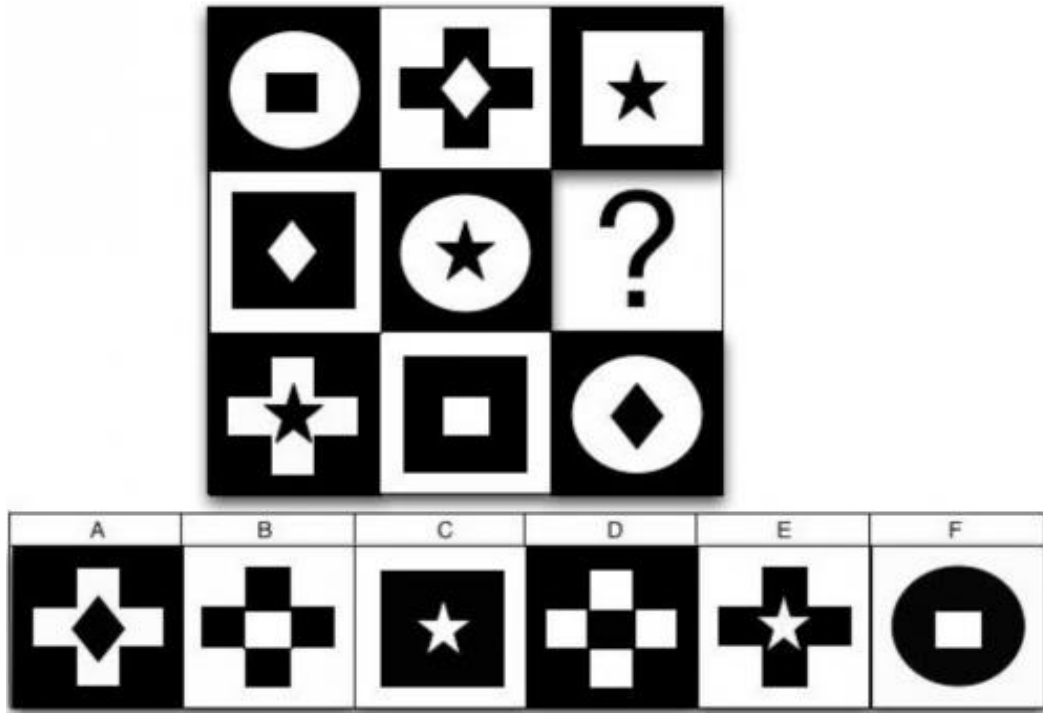
- A
- B
- C
- D
- E
- F

Please indicate which is the best answer to complete the figure below.



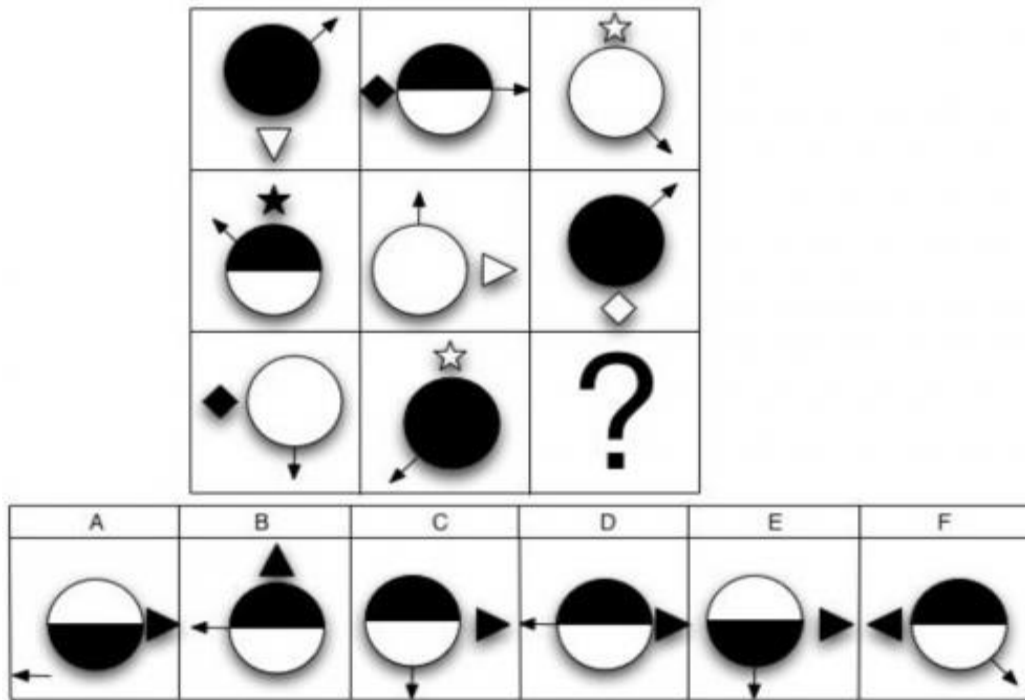
- A
- B
- C
- D
- E
- F

Please indicate which is the best answer to complete the figure below.



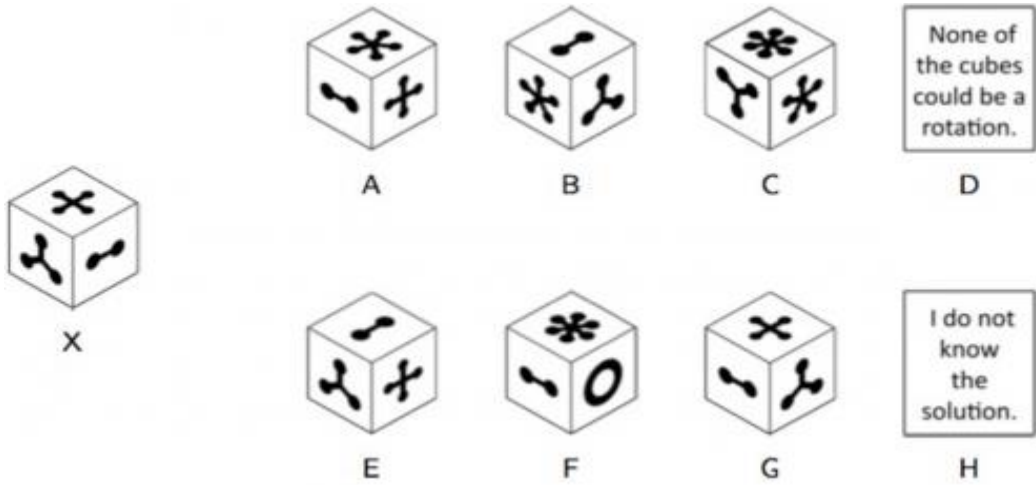
- A
- B
- C
- D
- E
- F

Please indicate which is the best answer to complete the figure below.



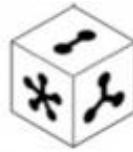
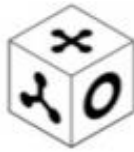
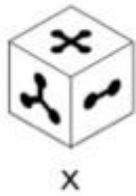
- A
- B
- C
- D
- E
- F

All the cubes below have a different image on each side. Select the choice that could represent a rotation of the cube labeled X.



- A
- B
- C
- D
- E
- F
- G
- H

All the cubes below have a different image on each side. Select the choice that could represent a rotation of the cube labeled X.



None of the cubes could be a rotation.

D

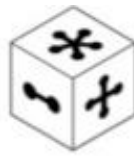
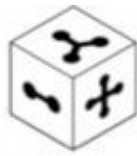
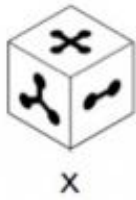


I do not know the solution.

H

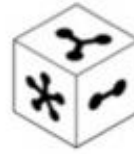
- A
- B
- C
- D
- E
- F
- G
- H

All the cubes below have a different image on each side. Select the choice that could represent a rotation of the cube labeled X.



None of the cubes could be a rotation.

D

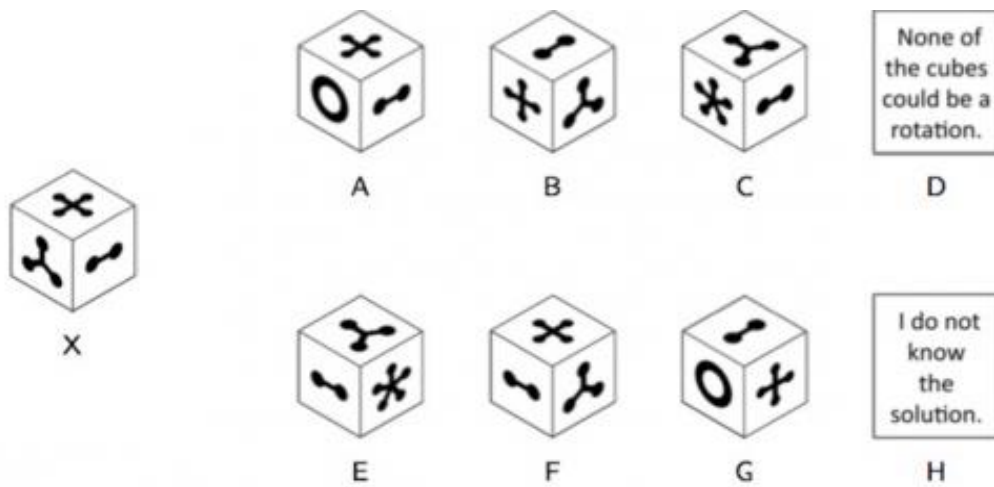


I do not know the solution.

H

- A
- B
- C
- D
- E
- F
- G
- H

All the cubes below have a different image on each side. Select the choice that could represent a rotation of the cube labelled X.



- A
- B
- C
- D
- E
- F
- G
- H

Personality

The following section aims to get a better understanding of your behavioural preferences. You should remember that there are no right or wrong answers here and different behavioural styles are valuable in different contexts. In order to gain the most value from this exercise (and your subsequent feedback), you should read each question carefully and answer as **honestly and openly** as you can.

This section should take approximately **10 minutes** to complete.

Below you will be presented with a series of paired words that describe people's behaviour. Please read each pair of words carefully and consider which point on the rating scale you feel best describes **yourself**.

Please be as **honest and accurate** as you can and describe yourself as you are, rather than how you wish to be seen. When thinking about how you typically behave you may wish to consider yourself in relation to other people you know of the same sex and a similar age.

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Introverted										Extraverted
Silent										Talkative
Timid										Bold
Inactive										Active
Unassertive										Assertive
	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Unkind										Kind
Uncooperative										Cooperative
Selfish										Unselfish
Distrustful										Trustful
Stingy										Generous
	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Disorganised										Organised
Irresponsible										Responsible
Careless										Thorough
Lazy										Hardworking
Extravagant										Thrifty
	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Unintelligent										Intelligent
Unanalytical										Analytical
Unreflective										Reflective
Unimaginative										Imaginative
Uncreative										Creative

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Tense										Relaxed
Nervous										At ease
Unstable										Stable
Discontented										Contented
Emotional										Unemotional

Self-Monitoring

You will shortly begin the final part of this questionnaire. You will be presented with a series of statements and should consider whether or not they are true of you.

This section should take approximately **5 minutes** to complete.

The statements below concern your personal reactions to a number of different situations. No two statements are exactly alike, so consider each statement carefully before answering. If a statement is TRUE or MOSTLY TRUE as applied to you, select the corresponding *True* box next to that statement. If a statement is FALSE or MOSTLY FALSE as applied to you, select the corresponding *False* box next to that statement.

It is important that you answer as **honestly and openly** as you can.

	True	False
I find it hard to imitate the behaviour of other people.	<input type="radio"/>	<input type="radio"/>
My behaviour is usually an expression of my true inner feelings, attitudes, and beliefs.	<input type="radio"/>	<input type="radio"/>
At parties and social gatherings, I do not attempt to do or say things that others will like.	<input type="radio"/>	<input type="radio"/>
I can only argue for ideas which I already believe.	<input type="radio"/>	<input type="radio"/>

- I can make impromptu speeches even on topics about which I have no information.
- I guess I put on a show to impress or entertain people.
- When I am uncertain how to act in a social situation, I look to the behaviour of others for cues.
- I would probably make a good actor.
- I rarely need the advice of my friends to choose movies, books, or music.
- I sometimes appear to others to be experiencing deeper emotions than I actually am.
- I laugh more when I watch a comedy with others than when alone.
- In a group of people I am rarely the centre of attention.
- In different situations and with different people, I often act like very different persons.
- I am not particularly good at making other people like me.
- Even if I am not enjoying myself, I often pretend to be having a good time.
- I'm not always the person I appear to be.
- I would not change my opinions (or the way I do things) in order to please someone else or win their favour.
- I have considered being an entertainer.
- In order to get along and be liked, I tend to be what people expect me to be rather than anything else.
- I have never been good at games like charades or improvisational acting.

I have trouble changing my
behaviour to suit different people
and different situations.

At a party I let others keep the
jokes and stories going.

I feel a bit awkward in company
and do not show up quite so well as
I should.

I can look anyone in the eye and
tell a lie with a straight face (if for
a right end).

I may deceive people by being
friendly when I really dislike them.

Thank you for completing this questionnaire. Your completion number is 0145.
Please e-mail this code to abigail.phillips@postgrad.mbs.ac.uk and your place at
the Assessment Centre of your choice will be confirmed.

Appendix F.2. – Participant Information Sheet

INFORMATION SHEET

You are being invited to take part in a research study exploring the importance of factors such as personality in influencing assessment centre performance. Before you decide if you wish to participate it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. wish to take part.

Who will conduct the research?

This research will be conducted by Abigail Phillips at the University of Manchester, UK.

What is the aim of the research?

The aim of this research is to explore the importance of various factors in predicting task performance across a range of different types of task, such as those typically encountered at an assessment centre.

Why have I been chosen?

Any student at the University of Manchester is eligible for participation in this study. You may have heard about this study through your lecturer, or the University Careers Service. Places for participation were allocated on a first-come first-served basis. There will be up to 23 other participants here with you today, but 168 individuals will participate in this research over the next month or so.

What would I be asked to do if I took part?

This research has been designed to reflect an assessment centre for graduate-level roles. Assessment centres are crucial elements of the selection process for many graduate jobs. If you choose to participate in this study you will gain some insight and experience into how an assessment centre works by taking part in a

series of assessment centre-style tasks. Although every assessment centre is unique – depending on the competencies that the employer is looking to assess – the nature of tasks at assessment centres are often similar. The exercises in this research will include both individual tasks, such as a short presentation, as well as tasks where you will be required to work with other people, both in pairs and larger groups.

While you undertake the tasks you may notice some members of the research team observing you, and perhaps taking some notes. You should not worry about this, and should try not to let it affect your performance. Observation is an integral aspect of any assessment centre and the experience today should enable you to feel more comfortable with the process should you ever have to attend a real assessment centre in the future.

What happens to the data collected?

Gathered data will be converted into electronic format where it will be used in a series of quantitative analyses to explore research questions relating to factors influencing task performance.

How is confidentiality maintained?

All data will be anonymised before being electronically stored. Data will be kept secure through password protection and only the primary researcher will have access. Data will not be kept longer than is strictly necessary.

What happens if I do not want to take part or if I change my mind?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time without giving a reason and without detriment to yourself.

Will I be paid for participating in the research?

Although there is no monetary compensation for participation in this research, you will gain some insight into the workings of a typical graduate assessment centre. This experience could prove invaluable to you in the future when applying for jobs after university. In addition, you will also receive personalised

feedback on your personality and performance, as well as some hints and tips for future success at assessment centres.

What is the duration of the research?

This research is comprised of one on-line questionnaire, plus one 3-hour practical session in which the mock assessment centre will be undertaken.

Will the outcomes of the research be published?

This research has been designed to form part of the primary researcher's PhD thesis. However, it is conceivable that the outcomes of this study could also form part of a separate paper that is later submitted to a journal for publication. In all cases, participant anonymity is guaranteed.

Contact for further information: abigail.phillips@postgrad.mbs.ac.uk

What if something goes wrong?

If you have any issues, or require any help or assistance during this study then please talk to the primary researcher, Abigail Phillips. Similarly, if you have any follow-up questions or issues you wish to raise later on, Abigail can be contacted using the information provided above.

If you wish to make a formal complain about the conduct of this research then you should contact the Head of the Research Office, Christie Building, University of Manchester, Oxford Road, Manchester, M13 9PL.

Appendix F.3. – Participant Consent Form

PARTICIPANT CONSENT FORM

If you are happy to participate, please complete and sign the consent form below.

1. I confirm that I have read the attached information sheet on the above project and have had the opportunity to consider the information and ask questions and had these answered satisfactorily.
2. I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason and without detriment to myself.
3. I confirm that I am happy for this researcher to have access to my University transcript.

I agree to take part in the above project.

Name of participant	Date	Signature
_____	_____	_____
Name of person taking consent	Date	Signature
_____	_____	_____

Please indicate on the scale below how motivated you feel to perform to the best of your ability at today's mock assessment centre:

<i>Not at all</i>								<i>Extremely</i>
<i>motivated</i>								<i>motivated</i>
1	2	3	4	5	6	7	8	9

Appendix F.4. – Presentation Task

Instructions

You will need to prepare a **5 minute talk** to give to a small group of other participants as part of the mock assessment centre. Being asked to present information to a group or speak publically is extremely common at assessment centres so exercise will be great practice.

You can speak about any topic that you wish but the aim is to ensure it is as **interesting** to your fellow participants as possible. For example, you may choose to talk about a book you have read recently, a great travel experience, a life lesson you have learnt, or something you have been taught on your degree programme recently.

The point is to prepare something that you can talk comfortably about for a total of 5 minutes that you believe others will find interesting. Please do NOT prepare a Powerpoint or other online presentation as there will not be resources available to accommodate this. However, you may use cue cards if you wish.

Appendix F.5. – Presentation Task Score Sheet

During this exercise you should rate the performance of each speaker by considering 4 different categories:

1. **Preparation** – *Consider how prepared the speaker appears. How heavily do they rely on a script? How is their time-keeping?*
2. **Structure** – *Consider how structured the presentation is. Is there a clearly defined beginning, main body, and conclusion?*
3. **Delivery** – *Consider the confidence with which the presenter speaks. Do they make eye contact with the audience? Are they easy to follow, speaking audibly and at an appropriate pace?*
4. **Content** – *Consider how interesting and engaging the presentation is. Has the speaker thought about their audience? Are they enthusiastic about what they have chosen to speak about?*

Please provide a rating between **1 and 10** for each participant in each of the 4 categories, where 10 is excellent and you feel there is nothing that could be improved, and 1 is extremely poor.

You should consider this as a learning exercise that will help you in improving your own presentation performance in the future. Considering the strengths and weaknesses of other people's presentation style will help you focus on ways you can work on improving your own.

	Preparation	Structure	Delivery	Content
Speaker 1				
Speaker 2				
Speaker 3				
Speaker 4				
Speaker 5				
Speaker 6				
Speaker 7				
Speaker 8				

Appendix F.6. – Negotiation Task

Instructions

This is a role-play exercise. Role-playing is commonplace at many Assessment Centres as it gives the assessors an opportunity to observe things like your interpersonal and verbal communication skills.

For this negotiation role-play you have been paired with another participant. In this fictitious scenario, you each represent the interests of two independent steel manufacturing companies.

The instructions below will provide you with more information about your specific role in this exercise. Note that both you and your partner have been randomly allocated to these roles.

Buyer Instructions [DOME]:

You work for a steel-manufacturing organisation. Due to unforeseen circumstances, this month you are facing a production shortfall. Failing to rectify this and fulfil placed orders could prove damaging for your organisation, especially if clients decide to take their business elsewhere as a result.

You have heard that another steel manufacturing company, EMPIRE has an excess of steel this month, and may be interested in selling you enough units to make up for your shortfall on a one-time basis.

You have been asked to negotiate a price (per unit) with EMPIRE on behalf of your organisation. It is in both of your interests to come to an agreement. If you buy the steel at more than £35 per unit then you will make £0 profit. You should seek to achieve the best possible price per unit to maximise your company's profits.

You have 8 minutes to complete this exercise.

Seller Instructions [EMPIRE]:

You work for a steel-manufacturing organisation. Due to unforeseen circumstances, this month you have been left with a substantial number of excess units. Your company does not have enough space to store the excess steel until next month and doing this elsewhere is very expensive. It is therefore in the best interests of your organisation to try and sell the excess steel units to another buyer.

You have heard that another steel manufacturing company, DOME is facing a production shortfall this month and may be interested in buying your excess units on a one-time basis.

You have been asked to negotiate a price (per unit) with DOME on behalf of your organisation. It is in both of your interests to come to an agreement. If you sell the steel for less than £10 per unit then you will make £0 profit. You should negotiate with DOME to achieve the best possible price per unit in order to maximise your company's profit.

You have 8 minutes to complete this exercise.

Appendix F.7. – Proofreading Task

Instructions

In any form of writing, it is easy for errors to occur. The ability to accurately check written material, whether it be one's own work or that of someone else, is valuable to organisations and is a skill relevant to many different job roles.

In this simple proof-reading exercise, you are required to read the passage of text presented on the following pages and identify any errors that you find. These may include spelling errors, punctuation errors, and typographical errors such as word omissions and double words. You should not attempt to correct the errors that you find, simply circle the error and move on.

This is a timed exercise. You will have a total of 10 minutes to identify as many errors in the passage of text as you can. You should aim to work as quickly and accurately as possible.

Please do not turn over until you are instructed to do so.

Name:

Text

‘Curiouser and curiouser!’ cried Alice (she was so surprised, that for the moment she quite forgot how to speak good english); ‘now I’m opening out like like the largest telescope that ever was! Goodbye, feet!’ (for when she looked down at her feet, they seemed to be almost out sight, they were getting so far off). ‘Oh, my poor little feet, I wonder who will put on your shoes and stockings for you now, dears? I’m sure *I* shan’t be able! I shall be a great deal too far off trouble myself about you: you must manange the best way you can; - but I must be kind to them,’ thought Alice, ‘or perhaps they won’t walk the way I want to go! Let me see: I’ll give them a new pair of boots every Christmas-’

And she went on planning to herself how she would manage it. ‘They must go by the carrier,she thought; ‘ and how funny it’ll seem, sending present to one’s own feet! And how odd the directions will look!

Oh dear, what nonsense I'm talking!

Just then her head struck against the the roof of the hall: in fact she was now more than nine feet high, and she at once took up little golden key and hurried off to the garden door.

Poor Alice It was as much as she could do, lying down on one side to look through into the garden with one eye; but to get through was more hopeless than than ever: she sat down and began to cry again.

'You ought to be ashamed of yourself,' said Alice, 'a great girl like you,(she might well say this), 'to go on crying in this way! Stop this moment, I tell you!' But she went on all the same, shedding gallons of tears, until there was a large pool all round her, about four inches deep and reaching halve down the hall.

After a time she heard a little pattering of feet in the distance, and she hastily dried her eyes to see what was coming. It was the White Rabbit returning, splendidly dressed, with pair of white kid gloves in one hand and a large fan in the other: he came trotting along in a great hurry, muttering to himself as he came, 'Oh! The Duchess, the Duchess! Oh! *Won't* she be savage if I've kept waiting!'

Alice felt so desperate that was ready to ask help of any one; so, when the Rabbit came near her, she began, in a low, timid voice, 'If you please, sir -'. The Rabbit started violently, dropped the the white kid gloves and the fan, and scurried away into the darkness as hard as he could go-

Alice took up the fan and gloves, and, as the hall was very hot, she kept fanning herself all the time she went on talking: 'Dear, dear! How queer everything is today! And yesterday things went on just as usual. I wonder if I've been changed in the night? Let me think: *was* I the same when I got up this morning. I almost think I can remember feeling a little different. But if I'm not the the same, the question is, who in the world am I? Ah, *that's* a great puzzle!' And she began thinking over all the children she knew that were of the same age as herself, to see if she could have been changed for any of.

'I'm sure I'm not Ada,' she said, 'for her hair goes in such long ringlets, and mine doesn't go in ringlets at all; and I'm sure I can't be Mabel, for I know all sorts of things, and she, oh! She knows such a very little! Besides, *she's* she, and

I'm I, and – oh dear, how puzzling it all is! I'll try if I know all the things I used to know. Let me see: four times five is twelve, and four times six is thirteen, and four times seven is – oh dear! I shall never get to twenty at rate! However, the Multiplication Table doesn't signify: let's try Geography. London is the capital of Paris, and Paris is the the capital of Rome, and Rome – no, *that's* all wrong, Im certain! I must have been changed for mabel! I'll try and say "*How doth the little –*" and she crossed her hands on her as if she were saying lessons, and began repeat it, but her voice sounded horse and strange, and the words did not not come the same as they used to do: -

'How doth the little crocodile

Improve his shinning tail,

And pour the waters of the Nile

On every golden scale!

How cheerfully he seems to grin,

How neatly spread his claws,

And welcome little fishes in

With gently smiling jaws!'

'I'm sure those aren't the right words, said poor Alice, and her eyes filled with tears again as she went on, 'I must be Mabel after all, and I shall have to go and live in that pokey little house, and have next to toys to play with, and oh! Ever so many lessons to learn! No, I've made up my mind about it; if I'm Mabel, I'll stay down here! It'll be no use their putting their heads down and saying "Come up again, dear!" I shall only look up and say "Who I then? Tell me that first, and then, if I like being that person, I'll come up: if not, I'll stay down here till I'm somebody else" – but, oh dear!' cried Alice, with a sudden burst of tears, 'I do wish they *would* put their heads down! I am so *very* tired of being all alone here!'

As she said this she looked down at her hands, and was surprised to see that she had put on of the Rabbit's little white kid gloves while she was talking. 'How *can* I have done that' she thought. 'I must be growing small again.' She got up and went to the table to measure herself by it, and found that, as nearly as she

could guess, she was now about feet high, and she was going on shrinking rapidly: she soon found out that the cause of this was the fan she holding, and she dropped it hastily, just in time to avoid shrinking away altogether.

‘That *was* a narrow escape!’ said Alice, a good deal frightened at the sudden change, but very glad to find herself still in existence; ‘and now for the garden!’ and she ran with all speed back to the little door: but alas! The little door was shut again, and the little golden key was lying on the glass table as before, ‘and things are worse than ever,’ thought the poor child, ‘for I never was so small as this before, never! And I declare it’s too bad, that it is!’²

As she said these words her foot slipped, and in another moment, splash! She was up to her chin in salt water. Her first idea was that she had somehow fallen into the sea, ‘and in that case I can go back by railway,’ she said to herself. (Alice had been to the seaside once in her life, and had come to the general conclusion, that wherever you go to on the English coast you find a number of bathing machines in the sea, some children digging in the sand with wooden spades, then a row of lodging houses, and behind them a railway station.) However, she soon made out that she was in the pool of tears which she had wept when she was nine high.

‘I wish I hadn’t cried so much!’ said Alice, as she swam about, trying to find her way out. ‘I shall be punished for now, I suppose, by being drowned in my own tears! That *will* be a queer thing, to be sure! However, everything is queer today.’

Just then she heard something splashing about in the pool a little off, and she swam nearer to make out what it was: at first she thought it must be a walrus or hippopotamus, but then she remembered how small she was now, and she soon made out that it was only a mouse that had slipped in like herself.

‘Would it be of any use, now,’ thought Alice, ‘to speak to this mouse? Everything is so out-of-the-way down here, that I should think very likely it can talk: at any rate, there’s no harm in trying.’ So she began: ‘O Mouse, do you know the way out of this pool? I’m very tired of swimming about here, O Mouse!’ (Alice thought this must be the right way of speaking to a mouse: she had never done such a thing before, but she remembered having seen in her brother’s Latin Grammar, ‘A mouse – of a mouse – to a mouse – a mouse – O mouse!’) The

Mouse looked at rather inquisitively, and seemed to her to wink with one of its little eyes, but it said nothing:

‘Perhaps it doesn’t understand English,’ thought Alice; ‘I daresay it’s a french mouse, come over with William the Conqueror.’ (For, with all her knowledge of history, Alice had no very clear notion how long ago anything had happened.) So she began again: ‘*Ou est ma chatte?*’ which was first sentence in her French lesson-book. The Mouse gave a sudden leap out of the water, and seemed to quiver all over with fright. ‘Oh, I beg your pardon!’ cried Alice hastily, afraid that she had hurt the poor animal’s feelings. ‘I quite forgot you didn’t like cats.’

‘Not like cats!’ cried the Mouse, in a shrill, passionate voice. ‘Would *you* like cats if you were me?’

‘Well, perhaps not,’ said Alice in a soothing tone: ‘don’t be angry about it. And yet I wish I could show you our cat Dinah: I think you’d take a fancy to cats if you could only see her. She is such a dear quiet thing,’ Alice went on, half herself, as she swam lazily about in the pool, ‘and she sits purring so nicely by the fire, licking her paws and washing her face – and she is such a nice soft thing to nurse – and she’s such a capital one for catching mice – oh, I beg your pardon!’ cried Alice again, for this time the Mouse was bristling all over, and she felt certain it must be really offended. ‘We won’t talk about her any more if you’d rather not.’

‘We indeed!’ cried the Mouse, who was trembling down to the end of his tail. ‘As if I would talk on such a subject! Our family always *hated* cats: nasty, low, vulgar things! Don’t let me hear the name again!’

‘I won’t indeed!’ said Alice, in a great hurry to change the subject of conversation. ‘Are you – are you fond – of – of dogs?’ The Mouse did not answer, so Alice went on eagerly: ‘There is such a nice little dog in our house I should like to show you! A bright-eyed terrier, you know, with oh, such long curly brown hair! And it’ll fetch things when you throw them, and it’ll sit up and wait for its dinner and all sorts of things – I can’t remember half of them – and it belongs to a farmer, you know, and he says it’s so useful, it’s worth a hundred pounds! He says it kills all the rats and – oh dear!’ cried Alice in a sorrowful tone, ‘I’m afraid

I've offended it again!' For the Mouse was swimming away from her as hard as it could go and making quite a commotion in the pool as it went.

So she called softly after it, 'Mouse dear!' Do come back again, and we won't talk about cats or dogs either, if you don't like them!' When the Mouse heard this, it turned round and swam slowly back to her: its face was quite pale (with passion, Alice thought), and it said in a low trembling voice; 'Let us get to the shore, and then I'll tell you my history, and you'll understand why it is I hate cats and dogs.'

It was high time to go, for the pool was getting quite crowded with birds and animals that had fallen into it: there were a Duck and a Dodo, a Lory and an Eaglet, and several other curious creatures. Alice led the way, and the whole party swam to shore.

They were indeed a queer-looking party that assembled on bank – the birds with dragged feathers, the animals with their fur fur clinging close to them, and all dripping wet, cross, and uncomfortable.

The first question of course was, how to get dry again: they had a consultation about this, and after a few minutes it seemed quite natural to Alice to find herself talking familiarly with them, as if she had known them all her life. Indeed, she had quite a long argument with the Lory, who at last turned sulky, and would only say, I am older than you, and must better'; and this Alice would not allow without knowing how old it was, and, as the Lory positively refused to tell its age, there was no more to be said.

At last the Mouse, who seemed to be a person of authority among them, called out, 'Sit down, all of you, and listen to me! I'll soon make you dry enough!' They all sat down at once, in a large ring, with the Mouse in the middle. Alice kept her eyes anxiously fixed on it, for she felt sure she would catch a bad cold if she did not get dry very soon.

'Ahem!' said the Mouse with an important air, 'are you all ready? This is the driest thing I know. Silence all round, if you please! "William the Conqueror, whose cause was favoured by the pope, was soon submitted to by the English, who wanted leaders, and had been of late much accustomed to usurpation and conquest. Edwin and Morcar, the earls of Mercia and Northumbria

– “

‘Ugh!’ said the Lory, with a shiver.

‘I beg your pardon!’ said the Mouse, frowning, but very politely: ‘Did you speak?’

‘Not I!’ said the Lory hastily.

‘I thought you did,’ said the Mouse. ‘- I proceed. “Edwin and Morcar, the earls of Mercia and Northumbria, declared for Him: and even Stigand, the patriotic archbishop of canterbury, found it advisable – “’

‘Found *what?*’ said the Duck.

‘Found *it,*’ the Mouse replied rather crossly: ‘of course you know what “it” means.’

‘I know what “it” means well enough, when *I* find a thing,’ the Duck: ‘it’s generally a frog or a worm. The question is, what did the archbishop find?’

The Mouse didnot notice this question, but hurriedly went on, “’ – found it advisable to go with Edgar Atheling to meet William and offer him the crown. William’s conduct at first was modarate. But the insolence of his Normans –“ How are you getting onnow, my dear?’ it continued, turning to Alice as it it spoke.

‘As wet as ever,’ said alice in a melancholy tone: ‘it doesn’t seem to dry me at all.’

‘In that case,’ said the Dodo solemnly, rising to its feet, ‘I move that the meeting adjourn, for the immediate adoption of more energetic remedies –‘

‘Speak English!’ said the the Eaglet. ‘I don’t know the meaning of half those long words, and, what’s more, I don’t believe you do either!’ And the Eaglet bent down its head to hide a a smile: some of theother birds tittered audibly.

‘What I was going to say,’ said the Dodo in offended tone, ‘was, that the best thing to get us dry would be a Caucus-race.’

‘What *is* a Caucus-race?’ said said Alice; not that she wanted to know, but the Dodo had paused as if thought that *somebody* ought to speak, and no one else seemed inclind to say anything.

‘Why,’ said the the Dodo, ‘the best way to explain it is to do it.’ (And, as you might like to try the thing yourself, some winter day, I will tell you how the Dodo managed it.)

First it marked out a race-course, in a sort of circle, (‘the exact shape doesn’t matter,’ it said,) and then all party were placed along the course, here and there. There was no ‘One, two, three, and away,’ but they began running when they liked, and left off when they liked, so that it was not easy to know when the race was over. However, when they had been running half an hour or so, and were quite dry again, the Dodo suddenly called out ‘The race is over!’ and they all crowded round it, panting, and asking, ‘But who has won?’

This question the Dodo could now answer without a great deal of thought, and it sat for a long time with one finger pressed upon its forehead (the position in which you usually see Shakespeare, in the pictures of him), while the rest waited in silence. At last the Dodo said, ‘*everybody* has won, and *all* must have prizes.’

‘But who is to give the prizes?’ quite a chorus of voices asked.

‘Why, *she*, of course,’ said the Dodo, pointing to Alice with one finger and the whole party at once crowded round her, calling out in a confused way, ‘Prizes! Prizes!’

Alice had no idea what to do, and in despair she put her hand in her pocket, and pulled out a box of comfits, (luckily the salt water had not got into it), and handed them round as prizes. There was exactly one a-piece all round.

‘But she must have a prize herself, you know,’ the Mouse.

‘Of course,’ the Dodo replied very gravely. ‘What else have you got in your pocket?’ he went on, turning to Alice.

‘Only a thimble,’ said Alice sadly.

‘Hand it over here,’ said the the Dodo.

Then they all crowded round her once more, while the Dodo solemnly presented the thimble, saying ‘We beg your acceptance of this elegant thimble’; and, when it had finished this short speech, they all cheered.

Alice thought the whole thing very absurd, but they all looked so grave that she did not dare to laugh; and, as she could not think of anything to say, she simply bowed, and took the thimble, looking as solemn as she could.

The next thing was to eat the comfits: this caused some noise and and confusion, as the large complained that they could not taste theirs, and the small choked and had to be patted on the back. However, it was over at last, and they sat down again in ring, and begged the Mouse to tell them something more.

‘You promised to tell me your history, you know,’ said said Alice, ‘and why it is you hate – C and D,’ she added in a whisper, half afraid that it would be ofended again.

‘Mine is a long and a sad tale!’ said the Mouse, turning to alice, and sighing.

Appendix F.8. – Trust Task

Instructions

This exercise examines your decision-making style. The task will require you to interact with another participant. You have been randomly assigned a partner from the other people present today. However, you and your partner will not be informed of each other's identity and will remain anonymous to each other throughout the duration of this task.

In each pair, one member has been assigned to be "Player 1", and the other, "Player 2". You will find out which role has been assigned to you shortly.

You are not permitted to talk or communicate with anyone for the duration of this task.

You will have **10 minutes** to complete this exercise.

Name:

YOU ARE PLAYER 1

You have been assigned the role of Player 1. Your goal in this task is to finish with more units of experimental currency than any of the other Player 1 participants.

You have been assigned 10 units of experimental currency. You must choose how many units you wish to transfer to Player 2. You may transfer all of your units, none of your units, or any number in between but individual units cannot themselves be divided (i.e. you can only transfer units in whole numbers: 1-10). Your transfer will be tripled before Player 2 receives it. Player 2 will then decide how much he/she wants to transfer back to you. For example, if you decide to transfer 3 units of experimental currency to Player 2, he/she will receive 9 units of experimental currency. Player 2 will then decide how much of this, if any they wish to transfer back to you.

Your total amount of experimental currency will be calculated by adding any units you may have left over from your original 10 units, with any currency that is transferred back to you from Player 2. Both you and Player 2 reserve the right to choose to transfer 0 units of experimental currency.

Please state how many units of experimental currency you wish to transfer to Player 2: _____

Please write a paragraph in the box below explaining your thought processes in coming to this decision, and justifying your reasons for doing so. Continue onto the following page if necessary.

Appendix F.9. – Group Task

Instructions

You will be now be participating in a group exercise. To begin this session, as an icebreaker, each participant should stand up and give the name of the person they admire most, or someone they admire greatly.

For this exercise you must adopt the persona of the individual that you previously stated that you most admire.

Imagine that you are all stranded on a deserted island. You all wish to escape the island but there is only one lifeboat. This lifeboat only has the capacity to take 3 people or else it will sink.

Each of you should try and convince your fellow group members of the importance of your chosen person's place on the lifeboat. For example, if you previously stated that the person you most admire is Britney Spears, it will be your job to convince your fellow group members that Britney Spears is most worthy of an opportunity to escape the desert island.

You will have 10 minutes to complete this exercise. On the paper provided, you should each list group members in order of who believe is most (to least) deserving of a place on the lifeboat. Please note the names of each participant's adopted persona in parentheses next to their name on this ordered list.

Your name:

The name of the person you admire most:

Please rank your group members according to who you think is most deserving of a place on the life raft:

- | | | |
|----|----|----|
| 1. | 4. | 7. |
| 2. | 5. | 8. |
| 3. | 6. | 9. |

Appendix F.10. – Observer-Ratings Personality States

Name: _____ Task: _____

Please consider the target's behaviour in this task and fill in the rating scale below. Answer as honestly and as openly as you can. If you think that any of the behaviours are not relevant in the task performed then please leave the corresponding row blank. However, you should do your best to make a judgement in every case.

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Introverted										Extraverted
Silent										Talkative
Timid										Bold
Inactive										Active
Unassertive										Assertive
	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Unkind										Kind
Uncooperative										Cooperative
Selfish										Unselfish
Distrustful										Trustful
Stingy										Generous
	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Disorganised										Organised
Irresponsible										Responsible
Careless										Thorough
Lazy										Hardworking
Extravagant										Thrifty
	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Unintelligent										Intelligent
Unanalytical										Analytical
Unreflective										Reflective
Unimaginative										Imaginative
Uncreative										Creative

	Very	Moderately		Neither	Moderately		Very		
	1	2	3	4	5	6	7	8	9
Tense									Relaxed
Nervous									At ease
Unstable									Stable
Discontented									Contented
Emotional									Unemotional

Appendix F.11. – Self-Ratings Personality States

Name: _____ Task: _____

Please consider your behaviour in the task you have just completed and fill in the rating scale below. Answer as honestly and as openly as you can. If you think that any of the behaviours are not relevant to your behaviour in the task you just performed then please leave the corresponding row blank. However, you should do your best to make a judgement in every case.

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Introverted										Extraverted
Silent										Talkative
Timid										Bold
Inactive										Active
Unassertive										Assertive
	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Unkind										Kind
Uncooperative										Cooperative
Selfish										Unselfish
Distrustful										Trustful
Stingy										Generous
	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Disorganised										Organised
Irresponsible										Responsible
Careless										Thorough
Lazy										Hardworking
Extravagant										Thrifty
	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Unintelligent										Intelligent
Unanalytical										Analytical
Unreflective										Reflective
Unimaginative										Imaginative
Uncreative										Creative

	Very 1	Moderately 2		Moderately 3	Neither 4	5	Moderately 6		Moderately 7	Very 8	9	
Tense												Relaxed
Nervous												At ease
Unstable												Stable
Discontented												Contented
Emotional												Unemotional

Appendix G

Study 3 Expert Rating Questionnaire

Thank you for agreeing to participate in this research. The current project is part of a doctoral research project within Alliance Manchester Business School that seeks to explore the concept of adaptive personality regulation and its relationship with performance.

You were invited to participate due to your background in Psychology and understanding of personality and individual differences. You will be presented with descriptions of two variants of a public speaking task. Your role is to read each task description carefully and provide personality ratings to illustrate the personality profiles you would expect to be most closely aligned with success in each variant of the task.

This questionnaire should not take longer than **5 minutes** to complete. You are not obliged to answer any question you do not wish to answer, and are free to withdraw your participation at any time.

- I agree to participate in the current research

Age

Gender

- Male
 Female

Ethnic Origin

What country do you currently live in?

What is your highest level of education?



What is your current job title?

Below are descriptions of two variants of a public speaking exercise that participants at a mock assessment centre were asked to undertake. About 1 week prior to their attendance at the mock assessment centre participants were provided with a current affairs topic and asked to familiarise themselves with this topic to the extent that they were able to speak comfortably about it for 5 minutes.

In the first variation of the public speaking exercise participants were asked to give a free speech in front of a group of fellow students on their provided topic with the aim of being perceived as **likeable** by their audience.

Participants were marked on their presentation and time-keeping skills, as well as the extent to which they came across as likeable.

Please read each pair of adjectives presented below carefully and consider which point on the rating scale you feel would be best in order for someone to excel in the presentation task described above.

Please note that point 5 on the bipolar rating scale (labelled 'neither') represents a mid-point on the scale between the two extremes. If you do not think a particular trait is relevant to performance in this task then please **leave the row blank**. For example, you may not think a person's extravagance/thriftiness is relevant to their performance in a presentation task. If this is the case, please leave the row corresponding to extravagance/thriftiness blank.

	Very 1	Moderately 2 3 4	Neither 5	Moderately 6 7 8	Very 9	
Introverted						Extraverted
Silent						Talkative
Timid						Bold
Inactive						Active
Unassertive						Assertive
	Very 1	Moderately 2 3 4	Neither 5	Moderately 6 7 8	Very 9	
Unkind						Kind
Uncooperative						Cooperative
Selfish						Unselfish
Distrustful						Trustful
Stingy						Generous
	Very 1	Moderately 2 3 4	Neither 5	Moderately 6 7 8	Very 9	
Disorganised						Organised
Irresponsible						Responsible
Careless						Thorough
Lazy						Hardworking
Extravagant						Thrifty
	Very 1	Moderately 2 3 4	Neither 5	Moderately 6 7 8	Very 9	
Unintelligent						Intelligent
Unanalytical						Analytical
Unreflective						Reflective
Unimaginative						Imaginative
Uncreative						Creative
	Very 1	Moderately 2 3 4	Neither 5	Moderately 6 7 8	Very 9	
Tense						Relaxed
Nervous						At ease
Unstable						Stable
Discontented						Contented
Emotional						Unemotional

In the second variation of the public speaking exercise participants were asked to give a free speech in front of a group of fellow students on their provided topic with the aim of being perceived as **strongly opinionated** by their audience.
above. about.

Participants were marked on their presentation and time-keeping skills, as well as the extent to which they came across as having a strong opinion on the topic they were speaking about.

Please read each pair of adjectives presented below carefully and consider which point on the rating scale you feel would be best in order for someone to excel in the task described above.

Please note that point 5 on the bipolar rating scale (labelled 'neither') represents a mid-point on the scale between the two extremes. If you do not think a particular trait is relevant to performance in this task then please **leave the row blank**.

	Very 1	Moderately 2 3 4		Neither 5	Moderately 6 7 8		Very 9	
Introverted								Extraverted
Silent								Talkative
Timid								Bold
Inactive								Active
Unassertive								Assertive

	Very 1	Moderately 2 3 4		Neither 5	Moderately 6 7 8		Very 9	
Unkind								Kind
Uncooperative								Cooperative
Selfish								Unselfish
Distrustful								Trustful
Stingy								Generous

	Very 1	Moderately 2 3 4		Neither 5	Moderately 6 7 8		Very 9	
Disorganised								Organised
Irresponsible								Responsible
Careless								Thorough
Lazy								Hardworking
Extravagant								Thrifty

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Unintelligent										Intelligent
Unanalytical										Analytical
Unreflective										Reflective
Unimaginative										Imaginative
Uncreative										Creative

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Tense										Relaxed
Nervous										At ease
Unstable										Stable
Discontented										Contented
Emotional										Unemotional

Appendix H

Study 3 Advertisement

Worried About Assessment Centres?

The majority of graduate employers require candidates to attend an assessment centre as part of their selection process. This prospect can often be daunting, particularly if you have never attended an assessment centre before and are unsure of what to expect. People often report that the more assessment centres they attend, the easier they find them and the better they feel they perform.

Some exciting research that is taking place at Manchester Business School is offering you the chance to attend a mock assessment centre. The research is focused on finding ways that we can improve the predictive validity of selection tools and draws on real assessment centre exercises to assess competencies commonly evaluated at assessment centres.

Participants will receive £10 as compensation for their time, as well as personalised feedback on their performance and tips on how performance can be improved on similar exercises in the future.

Places are limited and will be allocated on a strict first-come first-served basis.

Sessions will be run on the following dates:

15th March (2-3:30pm)

24th March (2-3:30pm)

16th March (2-3:30pm)

30th March (11:30am-1pm OR 2-3:30pm)

22nd March (1:30-3pm OR 3:30-5pm)

31st March (11:30am-1pm OR 2-3:30pm)

23rd March (11:30am-1pm OR 2-3:30pm)

If you would like to register your interest in attending one of these sessions, or require further information, please e-mail abigail.phillips@postgrad.mbs.ac.uk quoting the date of the session you are interested in attending and the time slot.

Appendix I

Study 3 Additional Task Materials

Appendix I.1. – Online Questionnaire

Thank you for registering your interest in taking part in this research.

The aim of the project is to identify novel indicators of Assessment Centre performance. To this end, the study has been designed to reflect the workings of an actual Assessment Centre as closely as possible. As a participant, you will not only have the opportunity to experience what an Assessment Centre is like, but you will also receive personalised feedback to help you improve your performance at Assessment Centres in the future.

It is common for graduate recruiters to ask candidates to complete online psychometric tests prior to attending an Assessment Centre. In some cases, you may be asked to re-take the tests at the Assessment Centre under strict test conditions. It is therefore important that you feel confident in tackling these tests, and do not try and rely on others for help.

This questionnaire should take no longer than 15 minutes to complete. You should answer the questions alone, and be as honest and as open as possible if you want to gain the most from this experience.

Please ensure that you are in a quiet place and that you will not be disturbed for the duration of this test before you begin. Once you have finished, you should send an e-mail to abigail.phillips@postgrad.mbs.ac.uk with your test completion code (which you will receive on completion of this questionnaire) to confirm your place at the mock Assessment Centre.

Please provide your name and student number

First name _____

Last name _____

Student number

Age

Gender

Male

Female

Ethnic Origin

What is your country of birth?

Please indicate whether you are currently enrolled in an undergraduate or postgraduate degree programme

Undergraduate

Postgraduate

Please indicate whether or not English is your first language

Yes, English is my first language

No, English is not my first language

Personality

The following section aims to get a better understanding of your behavioural preferences. You should remember that there are no right or wrong answers here and different behavioural styles are valuable in different contexts. In order to gain the most value from this exercise (and your subsequent feedback), you should read each question carefully and answer as **honestly and openly** as you can.

This section should take approximately **10 minutes** to complete.

Below you will be presented with a series of paired words that describe people's behaviour. Please read each pair of words carefully and consider which point on the rating scale you feel best describes **yourself**.

Please be as **honest and accurate** as you can and describe yourself as you are, rather than how you wish to be seen. When thinking about how you typically behave you may wish to consider yourself in relation to other people you know of the same sex and a similar age.

	Very	Moderately	Neither	Moderately	Very					
	1	2	3	4	5	6	7	8	9	
Introverted										Extraverted
Silent										Talkative
Timid										Bold
Inactive										Active
Unassertive										Assertive

	Very	Moderately	Neither	Moderately	Very					
	1	2	3	4	5	6	7	8	9	
Unkind										Kind
Uncooperative										Cooperative
Selfish										Unselfish
Distrustful										Trustful
Stingy										Generous

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Disorganised										Organised
Irresponsible										Responsible
Careless										Thorough
Lazy										Hardworking
Extravagant										Thrifty

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Unintelligent										Intelligent
Unanalytical										Analytical
Unreflective										Reflective
Unimaginative										Imaginative
Uncreative										Creative

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Tense										Relaxed
Nervous										At ease
Unstable										Stable
Discontented										Contented
Emotional										Unemotional

Please think about the answers you have provided above about your typical personality expression and consider the extent to which your behaviour, thoughts, and feelings deviate from the responses you have provided.

For example, although you may see yourself as generally being a very organised person, there may be times that you recognize you are very disorganised. Or, you may have described yourself as generally very timid, but feel that there are also times when you are very bold. Perhaps you feel that you very rarely, if ever, deviate from your typical behavioural style, or perhaps you feel that you do so very regularly.

Please consider the responses you have provided above as a whole, and indicate how frequently your behaviour, thoughts, and feelings deviate from those described.

- Never
- Less than once per month
- 1-2 times per month
- Once a week
- 2-3 Times a week
- Daily
- Multiple times per day calm

Consider the circumstances surrounding situations that typically lead you to act in a way that isn't necessarily in accordance with your typical behavioural preferences. Sometimes, deviations in our behaviour may be consciously controlled. For example, an individual might be naturally very shy, but they may choose to behave in a way that is more outgoing when at a party so that they can make new friends. In contrast, we may feel that deviations in our behaviour are beyond our control.

How much confidence do you have that you can adjust your personality expression when desired?

- No confidence
- (2)
- (3)
- (4)
- (5)
- (6)
- Complete confidence

Self-Control

Using the scale provided, please indicate how much each of the following statements reflects how you typically are.

This section should take **less than 5 minutes** to complete.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I am good at resisting temptation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a hard time breaking habits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am lazy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I say inappropriate things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do certain things that are bad for me, if they are fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I refuse things that are bad for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I wish I had more self-discipline	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People would say that I have iron self-discipline	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pleasure and fun sometimes keep me from getting work done	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have trouble concentrating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I am able to work effectively toward long-term goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sometimes I can't stop myself from doing something, even if I know it is wrong	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often act without thinking through all the alternatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Adaptive Performance

This section asks a number of questions about your preferences, styles, and habits. Read each statement carefully. Then, for each statement indicate the response that best represents your opinion. Remember, there are no right or wrong answers.

This section should take approximately **5 minutes** to complete.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I usually over-react to stressful news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel unequipped to deal with too much stress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am easily rattled when my schedule is too full	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I am usually stressed when I have a large workload	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often cry or get angry when I am under a great deal of stress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe it is important to be flexible in dealing with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to be able to read others and understand how they are feeling at any particular moment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My insight helps me to work effectively with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am an open-minded person in dealing with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am perceptive of others and use that knowledge in interactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try to be flexible when dealing with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I adapt my behaviour to get along with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I need for things to be "black and white"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I become frustrated when things are unpredictable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to make effective decisions without all relevant information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to perform best in stable situations and environments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When something unexpected happens, I readily change gears in response	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can adapt to changing situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I perform well in uncertain situations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can easily respond to changing conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can adjust my plans to changing conditions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Thank you for completing this questionnaire. Your completion number is 0145.

Please e-mail this code to abigail.phillips@postgrad.mbs.ac.uk.

Appendix I.2. – Participant Information Sheet

INFORMATION SHEET

You are being invited to take part in a research study exploring the importance of factors such as personality in influencing assessment centre performance. Before you decide if you wish to participate it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

Who will conduct the research?

This research will be conducted by Abigail Phillips at the University of Manchester, UK.

What is the aim of the research?

The aim of this research is to explore the importance of various factors in predicting task performance across a range of different types of task, such as those typically encountered at an assessment centre.

Why have I been chosen?

Any student at the University of Manchester is eligible for participation in this study. You may have heard about this study through your lecturer, or the University Careers Service. Places for participation were allocated on a first-come first-served basis.

What would I be asked to do if I took part?

This research has been designed to reflect an assessment centre for graduate-level roles. Assessment centres are crucial elements of the selection process for many graduate jobs. If you choose to participate in this study you will gain some insight and experience into how an assessment centre works by taking part in a series of assessment centre-style tasks. Although every assessment centre is unique – depending on the competencies that the employer is looking to assess – the nature of tasks at assessment centres are often similar. The exercises in this research will include both individual tasks, such as a short presentation, as well

as tasks where you will be required to work with other people, both in pairs and larger groups.

While you undertake the tasks you may notice some members of the research team observing you, and perhaps taking some notes. You should not worry about this, and should try not to let it affect your performance. Observation is an integral aspect of any assessment centre and the experience today should enable you to feel more comfortable with the process should you ever have to attend a real assessment centre in the future.

What happens to the data collected?

Gathered data will be converted into electronic format where it will be used in a series of quantitative analyses to explore research questions relating to factors influencing task performance.

How is confidentiality maintained?

All data will be anonymized before being electronically stored. Data will be kept secure through password protection and only the primary researcher will have access. Data will not be kept longer than is strictly necessary.

What happens if I do not want to take part or if I change my mind?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time without giving a reason and without detriment to yourself.

Will I be paid for participating in the research?

Participants who complete both the online questionnaire and the mock assessment centre in their entirety will be financially compensated to the value of £10 for their time.

What is the duration of the research?

This research is comprised of one online questionnaire, plus one practical session in which the mock assessment centre will be undertaken.

Will the outcomes of the research be published?

This research has been designed to form part of the primary researcher's PhD thesis. However, it is conceivable that the outcomes of this study could also form part of a separate paper that is later submitted to a journal for publication. In all cases, participant anonymity is guaranteed.

Contact for further information: abigail.phillips@postgrad.mbs.ac.uk

What if something goes wrong?

If you have any issues, or require any help or assistance during this study then please talk to the primary researcher, Abigail Phillips. Similarly, if you have any follow-up questions or issues you wish to raise later on, Abigail can be contacted using the information provided above. Alternatively, you can contact Dr. David Hughes (the project supervisor) at the following address: david.hughes-4@manchester.ac.uk

If you wish to make a formal complaint about the conduct of this research then you should contact: Head of the Research Office, Christie Building, University of Manchester, Oxford Road, Manchester, M13 9PL.

Tel: 0161 275 2674

E-mail: _research.complaints@manchester.ac.uk

Appendix I.3. – Participant Consent Form

PARTICIPANT CONSENT FORM

If you are happy to participate, please complete and sign the consent form below.

1. I confirm that I have read the attached information sheet on the above project and have had the opportunity to consider the information and ask questions and had these answered satisfactorily.
2. I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason and without detriment to myself.
3. I confirm that I am happy for this researcher to have access to my University transcript.

I agree to take part in the above project.

Name of participant

Date

Signature

Name of person
taking consent

Date

Signature

Appendix I.4. – Presentation Task

Instructions

When attending an Assessment Centre, it is quite common to be asked to give a short presentation to the selectors and the other candidates at some point during the day. Some organisations will provide you with a topic to guide your presentation, while others will give you a free choice on what to speak about. In both instances, it is likely that the organisation will be looking to assess your ability to structure a talk and effectively communicate information to an audience.

We would like you to come to this mock Assessment Centre prepared to speak for 5 minutes on the following topic [*insert topic here*]. This should be free speech, so you will **not** have the use of visual aids (e.g. Powerpoint).

Note.

Participants are each assigned one of the following current affairs topics:

1. Smoking ban
2. Global warming
3. University fees
4. Euthanasia
5. Refugee crisis
6. Nuclear weapons
7. Privacy vs. national security
8. Sugar tax
9. Animal testing
10. Capital punishment


Appendix I.5. – Presentation Task Score Sheet

During this exercise you should rate the performance of each speaker by these different categories:

1. **Preparation** – *Consider how prepared the speaker appears. How heavily do they rely on a script? How is their time-keeping?*
2. **Structure** – *Consider how structured the talk is. Is there a clearly defined beginning, main body, and conclusion?*
3. **Delivery** – *Consider the confidence with which the presenter speaks. Do they make eye contact with the audience? Are they easy to follow, speaking audibly and at an appropriate pace?*
4. **Content** – *Consider how interesting and engaging the talk is. Has the speaker thought about their audience? Are they enthusiastic about what they have chosen to speak about?*
5. **Likeability** – *Consider the extent to which the speaker succeeded in their goal of coming across as likeable throughout this short talk*
6. **Opinionated** – *Consider the extent to which the speaker succeeded in their goal of coming across as opinionated throughout this short talk. Did they convey passion? Did they express a clear, well-researched opinion? Did they make clear points and arguments?*

Please provide a rating between **1 and 10** for each participant in each of the 4 categories, where 10 is excellent and you feel there is nothing that could be improved, and 1 is extremely poor. Please remember to record the participant's name in each instance to allow us to identify their scores later.

You should consider this as a learning exercise that will help you in improving your own presentation performance in the future. Considering the strengths and weaknesses of other people's presentation style will help you focus on ways you can work on improving your own.

	Name	Preparation	Structure	Delivery	Content	Likeability	Opinionated
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Appendix I.6. – Goal Manipulation Check

Name: _____

You were asked to come to the mock assessment centre prepared to speak for up to 5 minutes on a specific current affairs topic. Today we informed you that you would need to speak twice, for 2 minutes about your topic but with different goals in mind each time.

To what extent was your goal to come across as **likeable** to the audience when asked?

Not at all

Completely

1 2 3 4 5 6 7 8 9 10

To what extent was your goal to come across as **opinionated** about your topic when asked?

Not at all

Completely

1 2 3 4 5 6 7 8 9 10

Appendix I.7. – Optimal Personality States Rating Sheet

Name: _____

We are interested to know what kind of behaviour you think would be most likely to lead to success in two of the exercises used at this mock assessment centre. A brief description of each task is provided below. For each task please read the description and complete the rating scale to describe the behaviour you think would be most likely to result in successful performance. Please note that point 5 on the rating scale (labelled “neither”) represents a mid-point between the two extremes (e.g. extremely introverted vs. extremely extraverted). If you do not think a particular behaviour is relevant to performance then please leave the row blank.

In the negotiation exercise you engaged in a role-play scenario in which you were required to reach an agreement with another participant on the price of steel units that you were either wanting to sell or purchase. It was stated as important that you reached an agreement in the best interests of the organisation you were representing.

What behavioural expression do you think would be most likely to lead to success in this task?

	Very 1	Moderately 2	3	4	Neither 5	6	Moderately 7	8	Very 9	
Introverted										Extraverted
Silent										Talkative
Timid										Bold
Inactive										Active
Unassertive										Assertive
Unkind										Kind
Uncooperative										Cooperative
Selfish										Unselfish
Distrustful										Trustful
Stingy										Generous
Disorganised										Organised
Irresponsible										Responsible
Careless										Thorough
Lazy										Hardworking
Extravagant										Thrifty
Unintelligent										Intelligent

	Very 1	Moderately 2 3 4	Neither 5	Moderately 6 7 8	Very 9	
Unanalytical						Analytical
Unreflective						Reflective
Unimaginative						Imaginative
Uncreative						Creative
Tense						Relaxed
Nervous						At ease
Unstable						Stable
Discontented						Contented
Emotional						Unemotional

To what extent do you feel you acted according to the behaviour described above during the negotiation exercise you just participated in?

Not at all Completely

1 2 3 4 5 6 7 8 9 10

In the group exercise you were required to choose a person that you admire and convince your fellow participants that this person would be the most deserving of a place on a lifeboat to escape a deserted island in a fictional scenario.

What behavioural expression do you think would be most likely to lead to success in this task?

	Very 1	Moderately 2 3 4	Neither 5	Moderately 6 7 8	Very 9	
Introverted						Extraverted
Silent						Talkative
Timid						Bold
Inactive						Active
Unassertive						Assertive
Unkind						Kind
Uncooperative						Cooperative
Selfish						Unselfish
Distrustful						Trustful
Stingy						Generous
Disorganised						Organised
Irresponsible						Responsible
Careless						Thorough
Lazy						Hardworking
Extravagant						Thrifty
Unintelligent						Intelligent

	Very 1	Moderately 2		Moderately 3	Neither 4	5	Moderately 6		Moderately 7	Very 8	9	
Unanalytical												Analytical
Unreflective												Reflective
Unimaginative												Imaginative
Uncreative												Creative
Tense												Relaxed
Nervous												At ease
Unstable												Stable
Discontented												Contented
Emotional												Unemotional

To what extent do you feel you acted according to the behaviour described above during the group exercise you just participated in?

Not at all

Completely

1 2 3 4 5 6 7 8 9 10

Appendix J

Study 3 Items Omitted from Adaptive Personality Regulation Measure

Items	Removed?	Reason for Removal
Presentation (Likeable)		
E1	✓	Poor inter-rater agreement
E2		
E3		
E4		
E5		
C1		
C2	✓	Insufficient reliability of measurement
C3		
C4		
C5	✓	Relevance
O1		
O2		
O3		
O4	✓	Insufficient reliability of measurement
O5	✓	Insufficient reliability of measurement
N1		
N2		
N3		
N4		
N5		
Presentation (Opinionated)		
E1	✓	Poor inter-rater agreement
E2		
E3		
E4		
E5	✓	Poor inter-rater agreement
C1		
C2	✓	Insufficient reliability of measurement
C3		
C4	✓	Insufficient reliability of measurement
C5	✓	Relevance
O1	✓	Poor inter-rater agreement
O2		
O3		
O4	✓	Insufficient reliability of measurement
O5	✓	Insufficient reliability of measurement
N1		
N2		
N3		
N4	✓	Poor inter-rater agreement
N5		

Items	Removed?	Reason for Removal
Negotiation		
E1		
E2	✓	Poor inter-rater agreement
E3		
E4		
E5		
A1		
A2		
A3	✓	Insufficient reliability of measurement
A4		
A5		
C1		
C2		
C3		
C4	✓	Insufficient reliability of measurement
C5	✓	Insufficient reliability of measurement
O1		
O2		
O3		
O4		
O5		
N1		
N2		
N3		
N4		
N5		
Group		
E1		
E2		
E3		
E4		
E5		
A1		
A2		
A3		
A4	✓	Relevance
A5	✓	Insufficient reliability of measurement
C1		
C2	✓	Relevance
C3		
C4		
C5	✓	Relevance
O1		
O2		
O3		
O4		
O5		

Items	Removed?	Reason for Removal
N1 Tense – Relaxed		
N2 Nervous – At ease		
N3 Unstable – Stable		
N4 Discontented – Contented	✓	Relevance
N5 Emotional – Unemotional		