

TOWARD UNDERSTANDING THE NATURE OF THE RELATIONSHIP BETWEEN PERSONALITY
AND WELL-BEING STATES AND TRAITS

by

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Abstract

While past research has demonstrated a robust connection between dispositional personality traits and well-being, relatively little research has comprehensively examined the ways in which Big Five personality *states* may be associated with short-term experiences of well-being *within* individuals. This research examines two experience sampling studies to address three central questions about the nature of the relationship between personality and well-being states: (1) to what extent do personality and well-being states covary within individuals? (2) to what extent do personality and well-being states influence one another within individuals? and (3) to what extent are these within person relationships moderated by dispositional personality traits and well-being? Results showed that all Big Five personality states were correlated with short term experiences of well-being within individuals. Individuals were more extraverted, emotionally stable, conscientious, agreeable and open in moments when they experienced higher well-being (greater self-esteem, life satisfaction positive affect and less negative affect). Moreover, results indicated that personality and well-being states dynamically influenced one another over time within individuals, and that these associations were not generally moderated by dispositional traits. Thus, this research demonstrates the inter-connectedness of behaviour and well-being in the context of the Big Five model of personality.

Preface

In this work I examined a subset of archival experience sampling data which was collected in 2007-8 and 2013-14. As such, I did not contribute to the design or implementation of the original research. This was accomplished by Emma Buchtel, Lauren Human, Damian Murray, Jeremy Biesanz and many research assistants. However, the original studies were not designed to answer the specific questions addressed in this manuscript. The development of these specific research questions and the design of the statistical analyses used to address these questions was a collaborative effort between myself and my supervisor, Jeremy Biesanz. In addition, I completed the statistical analyses under the guidance of Jeremy Biesanz. He helped me to write the necessary code in R and I ran all of the analyses. Finally, I was responsible for completing the literature review and writing the manuscript. The only exception was the data-analytic strategy section, a portion of which Jeremy helped to write.

Parts of the method section overlap with the method section of another manuscript that I have written which is based on the same data sets. This manuscript is titled “Is Personality Variability Associated With Adjustment?” and it has been conditionally accepted for publication at the Journal of Research in Personality.

The original research was approved by the UBC Behavioural Research Ethics Board. Project titles and certificate numbers for Studies 1 and 2 were “Development of Personality Agreement Across Time” (HO5-80731) and “Experience Sampling” (H16-00035), respectively.

Table of Contents

Abstract.....	ii
Preface.....	iii
Table of Contents.....	iv
List of Tables.....	vii
List of Figures.....	ix
Acknowledgements.....	x
Introduction.....	1
Dispositional Personality and Well-Being.....	1
Explanations for the Link Between Dispositional Personality Traits and Well-Being.....	2
Personality States and Density Distribution Approaches to Personality.....	7
Are Personality and Well-Being States Correlated Within Individuals?.....	9
Do Personality and Well-Being States Influence One Another?.....	11
Are Within Person Relationships Between Personality and Well-Being States Moderated by Dispositional Levels of Traits and Well-Being?.....	14
The Present Study.....	18
Method.....	20
Procedure.....	20
Samples.....	21
Measures.....	21
Dispositional personality traits.....	21
Dispositional well-being.....	22

Personality states (i.e. behaviour).....	23
Well-being states.....	24
Data-Analytic Strategy.....	25
Results.....	28
Descriptive Statistics.....	28
Do Personality and Well-Being States Covary Within Individuals (Path e)?.....	28
Do Personality States Predict Change in Well-Being States (Path c)?.....	33
Do Well-Being States Predict Change in Personality States (Path d)?.....	35
Do Dispositional Personality Traits and Dispositional Well-Being Moderate Concurrent Within Person Relationships Between Personality and Well-Being States?.....	38
Do Dispositional Personality Traits and Dispositional Well-Being Moderate Cross Lagged Within Person Relationships Between Personality and Well-Being States?.....	42
Discussion.....	46
Main Findings.....	46
Concurrent associations between personality and well-being states.....	46
Do personality states predict change in well-being states and do well-being states predict change in personality states?.....	48
Do dispositional personality traits and well-being moderate within person associations?.....	51
Implications.....	53
Limitations & Future Directions.....	57
Conclusion.....	59

References.....	61
Appendix.....	76

List of Tables

Table 1.	Study 1 Univariate Relationships Between Personality States and Well-Being States (Path e).....	29
Table 2.	Study 2 Univariate Relationships Between Personality States and State Self-Esteem & State Life Satisfaction (Path e).....	29
Table 3.	Study 2 Univariate Relationships Between Personality States and State Positive & Negative Affect (Path e).....	29
Table 4.	Study 1 Partial Relationships Between Personality States and State Well-Being (Path e).....	31
Table 5.	Study 2 Partial Relationships Between Personality States and State Self-Esteem & State Life Satisfaction (Path e).....	31
Table 6.	Study 2 Partial Relationships Between Personality States and State Positive & Negative Affect (Path e).....	31
Table 7.	Study 1 Personality States Predicting Change in Well-Being States (Path c).....	34
Table 8.	Study 2 Personality States Predicting Change in Self-Esteem & Life Satisfaction (Path c).....	34
Table 9.	Study 2 Personality States Predicting Change in Positive Affect and Negative Affect (Path c).....	34
Table 10.	Study 1 Well-Being States Predicting Change in Personality States (Path d).....	37
Table 11.	Study 2 Self-Esteem & Life Satisfaction Predicting Change in Personality States (Path d).....	37

Table 12.	Study 2 Positive & Negative Affect Predicting Change in Personality States (Path d).....	37
Table 13.	Study 1 Moderators of Associations Between Concurrent Personality and Well-Being States (Moderators of Path e).....	40
Table 14.	Study 2 Moderators of Associations Between Concurrent Personality and Well-Being States (Moderators of Path e).....	40
Table 15.	Study 1 Moderators of Personality States Predicting Change in Well-Being States (Moderators of Path c).....	43
Table 16.	Study 2 Moderators of Personality States Predicting Change in Well-Being States (Moderators of Path c).....	44
Table 17.	Study 1 Moderators of State Well-Being Predicting Change in Personality States (Moderators of Path d).....	45
Table 18.	Study 2 Moderators of State Well-Being Predicting Change in Personality States (Moderators of Path d).....	45

List of Figures

Figure 1.	Cross Lagged Model.....	25
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Introduction

Dispositional Personality and Well-Being

Personality research seeks to measure characteristic patterns of thoughts, feelings and behaviours which differentiate individuals from one another (Funder, 2001; Johnson, 1997). The “Big Five” personality traits have become the most widely studied dimensions of personality and are generally regarded to be the most comprehensive model for describing individual differences (e.g. Goldberg, 1990; Saucier & Goldberg, 1996). The Big Five factors are emotional stability (*absence of anxiety, irritability, moodiness*), extraversion (*sociability, assertiveness, energetic*), agreeableness (*sympathy, kindness, affectionate*), openness (*artistic, creative, imaginative*) and conscientiousness (*organized, thorough, planful*) (John & Srivasta, 1999).

Since the 1990s, there has been an enormous amount of research demonstrating that the Big Five personality traits are correlated with a wide array of important social, psychological and health outcomes (e.g. Nofle & Robins, 2007; Ozer & Benet-Martinez, 2006). Importantly, and the focus of this research, Big Five personality traits have consistently been associated with psychological adjustment and well-being: individuals who are more emotionally stable, extraverted, conscientious and agreeable have been found to report higher levels of life satisfaction, positive affect and self-esteem and lower levels of negative affect and depressive symptoms (De Neve & Cooper, 1998; Diener, Oishi, & Lucas, 2003; Kling, Ryff, Love, & Essex, 2003; Robbins, Tracy, Trzesniewski, Potter, & Gosling, 2001; Steele, Schmidt, & Schultz, 2008).

Emotional stability and extraversion exhibit the strongest associations with well-being, followed by conscientiousness and then agreeableness. While openness to experience has been less consistently associated with subjective well-being, self-esteem, and depressive

symptomatology, it is substantially associated with other well-being indicators such as psychological well-being (*positive relations, autonomy, environmental mastery, personal growth, purpose in life, and self acceptance*) (e.g. Anglim & Grant, 2014). Altogether, Big Five personality traits have been found to account for between 39% and 48% of the variance in subjective well-being (Anglim & Grant, 2014; Steel, Schmidt & Schultz, 2008), 34% of the variance in self-esteem (Robbins et al, 2001) and 55% of the variance in psychological well-being (Anglim & Grant, 2014).

Explanations for Link Between Dispositional Personality Traits and Well-Being

Researchers have proposed a number of mechanisms through which personality traits may be associated with well-being (e.g. De Neve & Cooper, 1998; Diener et al., 2003; Robbins et al., 2001; Soto, 2015; Steele et al., 2008). One explanation is that both constructs are similarly influenced by underlying, biologically determined temperaments. For instance, it has been argued that both personality and well-being reflect general dispositions toward positivity or negativity or toward approach versus avoidance orientations (e.g. Carver, Sutton, & Scheier, 2000; Elliot & Thrash, 2002; Larsen & Ketelaar, 1991). It has been suggested that the trait of extraversion and dispositional positive affect both derive from the Behavioural Activation System (BAS), whereas the trait of neuroticism and dispositional negative affect both derive from the Behavioural Inhibition System (BIS) of Gray's reward sensitivity theory (Elliot & Thrash, 2002; Larsen & Ketellar, 1991; Tellegen, 1985). This theory postulates that there are two independent motivational systems; the BAS regulates attention to reward and approach behaviour, whereas the BIS regulates attention to punishment and avoidance behaviour (Gray, 1971, 1987). Temperamental theories such as this suggest that individual's levels of personality

traits and well-being are largely biologically determined, established early in life, and are relatively fixed.

Evidence in support of temperamental theories includes research showing that dispositional well-being and personality traits are substantially heritable (between 40-60%) (Bartels & Boomsma, 2009; Bouchard & McGue, 2003; Jang, Lively & Vernon, 1996; Vernon, Martin, Schermer & Mackie, 2008) and that traits exhibit moderate to high rank order stability from young adulthood to old age (Specht, Egloff & Schmukle, 2011). In addition, research has demonstrated that personality traits and well-being are similarly correlated with features of brain structures and neurotransmitter systems (e.g. Cloninger, 2000; Davidson, 2005; Depue & Collins, 1999). For example, dispositional extraversion and positive affect are both correlated with dopaminergic activity (neurotransmitter system responsible for attending to and responding to reward) (Depue & Collins, 1999) whereas dispositional neuroticism and negative affect are both correlated with deficiencies in serotonergic activity (neurotransmitter system responsible for mood, sleep etc) (Costa & McCrae, 1992; Lasky-Su, Faraone, Glatt, & Tsuang, 2005; Schnika, Busch, & Robichaux-Keene, 2004).

However, while these variables do appear to be somewhat heritable, there remains a large portion of the variance in traits and in well-being (40-60%) which cannot be attributed to genes (Bartels & Boomsma, 2009; Bouchard & McGue, 2003; Jang et al., 1996; Vernon et al., 2008). Similarly, although these constructs demonstrate relative stability, they have also been shown to exhibit significant change over the life span (e.g., Bleidorn, Kandler, Riemann, Angleitner, & Spinath 2009; Lucas, 2007; Roberts & DelVecchio, 2000; Roberts, Walton, & Viechtbauer, 2006). In addition, the argument that traits are associated with well-being through underlying

dispositions has typically been made in reference to extraversion and neuroticism, two traits which are highly associated with dispositional positive and negative affect. However this does not account for why traits which have not traditionally been associated with emotional experience (i.e. agreeableness and conscientiousness) are also substantially associated with positive and negative affect in addition to other indicators of well-being (e.g. self-esteem, life satisfaction) (De Neve & Cooper, 1998; Diener et al., 2003; Steele et al., 2008; Robbins et al., 2001).

A second explanation for the link between personality and well-being is that personality influences the development of well-being through disposing individuals to engage in certain types of behaviours and experience certain types of life events. For example, it's been shown that highly extraverted individuals affiliate with others more frequently (Watson, Clark, McIntyre, & Hamaker, 1992) and that highly agreeable individuals engage in more pro-social behaviours, which promotes relationship quality and longevity (Graziano & Tobin, 2009). Similarly, conscientiousness is positively correlated with achievement in school and work and negatively correlated with financial debt (e.g. Ozer & Benet-Martinez, 2006). By contrast, highly neurotic individuals have been found to experience a greater number of negative life events and to respond more intensely to such events (Headey & Wearing, 1989; Magnus, Diener, Fujita, & Pavot, 1993). Thus, it may be that personality traits indirectly influence the development of well-being by predisposing individuals to behave in particular ways and experience certain types of life events, which in turn either enhance or diminish well-being.

A number of longitudinal studies have demonstrated that personality traits do in fact predict the development of well-being. Research in developmental psychology has shown that

personality traits measured in childhood, adolescence and early adulthood are correlated with adjustment and well-being later in life (Abbott et al., 2008; Friedman, Kern & Reynolds, 2010; Newton-Howes, Horwood & Mulder, 2015; Soldz & Vaillant, 1999). In addition, numerous studies have demonstrated that personality traits moderate change in well-being and adjustment following important life events (Anusic, Yap, & Lucas, 2014; Boyce & Wood, 2011; Boyce, Wood, & Brown, 2010; Kling et al., 2003; Luhmann & Eid, 2009; Yap, Anusic, & Lucas, 2012). For example, Luhmann and Eid (2009) found that individuals more neurotic individuals experienced larger drops in life satisfaction following unemployment and divorce, whereas more extraverted individuals experienced smaller drops in life satisfaction following unemployment. Similarly, Kling et al., (2003) examined the extent to which each of the Big Five personality traits uniquely predicted change in self-esteem and depression symptoms over a 14 month period during which participants had experienced a move. They found that neuroticism and openness both uniquely predicted increases in depressive symptoms, and that extraversion and openness were both associated with increases in self-esteem over time.

In addition, a number of studies have demonstrated that personality traits prospectively predict change in well-being over time irrespective of life events (Charles, Reynolds, & Gatz, 2001; Griffin, Mroczek, & Spiro, 2006; Soto, 2015; Specht, Egloff, & Schmulke, 2013). For example, both Charles et al (2001) and Griffin et al (2006) examined the prospective influence of neuroticism and extraversion on change in positive and negative affect and found that highly neurotic individuals tended to experience greater increases in negative affect over time. In addition, Charles et al. (2001) also found that highly extraverted individuals tended to experience greater increases in positive affect over time.

A third explanation for the link between personality traits and well being is that dispositional well being influences the development of personality traits (Soto, 2015). For instance, research has shown that positive mood is associated with enacting more positive, socially desirable behaviour (Fredrickson, 1998; George & Brief, 1992; Isen, 1987). Thus, it might be the case that personal well-being influences the subsequent expression of personality traits in behaviour. Moreover, if a person sustains a certain level of well-being for a substantial period of time, such behaviours may become ingrained into personality (Soto, 2015).

Although the majority of past research examining the relationship between personality and well-being has taken the perspective that personality traits influence change in well-being, there have been a select number of studies that have also examined the prospective effect of well-being on changes in personality traits (Soto, 2015; Specht et al., 2013). The first of these (Specht et al., 2013) examined life satisfaction four times and all Big Five personality traits twice over a four year period and found that the effect of life satisfaction on change in personality traits appeared to be substantially stronger than the effect of personality traits on change in life satisfaction (Specht et al., 2013). Specifically, they found that individuals who were more satisfied with their lives at baseline were more likely to become more agreeable, conscientious and emotionally stable over time. By contrast, there was only one significant trait effect on change in life satisfaction: more agreeable individuals tended to become more satisfied with their lives over time. Similarly, Soto (2015) measured personality traits twice and life satisfaction, positive affect and negative affect four times over 4 years in a sample of over 16,000 Australians and initially found results consistent with Specht et al. However, when he included an equal number of assessments of life satisfaction and personality traits in his analyses, he found that

personality and adjustment appeared to influence one another to an equal degree. Thus, the limited number of longitudinal studies which have examined prospective effects of both personality on well-being and well-being on personality seem to indicate that both variables may exert long term influences on each other.

In summary, the substantial correlations between Big Five personality traits and well-being has stimulated much theorizing about the ways in which these two constructs may come to be associated with one another. While a number of researchers have argued that personality traits and well-being are similarly influenced by underlying dispositions to think, feel and behave in particular ways, others have proposed that personality traits may influence the development of well-being through disposing individuals to engage in particular types of behaviours and experience certain life events, which in turn may either enhance or diminish well-being. In addition, it may be the case that individuals' level of well-being may dispose them to engage in particular types of behaviours, which over time, may result in personality change. It's important to note that these theories are not necessarily mutually exclusive. It may be that there are multiple pathways through which personality and well-being may come to be associated with one another.

Personality States and Density Distribution Approaches to Personality

Given the robust connection between dispositional personality traits and well-being, a major research question is whether personality and well-being states are similarly associated within individuals in daily life. *Personality states* are the behavioural enactment of personality traits (Fleeson, Malanos & Achille, 2002; Heller, Komar & Lee, 2007). They measure similar content as personality traits, but pertain to behaviour over a shorter period of time. For example,

whereas trait extraversion describes individuals' general tendencies to behave extraverted, measures of state extraversion assess the extent to which individuals' behaviour in a short window of time (e.g. 30-60 minutes) is extraverted. Similarly, measures of state well-being represent individuals' experiences of well-being in a given moment, rather than in general.

Research has shown that personality states (i.e. the extent to which behaviour is extraverted, emotionally stable, conscientious, agreeable and open) are highly variable (Fleeson, 2001). For instance, throughout the course of a given day, most people will behave both extraverted, introverted, agreeable and disagreeable. Similarly, individuals self-esteem, life satisfaction, positive affect and negative affect have all been shown to vary extensively within individuals (e.g. Heller, Komar & Lee, 2007; Kernis & Goldman, 2003).

Fleeson's Density Distribution model of personality conceptualizes traits as the *total distribution* of individual's personality states. Under this model, individuals are considered to rank high on a given trait if they exhibit the corresponding personality state with high frequency or high intensity over a period of time. For example, a person would be considered to be highly agreeable if they engage in agreeable behaviours in their daily life more often, or at a higher level, than the average person. In addition to grounding personality theory in concrete, everyday behaviours, density distribution approaches allow for the examination of multiple parameters of behaviour such as individuals' *mean* level of behaviour, average *variability* in behaviour and *range* in behaviour over a period of time. Moreover, this approach allows for the examination of the extent to which personality relevant behaviours are associated with other constructs of interest, such as well-being (e.g. Heller, Komar & Lee, 2007).

Are Personality and Well-Being States Correlated Within Individuals?

The present research investigates the nature of the relationship between short term variations in behaviour and fluctuations in well-being within individuals. Correlations between dispositional personality traits and well-being demonstrate that certain types of people tend to experience higher well-being than others. However, they do not assess whether behaviours associated with personality traits are associated with short-term fluctuations in well-being within individuals in daily life (Fleeson et al., 2002). For example, while between person correlations demonstrate that more conscientious individuals experience higher well-being, they do not test whether behaving conscientiously is associated with experiencing higher well-being in daily life.

The question of whether personality and well-being states are correlated within individuals is important for a number of reasons. First, by describing the within-person patterning of personality and well-being states, we gain important insights into when and why individuals may engage in particular types of behaviours and experience particular thoughts and feelings. This description of the ongoing, psychological functioning of individuals is a central goal of psychology (Allport, 1937; Epstein, 1983; Fleeson et al., 2002; Larsen, 1989; Nesselroade, 1991; Pervin, 1994), which cannot be adequately addressed by between person correlations of dispositional measures.

Second, within person connections between personality and well-being states may have important implications for understanding the relationship between dispositional personality and well-being. Specifically, if personality and well-being states are correlated within individuals, this may indicate that personality and well-being states dynamically influence one another within individuals: that is, the enactment of certain types of behaviours (i.e. personality states) may lead

individuals to experience higher or lower levels of well-being, just as their momentary experiences of well-being may influence their subsequent expression of behaviour (i.e. personality states). Moreover, the existence of such relationships may indicate that dispositional well-being may be increased through sustained change in behaviours, or that dispositional personality traits (i.e. individuals tendencies to behave in particular ways) may be impacted through sustained change in well-being.

While much of the research examining relations between personality and well-being have examined correlations between dispositional variables, there have been a number of experience sampling studies which have examined within person relations between personality and well-being states. In particular, numerous studies have demonstrated that state extraversion is correlated with state positive affect within individuals (Fleeson et al., 2002; Lischetzke, Pfeifer, Crayen, & Eid, 2012; McNiel & Fleeson, 2006; McNiel, Lowman, & Fleeson, 2010; Wilt, Nofle, Fleeson, & Spain, 2012). For example, Fleeson et al. (2002) had participants report on their state extraversion and state positive affect five times per day for a period of 13 days. They found that individuals experienced higher positive affect (*excited, enthusiastic, proud, alert*) in moments when their behaviour was more extraverted (*talkative, energetic, assertive, adventurous*). In addition, Heller et al. (2007) measured state extraversion, neuroticism, life satisfaction, positive affect, and negative affect 3 times per day for 10 days using interval-contingent diary recordings. They found that individuals experienced higher positive affect and life satisfaction when they behaved more extraverted and higher negative affect and lower life satisfaction when they behaved more neurotic.

Thus, the existing literature has demonstrated that a number personality states co-occur with indicators of well-being within individuals. However, this research has almost exclusively focused on the within person extraversion-positive affect link. In addition, while Heller et al. (2007) demonstrated that links between personality and well-being states extend beyond the extraversion-positive affect link, they did not measure the remaining three Big Five states (conscientiousness, agreeableness, and openness). Thus, research which examines within person relations between *all* Big Five personality states and multiple indicators of well-being is needed.

Do Personality and Well-Being States Influence One Another?

Within person correlations between *concurrent* (i.e. measured at the same time) personality and well-being states demonstrate that personality states and well-being states co-occur within individuals. That is, they demonstrate that individuals tend to experience higher well-being (e.g. higher positive affect) in moments when they are engaged in particular types of behaviours (e.g. more extraverted behaviour). However, concurrent associations do not test whether personality states influence subsequent well-being states or whether well-being states influence subsequent personality states.

There are two main methods by which directions of influence between personality and well-being states may be evaluated. The first is through the use of experimental designs in which either behaviour or state well-being is manipulated and the effect on the other variable is measured. The second method is to use cross lagged analyses in experience sampling studies in which personality and well-being states are measured multiple times per day. Cross lagged analyses allow for the examination of the extent to which (1) behaviours in one moment predict

change in well-being at the next measurement occasion and whether (2) well-being in one moment predicts change in behaviour at the next measurement occasion.

While experimental studies have the advantage of controlling the independent variable, thus enabling the researcher to draw conclusions about causation, cross lagged analyses in experience sampling studies provide a more ecologically valid examination of how behaviours and well-being may influence one another within individuals in daily life. While cross lagged analyses still do not allow for the researcher to draw inferences about causality, they do provide insight into directions of influence (Rauthmann, Jones & Sherman, in press).

A number of experimental studies have demonstrated that enacting extraverted states leads to higher positive affect, compared to enacting introverted states (Fleeson et al., 2002; McNiel & Fleeson, 2006; McNiel et al., 2010; Smilie, Wilt, Kabbani, Garratt, & Revelle, 2015; Zelenski, Santoro & Whelan, 2012). For instance, Fleeson et al. (2002) instructed participants to behave either extraverted or introverted during a group conversation and then measured their positive affect. They found that individuals reported higher positive affect after being instructed to behave extraverted compared to when they were instructed to behave introverted. In addition McNeil and Fleeson (2006) used a similar design to assess the effect of emotionally stable versus neurotic behaviour on negative affect. They found that individuals reported higher levels of negative affect after being instructed to behave in a neurotic manner compared to when they were instructed to behave in an emotionally stable manner. Finally, Lischetzke et al. (2012) measured state extraversion and pleasant affect 7 times per day for 1 week and employed cross lagged analyses to assess the extent to which state extraversion predicted change in pleasant

affect. They found that following moments when individuals behaved more extraverted they experienced an increase in pleasant affect by the next measurement occasion.

While many personality researchers have assumed that correlations between personality and well-being indicates that personality relevant behaviours influence well-being, there are a number of reasons to expect that state well-being may influence the subsequent enactment of behaviours (i.e. personality states). For instance, Fredrickson's (2004) Broaden and Build theory of positive emotion suggests that positive emotions and well-being more generally function as a cognitive resource which better enables individuals to engage in positive cognitions and behaviours. Similarly, clinical frameworks of depression suggest that depressed mood reinforces tendencies to socially withdraw (low extraversion), be irritable (low agreeableness, low emotional stability), be less able to keep up with day to day activities (low conscientiousness), and to have less interest in hobbies/activities previously enjoyed (low openness). Moreover, depressed mood is highly co-morbid with anxiety (low emotional stability) (American Psychiatric Association, 2013; Hirschfeld, 2001).

While this question of whether momentary experiences of well-being influence behaviour has not been examined within the framework of the Big Five personality dimensions, there has been a wealth of experimental work which has shown that mood impacts various types of behaviours, some of which appear to be overlapping with Big Five content. For instance, positive affect has been shown to increase cognitive flexibility, creativity (e.g. review by Isen, 1993), and interest in leisure activities (Cunningham, 1988a) as well as exploratory, sociable (Isen, 1970; Cunningham, 1988b), cooperative (e.g. Baron et al., 1990; Carnevale & Isen, 1986; Forgas, 1998) and altruistic behaviour (Cunningham, Steinberg, & Grev, 1980; O'Malley &

Andrews, 1983). However, negative affect has also been found to increase helping behaviour under certain circumstances (e.g. Manucia, Baumann & Cialdini, 1984). In addition, negative affect has been shown to increase impulsiveness (Leith, & Baumeister, 1996), and reduce cognitive capacity and task performance (Abele-Brehm, 1992). These behaviours appear to map onto Big Five dimensions of openness (*cognitive flexibility, creativity, interest in leisure activities*), extraversion (*exploratory, sociable behaviour*), agreeableness (*cooperative, altruistic behaviour*), conscientiousness (*impulsiveness, task performance*).

In sum, there are numerous reasons to expect that personality and well-being states dynamically influence one another within individuals. A number of studies have demonstrated that enacting extraverted and neurotic behavioural states leads to increases in positive and negative affect, respectively. In addition, a wealth of experimental work has shown that positive and negative mood influences a variety of behaviours, many of which appear to map onto Big Five trait content. However, research is needed which examines the relative influence of *all* Big Five personality states and multiple indicators of well-being.

Are Within Person Relationships Between Personality and Well-Being States Moderated By Dispositional Levels of Traits and Well-Being?

An important question regarding the nature of the relationship between personality and well-being states is whether these relations are moderated by dispositional traits or by dispositional well-being. For example, do highly conscientious individuals exhibit a stronger or weaker relationship between conscientious behaviour and feelings of well-being, compared to individuals low on dispositional conscientiousness? Do relations between momentary experiences of well-being and Big Five behaviours differ for high well-being individuals

compared to low well-being individuals? These questions are important because they assess the *generalizability* of any observed within person relationships (Fleeson et al., 2002). That is, if there are significant within person relationships between personality and well-being states, it is important to know whether these relations are similar or different among different types of people.

There are a number of reasons to expect that personality and well-being states may be moderated by dispositional traits. For example, it may be the case that individuals who are dispositionally high on a given trait engage in behaviours associated with that trait more often because they experience greater well-being benefits from doing so. For example, highly conscientious individuals may experience a boost in well-being when engaged in conscientious behaviour, which less conscientious individuals do not experience. Such a relationship might help explain why certain individuals engage in particular types of behaviours more often than others. Similarly, theories of authenticity (McGregor & Little, 1998; Roberts & Donahue, 1994; Sheldon, Ryan, Rawsthorne, & Ilardi, 1997), behavioural concordance (Moskowitz & Cote, 1995) and situational congruence (Emmons et al., 1986), would suggest that individuals will feel more *authentic*, and thus experience higher well-being, when engaging in behaviours in line with their dispositional traits.

Just as personality traits may moderate within person relationships between personality and well-being states, it may also be the case that dispositional levels of well-being may exert a moderating influence. For example, it may be the case that individuals higher in dispositional well-being experience greater boosts in well-being when engaging in more positive behaviours (i.e. behaviours which are more extraverted, emotionally stable, conscientious, agreeable and

open) or that individuals who are dispositionally low on well-being experience greater dips in well-being when engaging in less socially desired behaviours (i.e. *less* extraverted, emotionally stable, conscientious, agreeable and open). Thus, higher well-being individuals may be more reactive to positive situations or to the benefits of engaging in more positive behaviours whereas low well-being individuals may be more reactive to negative situations or to the effects of negative behaviours. Alternatively, it may be the case that high and low well-being individuals are differentially reactive to all types of stimuli. For instance, a number of studies have shown that low self-esteem individuals react more strongly to both positive and negative feedback about themselves, compared to high self-esteem individuals (Campbell & Lavalley, 1993; Jones, 1973; Shrauger, 1975; Swann, Pelham & Krull, 1989).

Thus, there are many reasons to expect that personality traits and dispositional well-being may moderate within person relationships between personality and well-being states. However, it may also be the case that most individuals exhibit similar relations between personality and well-being states. Theories of state-trait isomorphism suggest that states and traits function similarly and that relationships observed between individuals on dispositional variables will also be observed within individuals when such variables are measured at the state level (Fleeson 2001; Fleeson et al., 2002). Thus, such theories predict that just as more extraverted, emotionally stable, conscientious and agreeable individuals exhibit higher well-being, all individuals will experience higher well-being in moments when their behaviour is more extraverted, emotionally stable, conscientious and agreeable.

Past research that has examined these questions in the context of five factor model personality states appear to support state-trait isomorphism. For example, Fleeson and Wilt

(2010) found that all Big Five personality states were positively correlated with felt authenticity within individuals such that individuals felt more authentic when they were more extraverted, emotionally stable, conscientious, agreeable and open. Moreover, they found that these relationships were not moderated by dispositional traits. For example, even individuals who were dispositionally introverted felt more authentic when they behaved more extraverted. In terms of the personality-well-being link specifically, a subset of the studies which have examined relations between state extraversion and positive affect have tested whether trait extraversion moderates the within person relationship (Fleeson et al., 2002; Lischetzke et al., 2012; McNiel & Fleeson, 2006; McNiel et al., 2010; Zelenski et al., 2012). These studies have generally not found evidence of trait extraversion moderating the positive, within person correlation. However, one study found that introverts experienced a slightly stronger relationship such that they experienced even higher positive affect when their behaviour was more extraverted (Fleeson et al., 2002).

In sum, past research seems to suggest that dispositional traits do not moderate within person relations between personality and well-being states. However, the only studies to examine this question with regards to personality and well-being states have exclusively examined extraversion-positive affect link, and these studies have only tested whether trait extraversion has a moderating influence. Research is needed to examine whether within person relationships between all five personality states and well-being states are moderated by the corresponding personality traits. It may be the case that within person relations between conscientiousness and well-being or between agreeableness and well-being operate differently than those for extraversion and positive affect.

Research is also needed to examine whether within person relationships are moderated by dispositional well-being. Although prior research has not focused on this question it is certainly possible that well-being exerts a moderating influence. For example, as described above, it may be that people who are dispositionally low on well-being do not experience the same increases in well-being when they are engaged in more positive behaviours. Such an effect may provide insight into the etiology of well-being; that is, it may indicate that low well-being stems from or reinforces a lack of reactivity to positive situations or behaviours.

The Present Study

The current study examines two experience sampling studies in which individuals reported on all Big Five personality states (state extraversion, emotional stability, conscientiousness, agreeableness, openness) and multiple indicators of well-being (state life satisfaction, self-esteem, positive affect and negative affect) multiple times per day for a period of two weeks. Multilevel modelling and cross lagged analyses were used to examine three central questions regarding the nature of the relationship between personality and well-being states: (1) to what extent do personality and well-being states covary within individuals? That is, do individuals tend to experience higher well-being when they are engaged in more extraverted, emotionally stable, conscientious, agreeable and open behaviour? (2) To what extent do personality and well-being states influence change in one another? That is, do individuals' behaviour in one moment influence their later experiences of well-being, and do individuals' momentary experiences of well-being influence their subsequent expression of behaviour?

(3) To what extent do dispositional personality traits and dispositional well-being moderate within person relations between personality and well-being states? That is, do within person relations differ for people with different personality traits and different levels of well-being?

Method

Procedure

The present research examines two experience sampling studies which were conducted in 2007-8 and in 2013-14. In both studies, participants first completed a battery of questionnaires assessing their dispositional personality traits and well-being. Next, participants completed an experience sampling portion of the study in which they reported on their personality and well-being states multiple times per day for two weeks.

Participants reported on their personality and well-being states through the use of palm pilots (Study 1) and iPod Touches (Study 2), which they carried around with them in their daily lives. Participants were prompted to complete surveys multiple times per day by the Experience Sampling Program (ESP 4.0; Barrett, 2006) in Study 1 and by text messages in Study 2. In both studies, participants were prompted to fill out a survey 5 times per day at random times between 10am and 10pm with at least one hour between prompts. On average, prompts were 2.59 hours apart ($SD = 1.08$) in Study 1 and 3.00 hours apart ($SD = 1.58$) in Study 2. Prompts included one practice session, for an ideal total of 71 prompts per participant across two weeks. In Study 1, the average number of completed reports was 42.85 ($SD = 15.88$, $median = 44$, $range = [4, 84]$) as participants often continued the experience sampling until they could return the palm pilot to the laboratory. Similarly, in Study 2 the average number of completed reports was 46.75 ($SD = 14.14$, $median = 49$, $range = [3, 73]$) of the ideal 71 prompts, or around 65.8% of the prompts actually given by each participant's iPod touch.

Samples

Study 1 comprised of 161 participants sampled from first year undergraduate courses as part of a larger study. Participants were compensated with \$50 for their time. Participants ranged in age from 17 to 36 (*median* = 19) and were 69% female, 30% male and 1% of the sample did not identify their gender. Information on ethnicity *per se* was not collected in Study 1. However, participants were asked to identify their “heritage culture” or the culture that “influenced them the most” other than North American. 38% of participants indicated that their heritage culture was East Asian, 34% English and 27% other. Study 2 comprised of 146 participants sampled from the University of British Columbia’s Human Subject Pool. Once again, participants were compensated with \$50 for their involvement in the study. Participants ranged in age from 15 to 39 (*median* = 21) and were 76% female, 24% male and 1% unknown. In addition, participants were 70% East Asian, 20% Caucasian and 10% other.

Measures

All measures in Studies 1 and 2 were rated on scales from 1 (*strongly disagree*) to 7 (*strongly agree*).

Dispositional personality traits. In Study 1, composite measures of individuals’ Big Five personality traits were calculated based on the average of self, room-mate and parent report of personality traits. All three observer types rated individuals’ personality on both the 44 item Big Five Inventory (BFI; John & Srivasta, 1999) and on Goldberg’s (1992) list of 100 trait adjectives. The BFI assesses each of the Big Five personality dimensions with 8-9 items, including “is outgoing, sociable” (*extraversion*) “is depressed, blue” (*emotional stability, reversed*) “is original, comes up with new ideas” (*openness*), “is helpful, unselfish with

others” (*agreeableness*), and “receives very good grades” (*conscientiousness*). Similarly, Goldberg’s list of 100 trait adjectives measures each personality dimension with 20 adjectives (10 of which are reverse coded). Items include “talkative” (*extraversion*), “cooperative” (*agreeable*), “disorganized” (*conscientiousness, reversed*), “anxious” (*emotional stability, reversed*) and “creative” (*intellect/openness*). In study 2, composite measures of Big Five personality traits were calculated based on the average of self reports, the reports of two peers, and parent reports. In Study 2, all observer types rated participants personality on the 44 item BFI. In Study 1 and 2, ICC’s = .77 and .53 for agreeableness, .82 and .63 for conscientiousness, .91 and .71 for extraversion, .82 and .56 for emotional stability, and .83 and .59 and for openness.

Dispositional well-being. In Study 1 and 2 dispositional self-esteem was measured at baseline with the Rosenberg Self-Esteem Scale (Rosenberg, 1965; ICC = .90 & .88 respectively), which comprises of 10 items including “at times I think I’m no good at all” (reversed) and “I feel that I am a person of worth, at least on an equal basis with others.” In addition to dispositional self-esteem, Study 2 included measures of dispositional life satisfaction (ICC = .84) and relationship well-being (ICC = .87) measured at baseline. Dispositional life satisfaction was measured with the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) and dispositional relationship well-being was measured with the Relationship Well-Being Scale (RWBS), which is a 14-item subscale of Ryff’s Psychological Well-Being Scale (1989). The SWLS includes items such as “the conditions of my life are excellent” and “I am satisfied with my life.” The RWBS measures sense of loneliness and social support (e.g. “I often feel lonely because I have few close friends with whom to share my concerns”) as well as ease of

relating to others and quality of relationships (e.g. “I find it difficult to really open up when I talk with others” and “I know that I can trust my friends, and they know they can trust me”). The Rosenberg Self Esteem Scale, Satisfaction With Life Scale and Relationship Well-Being Scales can be found in Tables 1-3 of the appendix.

Personality states (i.e. behaviour). In Study 1, personality states were assessed multiple times per day during the experience sampling period with 22 trait adjectives selected from Goldberg’s (1992) list of 100 trait adjectives. Four to five trait adjectives were selected to represent each of the Big Five personality dimensions. Trait adjectives were selected based on factor loadings on personality dimensions, and also to have some degree of balance between positively and negatively phrased items. For example, state conscientiousness was measured with both *organized* and *careless* and state emotional stability was measured with both *relaxed* and *nervous*. In addition, the researchers selected trait adjectives which they felt would be easily understood and utilized by participants to describe their behaviour. Table 4 of the appendix lists the specific trait adjectives used. Participants were instructed to rate the extent to which each of these trait adjectives described their behaviour in the past 30 minutes. For example, the experience sampling survey would prompt participants to rate the extent to which participants agreed with the statement “during the past 30 minutes I was relaxed” (*neuroticism-reversed*). ICC’s = .94 for extraversion, .96 for emotional stability, .96 for conscientiousness, .96 for agreeableness, and .96 for openness.

Personality states were measured somewhat differently in Study 2. Rather than using trait adjectives, personality states were measured with a 31 item version of the BFI, with instructions adjusted for the purposes of experience sampling states. For each item, participants

were instructed to rate how someone else would describe their behaviour in the past 30 minutes. For example, participants rated the extent to which, during the past 30 minutes, someone else would describe them as “outgoing, sociable” (*extraversion*). The change in phrasing from asking participants to describe their *own* behaviour to asking participants to consider how *someone else* would describe their behaviour was intended to encourage participants to more objectively report on their behaviour in a given moment. The 31 BFI items used to measure personality states in Study 2 are listed in Table 5 of the appendix. ICCs = .94 for extraversion, .96 for emotional stability, .96 for conscientiousness, .96 for agreeableness, and .96 for openness.

Well-being states. In Study 1, participants were instructed to evaluate their state self-esteem and state life satisfaction at each measurement occasion of the experience sampling period “in the context of the past 30 minutes.” State self-esteem was measured with the full 10-item Rosenberg Self-Esteem Scale (ICC = .99) and state life satisfaction was measured with the full 5-item Satisfaction With Life Scale (ICC = .99) at each measurement occasion.

In Study 2, state self-esteem, state life satisfaction, state positive affect and state negative affect were measured multiple times per day during experience sampling. In Study 2, state self-esteem and state life satisfaction were assessed with single items (“I have high self-esteem” and “I am satisfied with my life”, respectively) with ICCs = .98 based on 40 assessments. State positive affect was measured with three positive emotion items (*happy, cheerful, excited*) and state negative affect was measured with four negative emotion items (*sad, unhappy, angry, anxious*) sampled from the PANAS expand form (PANAS-X; Watson & Clark, 1999) with ICCs = .97 and .98, respectively, based on 40 assessments. Participants were instructed to answer state well-being items “in the context of the past 30 minutes.”

Data Analytic Strategy

This research examined three central questions: (1) to what extent are personality and well-being states correlated within individuals (2) to what extent do personality states predict change in well-being states and to what extent do well-being states predict change in personality states, and (3) to what extent do dispositional personality traits and dispositional well-being moderate the above within person relationships? These pathways are represented by the cross lagged model depicted in Figure 1. In this model, path a and b = autocorrelations of personality and well-being variables, path c = personality states predicting change in well-being states, path d = well-being states predicting change in personality states, and path e = concurrent relationships between personality and well-being states.

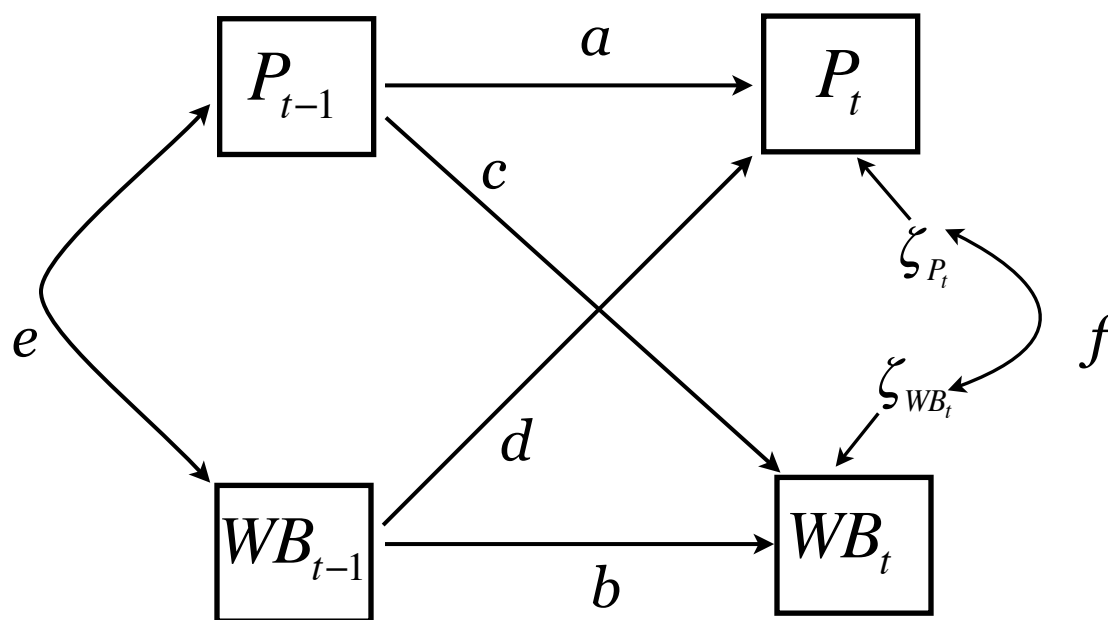


Figure 1. Cross Lagged Model

To examine these within person relationships, multilevel models in which variables were nested within individuals were used. In addition, cross lagged multilevel models were employed

to examine the extent to which personality states predicted change in well-being states and vice versa. All experience sampling data were centred within individuals by subtracting the empirical Bayesian estimates of individuals' mean from each score before each analysis. For instance, individuals' empirical Bayesian mean on state extraversion across all assessments was subtracted from their raw scores for state extraversion at each measurement occasion. Thus, within person changes in personality states and well-being states represent fluctuations around individuals' mean level.

To address question (1), the following model was examined for each trait:

$$WB_{it} = b_{10_i} + b_{11_i}P_{it} + \varepsilon_{it}, \quad (1)$$

where WB_{it} and P_{it} are participant i 's well-being and personality state measure at assessment t , respectively, centred within person. Both the intercept and slope are allowed to vary randomly across participants and b_{11_i} in (1) corresponds to path e in Figure 1. To examine the cross lagged relationships, two models were estimated:

$$WB_{it} = b_{20_i} + b_{21_i}WB_{i(t-1)} + b_{22_i}P_{i(t-1)} + \varepsilon_{it} \quad (2)$$

and

$$P_{it} = b_{30_i} + b_{31_i}WB_{i(t-1)} + b_{32_i}P_{i(t-1)} + \varepsilon_{it}. \quad (3)$$

In both (2) and (3) WB_{it} and P_{it} represent participant i 's well-being and personality state measure at assessment t , respectively, and $WB_{i(t-1)}$ and $P_{i(t-1)}$ represent participant i 's well-being and personality state measure at the previous assessment ($t-1$), respectively, on that same day, with all measures centred within-person. All coefficients were allowed to vary randomly across

participants and b_{21_i} , b_{22_i} , b_{31_i} , and b_{32_i} correspond to paths b , c , d , and a in Figure 1, respectively.

In order to summarize relations between personality states and individuals' general feelings of well-being (rather than specific well-being indicators) we created composite measures of state well-being in Study 1 & 2. In Study 1 and 2 the average of state self-esteem and life satisfaction is referred to as "composite well-being" (CWB). In addition, because study 2 also included measures of state positive and negative affect, "total composite well-being" (TCWB) was calculated as the average of state self-esteem, life satisfaction, positive affect and negative affect-reversed.

Concurrent and lagged relationships between personality states and well-being states are reported for all five personality states and for all indicators of state well-being (including CWB and TCWB). Moderation analyses were conducted on within person relationships between all Big Five states and composite measures of state well-being variables (CWB in study 1 and TCWB in Study 2) by including predictors of the intercept and slopes in equations (1-3).

Reported approximate standardized regression coefficients (betas) were calculated by standardizing within-person measures using the average within-person standard deviation. For example, to standardize well-being the within-person assessment of well-being was divided by the pooled standard deviation of well-being residuals calculated by examining the intercept-only model where well-being is allowed to vary randomly across participants. All analyses were performed in the statistical programming software *R* using *lme4* version 1.1-12 (Bates, Maechler, Bolker, & Walker, 2015).

Results

Descriptive Statistics

Descriptive statistics (mean, standard deviation, median, and range) for all personality and well-being measures in Study 1 and 2 are listed in Tables 6 and 7 of the appendix, respectively.

Do Personality and Well-Being States Covary Within Individuals (Path e)?

First, we examined the extent to which concurrent personality states and well-being states are correlated within individuals. These relationships are represented by path e in the cross lagged figure. Univariate relationships between each personality state and each measure of state well-being were computed with single predictor regression analyses in which a personality state (extraversion, emotional stability, conscientiousness, agreeableness or openness) predicted a state well-being measure (self-esteem, life satisfaction or composite well-being in Study 1 and self-esteem, life satisfaction, positive affect, negative affect, composite well-being and total composite well-being in Study 2).

Standardized univariate relationships between personality and well-being states in Study 1 are represented in Table 1. Results showed that all personality states were significantly, positively correlated with all three measures of state well-being (self-esteem, life satisfaction, composite well-being) within individuals. The strength of the association between personality states and state well-being was similar across all five personality states, with regression coefficients ranging from 0.229 to 0.277.

Table 1. *Study 1 Univariate Relationships Between Personality States and Well-Being States (Path e)*

Personality State	Self-Esteem Beta (se)	Life Satisfaction Beta (se)	CWB Beta (se)
Extraversion	0.214(0.024)***	0.180(0.020)***	0.223(0.023)***
Emotional Stability	0.228(0.025)***	0.152(0.020)***	0.216(0.023)***
Conscientiousness	0.247(0.026)***	0.200(0.021)***	0.255(0.024)***
Agreeableness	0.210(0.026)***	0.201(0.022)***	0.234(0.026)***
Openness	0.171(0.026)***	0.206(0.024)***	0.217(0.026)***

*Note. DF = 159. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. Beta = standardized regression coefficient of specified personality state predicting the well-being state. CWB = composite well-being (average of state self-esteem and life satisfaction).

Table 2. *Study 2 Univariate Relationships Between Personality States and State Self-Esteem & State Life Satisfaction (Path e)*

Personality State	Self-Esteem Beta(se)	Life Satisfaction Beta(se)	CWB Beta(se)
Extraversion	0.324(0.024)***	0.327(0.025)***	0.372(0.026)***
Emotional Stability	0.377(0.024)***	0.413(0.023)***	0.451(0.025)***
Conscientiousness	0.275(0.022)***	0.287(0.025)***	0.322(0.025)***
Agreeableness	0.299(0.022)***	0.344(0.0244)***	0.367(0.025)***
Openness	0.336(0.024)***	0.328(0.025)***	0.379(0.026)***

*Note. DF = 143. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. Beta = standardized regression coefficient of specified personality state predicting well-being variable. CWB = composite well-being (average of state self-esteem and life satisfaction).

Table 3. *Study 2 Univariate Relationships Between Personality States and State Positive & Negative Affect (Path e)*

Personality State	Positive Affect Beta(se)	Negative Affect Beta(se)	TCWB Beta(se)
Extraversion	0.466(0.023)***	-0.313(0.024)***	0.442(0.025)***
Emotional Stability	0.482(0.022)***	-0.497(0.023)***	0.559(0.023)***
Conscientiousness	0.310(0.024)***	-0.282(0.024)***	0.349(0.026)***
Agreeableness	0.415(0.021)***	-0.368(0.022)***	0.447(0.023)***
Openness	0.376(0.024)***	-0.276(0.024)***	0.387(0.026)***

*Note. DF = 143. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. Beta = standardized regression coefficient of specified personality state predicting well-being variable. TCWB = total composite well-being (average of state self-esteem, life satisfaction, positive affect and negative affect-reversed).

Standardized univariate relationships between personality and well-being states in Study 2 are represented in Tables 2-3. Results showed that all personality states were significantly positively correlated with self-esteem, life satisfaction, positive affect and composite well-being measures and negatively correlated with negative affect. Within person associations between

personality and well-being states were notably stronger in Study 2 compared to Study 1, with coefficients ranging from 0.275 to 0.559. In addition, in Study 2, emotional stability was most strongly associated with well-being variables, followed by extraversion, agreeableness, openness and conscientiousness. In sum, across Studies 1 and 2, all Big Five personality states were substantially correlated with each indicator of state well-being within individuals. When individuals' behaviour was more extraverted, emotionally stable, conscientious, agreeable and open they reported higher self-esteem, life satisfaction, positive affect and lower levels of negative affect.

Next, in order to assess the extent to which each personality state was *uniquely* associated with well-being states, we computed multivariate regression models in which *all five* personality states predicted one well-being measure (self-esteem, life satisfaction or composite well-being in Study 1 and self-esteem, life satisfaction, positive affect, negative affect, composite well-being and total composite well-being in Study 2). Unstandardized partial regression coefficients from these models are represented in Table 4 (Study 1) and Tables 5-6 (Study 2). Results showed that in Study 1 all Big Five personality states remained significantly associated with all three well-being measures, while controlling for the four other personality states. Thus, these results indicate that all Big Five personality states are uniquely associated with momentary experiences of well-being within individuals. In Study 1 emotional stability and conscientiousness exhibited the strongest unique relationships with well-being, followed by extraversion, agreeableness and openness.

Table 4. *Study 1 Partial Relationships Between Personality States and State Well-being (Path e)*

Personality State	Self-Esteem b(se)	Life Satisfaction b(se)	CWB b(se)
Extraversion	0.048(0.011)***	0.040(0.011)***	0.045(0.006)***
Emotional Stability	0.084(0.010)***	0.060(0.008)***	0.070(0.009)***
Conscientiousness	0.104(0.014)***	0.061(0.013)***	0.085(0.012)***
Agreeableness	0.038(0.013)**	0.049(0.014)***	0.042(0.012)***
Openness	0.027(0.013)*	0.083(0.014)***	0.053(0.012)***

*Note. DF = 159. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. b = unstandardized partial regression coefficient of specified personality state predicting well-being state, while controlling for the other four personality states. CWB = composite well-being (average of state self-esteem and life satisfaction).

Table 5. *Study 2 Partial Relationships Between Personality States and State Self-Esteem & State Life Satisfaction (Path e)*

Personality State	Self-Esteem b(se)	Life Satisfaction b(se)	CWB b(se)
Extraversion	0.172(0.024)***	0.165(0.025)***	0.167(0.021)***
Emotional Stability	0.341(0.030)***	0.397(0.025)***	0.366(0.024)***
Conscientiousness	0.049(0.028)	0.051(0.029)	0.053(0.025)*
Agreeableness	0.075(0.029)*	0.158(0.038)***	0.113(0.028)***
Openness	0.228(0.034)***	0.172(0.032)***	0.201(0.029)***

*Note. DF = 143. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. b = unstandardized partial regression coefficient of specified personality state predicting well-being variable, while controlling for the other four personality states. CWB = composite well-being (average of state self-esteem and life satisfaction).

Table 6. *Study 2 Partial Relationships Between Personality States and State Positive & Negative Affect (Path e)*

Personality State	Positive Affect b(se)	Negative Affect b(se)	TCWB b(se)
Extraversion	0.340(0.023)***	-0.106(0.021)***	0.195(0.018)***
Emotional Stability	0.430(0.028)***	-0.521(0.030)***	0.454(0.024)***
Conscientiousness	-0.022(0.027)	-0.032(0.026)	0.021(0.022)
Agreeableness	0.197(0.030)***	-0.208(0.030)***	0.184(0.025)***
Openness	0.201(0.030)***	-0.032(0.025)	0.129(0.023)***

*Note. DF = 143. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. b = unstandardized partial regression coefficient of specified personality state predicting well-being variable, while controlling for the other four personality states. TCWB = total composite well-being (average of state self-esteem, life satisfaction, positive affect and negative affect-reversed).

In Study 2, results showed that extraversion, emotional stability and agreeableness all remained significantly positively correlated with self-esteem, life satisfaction, positive affect and composite well-being measures, and negatively correlated with negative affect, while controlling for the other four personality states. By contrast, state conscientiousness was only uniquely

(positively) associated with composite well-being (average of self-esteem and life satisfaction). In addition, state openness was uniquely (positively) associated with all measures of state well-being except for state negative affect.

In sum, Studies 1 and 2 both indicated that, in general, Big Five personality states are uniquely correlated with well-being; in Study 1 all five personality states exhibited significant partial correlations with state well-being variables, and in Study 2 four of the five personality states exhibited unique associations with virtually all of the indicators of state well-being. A notable difference between Studies 1 and 2 was that whereas in Study 1 state conscientiousness exhibited one of the strongest partial relationships with state well-being, in Study 2 state conscientiousness did not exhibit significant partial relationships with any of the indicators of well-being other than composite well-being, after controlling for the other four personality states.

Finally, in order to examine whether relations between personality states and self-esteem and between personality states and life satisfaction were simply due to correlations between personality states and affect, in Study 2 regression models were computed in which a personality state (extraversion, emotional stability, conscientiousness, agreeableness or openness), as well as positive and negative affect, predicted a well-being variable (either self-esteem or life satisfaction). Associations between personality states and self-esteem and life satisfaction while controlling for positive and negative affect are represented in Table 8 of the appendix. Results showed that when controlling for positive and negative affect, associations between personality states and state self-esteem and life satisfaction were reduced, but remained highly significant. Thus, these results indicate that although part of the association between personality states and self-esteem and life satisfaction may be due to associations between personality states and affect,

the more cognitive aspects of momentary well-being (self-esteem and life satisfaction) are also independently associated with personality states.

Do Personality States Predict Change in Well-Being States (Path c)?

Next, we examined the extent to which personality states at one measurement occasion predicted change in well-being states at the next measurement occasion. These relationships are represented by path c in the cross lagged figure. In order to assess whether personality states predicted change in well-being states, cross lagged regression models in which a personality state and a well-being state predicted the well-being state at the next measurement occasion were computed. For example, in the model used to assess the extent to which state agreeableness predicted change in life satisfaction, agreeableness and life satisfaction at time $t-1$ predicted life satisfaction at time t . The partial regression coefficient associated with agreeableness in this model represents the extent which agreeableness in one moment predicts life satisfaction at the next moment, controlling for life satisfaction at the previous moment. Thus, this partial regression coefficient estimates the extent to which agreeableness in one moment predicts *change* in life satisfaction from that measurement occasion to the next.

Unstandardized partial regression coefficients from models in which each personality state predicted change in each well-being measure are listed in Table 7 (Study 1) and Tables 8-9 (Study 2). In Study 1, the only two personality states which significantly predicted change in well-being states were conscientiousness and openness. When individuals reported that their behaviour was particularly conscientious and open in one moment, their level of self-esteem and life satisfaction tended to increase by the next measurement occasion. The other three

personality states did not significantly predict change in any of the three state well-being measures.

Table 7. *Study 1 Personality States Predicting Change in Well-Being States (Path c)*

Personality State	Self-Esteem b(se)	Life Satisfaction b(se)	CWB b(se)
Extraversion	-0.005(0.008)	0.009(0.010)	-0.00(0.007)
Emotional Stability	0.013(0.007)	0.007(0.008)	0.013(0.008)
Conscientiousness	0.031(0.010)**	0.030(0.012)*	0.031(0.010)**
Agreeableness	-0.008(0.011)	0.011(0.014)	0.002(0.010)
Openness	0.022(0.009)*	0.032(0.011)**	0.026(0.009)**

*Note. DF = 156. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. b = unstandardized partial regression coefficient of specified personality state predicting change in specified well-being variable at the next measurement occasion. CWB = composite well-being (average of state self-esteem and life satisfaction).

Table 8. *Study 2 Personality States Predicting Change in Self-Esteem & Life Satisfaction (Path c)*

Personality State	Self-Esteem b(se)	Life Satisfaction b(se)	CWB b(se)
Extraversion	0.045(0.020)*	0.050(0.024)*	0.025(0.018)
Emotional Stability	0.122(0.022)***	0.120(0.028)***	0.102(0.023)***
Conscientiousness	0.084(0.030)**	0.061(0.030)*	0.054(0.027)*
Agreeableness	0.091(0.026)***	0.054(0.030)	0.048(0.025)
Openness	0.143(0.029)***	0.071(0.027)**	0.089(0.024)***

*Note. DF = 143. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. b = unstandardized partial regression coefficient of specified personality state predicting change in specified well-being variable at the next measurement occasion. CWB = composite well-being (average of state self-esteem and life satisfaction).

Table 9. *Study 2 Personality States Predicting Change in Positive Affect and Negative Affect (Path c)*

Personality State	Positive Affect b(se)	Negative Affect b(se)	TCWB b(se)
Extraversion	0.009(0.020)	0.004(0.017)	-0.014(0.015)
Emotional Stability	0.058(0.025)*	-0.079(0.024)**	0.047(0.019)*
Conscientiousness	0.001(0.027)	-0.035(0.022)	0.004(0.021)
Agreeableness	0.005(0.029)	-0.035(0.026)	-0.006(0.023)
Openness	0.044(0.027)	-0.026(0.021)	0.021(0.020)

*Note. DF = 143. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. b = unstandardized partial regression coefficient of specified personality state predicting change in specified well-being variable at the next measurement occasion. TCWB = total composite well-being (average of state self-esteem, life satisfaction, positive affect and negative affect-reversed).

Study 2 findings provided stronger evidence for personality states predicting change in self-esteem and life satisfaction, compared to Study 1. All five personality states predicted

change in self-esteem, and all but state agreeableness predicted change in life satisfaction. That is, when individuals behaved more extraverted, emotionally stable, conscientious, agreeable and open they experienced positive change in their level of self-esteem and when individuals behaved more extraverted, emotionally stable, conscientious and open they experienced positive change in their level of life satisfaction. By contrast, personality states were much less predictive of change in positive and negative affect and of change in the total composite well-being measure (average of self-esteem, life satisfaction, positive affect and negative affect). The only personality state to significantly predict change in positive affect, negative affect and total composite well-being was state emotional stability. Following moments when individuals reported high emotional stability, their level of positive affect increased and their level of negative affect decreased.

Do Well-Being States Predict Change in Personality States (Path d)?

Next, we examined the extent to which well-being states at one measurement occasion predicted change in personality states by the next measurement occasion. These relationships are represented by path d in the cross lagged figure. In order to assess whether well-being states predicted change in personality states, cross lagged regression models in which a well-being state and a personality state predicted the personality state at the next measurement occasion were computed. For example, in the model used to assess the extent to which state self-esteem predicted change in conscientiousness, state self-esteem and conscientiousness at time $t-1$ predicted conscientiousness at time t . The partial regression coefficient associated with self-esteem in this model represents the extent which self-esteem in one moment predicts conscientiousness at the next moment, controlling for conscientiousness at the previous moment.

Thus, this partial regression coefficient estimates the extent to which self-esteem in one moment predicts *change* in conscientiousness from that measurement occasion to the next.

Unstandardized partial regression coefficients from models in which a measure of state well-being predicted change in a personality state are listed in Table 10 (Study 1) and Tables 11-12 (Study 2). In Study 1, all three measures of state well-being significantly predicted change in a number of personality states. Specifically, life satisfaction and composite well-being (self-esteem and life satisfaction) significantly predicted change in conscientiousness, agreeableness and openness. That is, when individuals experienced higher life satisfaction and higher average of self-esteem and life satisfaction, their level of conscientiousness, agreeableness and openness increased. In addition, self-esteem significantly predicted change in agreeableness and openness such that when individuals exhibited particularly high self-esteem, their behaviour became more agreeable and more open by the next measurement occasion.

In Study 2, we found that self-esteem and life satisfaction predicted positive change in extraversion, emotional stability, agreeableness, and openness, but not in conscientiousness. In addition, positive affect and total composite well-being (self-esteem, life satisfaction, positive affect and negative affect-reversed) predicted positive change in all five personality states and negative affect predicted negative change in all five personality states. Thus, when individuals experienced higher well-being in a given moment (especially higher positive affect and lower negative affect) they experienced positive change in personality states (i.e. behaviour).

Table 10. *Study 1 Well-Being States Predicting Change in Personality States (Path d)*

Personality State	Self-Esteem b(se)	Life Satisfaction b(se)	CWB b(se)
Extraversion	0.014(0.031)	0.017(0.030)	0.020(0.035)
Emotional Stability	-0.025(0.035)	-0.022(0.030)	-0.032(0.038)
Conscientiousness	0.040(0.032)	0.089(0.028)**	0.095(0.036)**
Agreeableness	0.066(0.031)*	0.069(0.026)**	0.097(0.035)**
Openness	0.068(0.033)*	0.082(0.028)**	0.103(0.037)**

*Note. DF = 156. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. b = unstandardized partial regression coefficient of specified well-being state predicting change in specified personality state at the next measurement occasion. CWB = composite well-being (average of state self-esteem and life satisfaction).

Table 11. *Study 2 Self-Esteem & Life Satisfaction Predicting Change in Personality States (Path d)*

Personality State	Self-Esteem b(se)	Life Satisfaction b(se)	CWB b(se)
Extraversion	0.058(0.014)***	0.069(0.014)***	0.084(0.016)***
Emotional Stability	0.054(0.014)***	0.052(0.014)***	0.072(0.016)***
Conscientiousness	0.018(0.012)	0.006(0.011)	0.016(0.013)
Agreeableness	0.030(0.011)**	0.026(0.012)*	0.037(0.013)**
Openness	0.057(0.011)***	0.043(0.011)***	0.067(0.013)***

*Note. DF = 143. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. b = unstandardized partial regression coefficient of specified well-being state predicting change in specified personality state at the next measurement occasion. CWB = composite well-being (average of state self-esteem and life satisfaction).

Table 12. *Study 2 Positive & Negative Affect Predicting Change in Personality States (Path d)*

Personality State	Positive Affect b(se)	Negative Affect b(se)	TCWB b(se)
Extraversion	0.103(0.015)***	-0.067(0.015)***	0.119(0.018)***
Emotional Stability	0.072(0.014)***	-0.083(0.016)***	0.123(0.019)***
Conscientiousness	0.038(0.011)***	-0.026(0.011)*	0.042(0.013)**
Agreeableness	0.046(0.011)***	-0.030(0.011)**	0.056(0.014)***
Openness	0.065(0.011)***	-0.029(0.011)*	0.069(0.013)***

*Note. DF = 143. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. b = unstandardized partial regression coefficient of specified well-being state predicting change in specified personality state at the next measurement occasion. TCWB = total composite well-being (average of state self-esteem, life satisfaction, positive affect and negative affect-reversed).

In order to assess the *unique* effect of each well-being state on change in personality states, we computed additional models in which *all* four well-being states (self-esteem, life satisfaction, positive affect and negative affect) simultaneously predicted change in personality states. Unstandardized regression coefficients from these analyses are represented in Tables 9-10

of the appendix. Results showed that when controlling for all other well-being states, positive affect was the only well-being state that remained a significant predictor of change in all Big Five personality states. By contrast, when controlling for all other well-being states, self-esteem only significantly predicted change in openness, negative affect only significantly predicted change in emotional stability, and life satisfaction only significantly predicted change in conscientiousness. Thus, it appears that positive affect is most strongly predictive of change in Big Five behaviours, over and above self esteem, life satisfaction, and negative affect. Moreover, these results indicate that the effect of the remaining well-being variables on change in behaviour is driven largely by positive affect.

Do Dispositional Personality Traits and Dispositional Well-Being Moderate Concurrent Within Person Relationships Between Personality and Well-Being States?

Next, we examined whether dispositional personality traits and dispositional well-being moderated within person relationships between concurrent personality and well-being states. Moderation analyses were conducted for within person pathways between each Big Five personality state and composite well-being (average of state self-esteem and life satisfaction) in Study 1 and total composite well-being in Study 2 (average of state self-esteem, life satisfaction, positive affect, negative affect-reversed). The potential moderating effect of each dispositional personality trait was assessed for the relationship between the corresponding personality state and state well-being within individuals. For example, we examined whether trait extraversion moderated the within person relationship between state extraversion and state well-being, and whether dispositional conscientiousness moderated the within person relationship between state conscientiousness and state well-being. We assessed whether personality traits exerted a

moderating influence by including interaction terms in which a dispositional personality trait and the corresponding personality state interacted to predict state well-being. In addition, these analyses were re-computed with individuals' mean level of exhibited personality states as moderators. For instance, we examined whether individuals' average level of extraversion across the experience sampling period moderated within person relationships between state extraversion and well-being states.

The standardized partial regression coefficients associated with these interaction terms are listed in Table 13 (Study 1) and Table 14 (Study 2). Study 1 results showed that dispositional personality traits did not moderate any within person associations between personality states and state well-being. For instance, individuals who were dispositionally high and dispositionally low on conscientiousness did not exhibit significantly different within person relationships between state conscientiousness and state well-being. In addition, Study 1 results showed that individuals' average levels of personality states did not generally moderate within person associations between personality states and well-being states. For instance, state conscientiousness and state well-being were not differentially related among individuals who exhibited a high level of conscientiousness on average, compared to individuals who exhibited a low level of conscientiousness on average. However, there was one significant moderating effect: mean state emotional stability significantly moderated the within person relationship between emotional stability and well-being. This moderation was such that individuals who exhibited a *higher* level of emotional stability on average during the experience sampling period had a *weaker* within person relationship between their state emotional stability and momentary experiences of well-being.

Table 13. *Study 1 Moderators of Associations Between Concurrent Personality and Well Being States (Moderators of Path e)*

Moderator	Personality State				
	EX Beta(se)	ES Beta(se)	CO Beta(se)	AG Beta(se)	OP Beta(se)
MSP	0.020(0.042)	-0.085(0.031)**	-0.045(0.045)	-0.011(0.047)	-0.046(0.046)
DP	-0.026(0.025)	0.012(0.032)	0.004(0.037)	0.006(0.044)	-0.042(0.045)
MSWB	-0.068(0.024)**	-0.047(0.024)	-0.053(0.026)*	-0.072(0.027)**	-0.068(0.028)*
DSE	-0.069(0.019)***	-0.012(0.020)	-0.062(0.021)**	-0.054(0.022)*	-0.060(0.023)**

*Note. DF = 159. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. Beta = partial standardized regression coefficients of interaction terms in models in which the specified moderator and personality state interact to predict state well-being. EX, ES, CO, AG and OP = state extraversion, emotional stability, conscientiousness, agreeableness and openness. MSP = mean personality state during experience sampling. For example, MPS moderator for state extraversion in predicting state well-being is mean state extraversion. DP = dispositional personality trait measured at baseline. For example, DP moderator for state extraversion in predicting state well-being is dispositional extraversion measured with BFI at baseline. MSWB = mean state well-being (composite of mean SE and LS) during experience sampling. DSE = dispositional self-esteem measured at baseline.

Table 14. *Study 2 Moderators of Associations Between Concurrent Personality and Well Being States (Moderators of Path e)*

Moderator	Personality State				
	EX Beta(se)	ES Beta(se)	CO Beta(se)	AG Beta(se)	OP Beta(se)
MSP	0.041(0.043)	-0.066(0.035)	-0.046(0.041)	-0.008(0.040)	0.009(0.039)
DP	0.00(0.028)	-0.083(0.026)**	-0.062(0.035)	-0.006(0.034)	0.056(0.037)
MSTWB	-0.093(0.030)**	-0.053(0.028)	-0.030(0.032)	-0.021(0.029)	-0.029(0.032)
DWB	-0.060(0.029)*	-0.036(0.027)	-0.048(0.030)	-0.024(0.027)	-0.002(0.030)

*Note. DF = 143. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. Beta = partial standardized regression coefficients of interaction terms in models in which the specified moderator and personality state interact to predict total composite state well-being (average of self-esteem, life satisfaction, positive affect and negative affect-reversed). EX, ES, CO, AG and OP = state extraversion, emotional stability, conscientiousness, agreeableness and openness. MSP = mean personality state during experience sampling. For example, MPS moderator for state extraversion in predicting composite state well-being is mean state extraversion. DP = dispositional personality trait measured at baseline. For example, DP moderator for state extraversion in predicting composite state well-being is dispositional extraversion measured with BFI at baseline. MSTWB = mean state total well-being (composite of mean self-esteem, life satisfaction, positive affect and negative affect-reversed) during experience sampling. DWB = dispositional well-being measured at baseline (composite of dispositional SE, LS and relationship well-being).

Similarly, in Study 2, dispositional personality traits and individuals' mean level of personality states generally did not moderate within person relationships between corresponding personality states and total composite well-being. The one exception was that dispositional emotional stability moderated the within person relationship between state emotional stability and well-being. Again, the moderation was such that more emotionally stable individuals

exhibited weaker within person connections between emotionally stable states and momentary experiences of well-being.

The moderating influence of dispositional well-being was assessed with the inclusion of interaction terms in which dispositional well-being interacted with one of the five personality states to predict state well-being. In Study 1, dispositional well-being was simply dispositional self-esteem as this was the only well-being measure assessed at baseline in Study 1. In Study 2, dispositional well-being was a composite measure calculated from the average of dispositional self-esteem, life satisfaction and relationship well-being measured at baseline. In addition, we re-computed these moderation analyses, using individuals' average level of state well-being (average of self-esteem and life satisfaction in Study 1 and average of self-esteem, life satisfaction, positive affect and negative affect) exhibited during the experience sampling period as an indicator of dispositional well-being.

The standardized regression coefficients associated with these interactions are listed in Table 13 (Study 1) and Table 14 (Study 2). Study 1 results showed that dispositional self-esteem significantly moderated within person associations between personality states and state well-being among 4 out of 5 personality states (extraversion, conscientiousness, agreeableness, openness). The moderations were such that individuals who were dispositionally high on self-esteem exhibited weaker within person associations between personality states and state well-being, compared to individuals who were dispositionally low on self-esteem. In addition, Study 1 results showed that individuals' mean level of well-being exhibited during experience sampling moderated within person relations between the same four personality states (extraversion, conscientiousness, agreeableness, openness) and state well-being. Once again, the moderation

was such that individuals who exhibited a higher level of well-being on average during experience sampling exhibited weaker within person relationships between personality states and state well-being. By contrast, in Study 2, dispositional well-being and mean state well-being did not significantly moderate within person relations between personality and well-being states. The one exception was that in Study 2, dispositional well-being and mean state well-being moderated within person relations between state extraversion and state well-being such that individuals who were higher on dispositional well-being and mean state well-being exhibited weaker relations between state extraversion and state well-being.

Do Dispositional Personality Traits and Dispositional Well-Being Moderate Cross Lagged Within Person Relationships Between Personality and Well-Being States?

Next, we examined whether the cross lagged paths were moderated by dispositional personality traits or by dispositional well-being. That is, whether the extent to which personality states predicted change in well-being states, or the extent to which well-being states predicted change in personality states, was moderated by either dispositional personality traits or by dispositional well-being. In order to assess these potential moderators of cross lagged pathways, interaction terms in which either one of the five dispositional personality traits or dispositional well-being interacted with the predictors of the cross lagged models (one of the five personality states or state well-being). Moderation analyses were conducted on cross lagged pathways between each of the Big Five personality states and a measure composite well-being (CWB in Study 1 and TCWB in Study 2).

Table 15 shows the unstandardized regression coefficients of interactions between dispositional personality traits and personality states and between dispositional self-esteem and

personality states in predicting change in well-being in Study 1. Results showed that in general, neither dispositional personality traits nor dispositional well-being moderated the extent to which personality states predicted change in state well-being in Study 1. The one exception was that dispositional self-esteem significantly moderated the extent to which conscientiousness predicted change in state well-being. Table 16 shows the unstandardized regression coefficients from interactions between dispositional personality traits and personality states and between dispositional well-being and personality states in predicting change in well-being in Study 2. Results showed that neither dispositional personality traits nor dispositional well-being moderated the extent to which personality states predicted change in state well-being in Study 2.

Table 15. *Study 1 Moderators of Personality States Predicting Change in Well-Being States (Moderators of Path c)*

Moderator	Personality State				
	EX b(se)	ES b(se)	CO b(se)	AG b(se)	OP b(se)
MSP	-0.010(0.014)	-0.009(0.011)	-0.020(0.019)	-0.016(0.021)	0.022(0.016)
DP	-0.001(0.008)	0.012(0.010)	0.008(0.015)	0.030(0.018)	0.026(0.015)
MSWB	0.006(0.008)	-0.011(0.008)	-0.011(0.009)	0.005(0.012)	0.011(0.009)
DSE	0.000(0.007)	-0.006(0.007)	-0.031(0.007)***	0.003(0.009)	-0.004(0.008)

*Note. DF = 156. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. b = unstandardized partial regression coefficients of interaction terms in models in which the specified moderator interacts with the specified personality state to predict change in state well-being. EX, ES, CO, AG and OP = state extraversion, emotional stability, conscientiousness, agreeableness and openness. MSP = mean personality state during experience sampling. For example, MSP moderator for state extraversion predicting change in composite state well-being is mean state extraversion. DP = dispositional personality trait measured at baseline. For example, DP moderator for state extraversion predicting change in state well-being is dispositional extraversion measured with BFI at baseline. MSWB = mean state well-being (composite of self-esteem and life satisfaction) measured during experience sampling. DSE = dispositional self-esteem measured at baseline.

Table 16. *Study 2 Moderators of Personality States Predicting Change in Well-Being States (Moderators of Path c)*

Moderator	Personality State				
	EX b(se)	ES b(se)	CO b(se)	AG b(se)	OP b(se)
MSP	-0.030(0.027)	-0.006(0.030)	-0.008(0.037)	0.000(0.045)	-0.029(0.030)
DP	0.011(0.016)	-0.005(0.021)	-0.022(0.030)	-0.008(0.034)	0.000(0.003)
MSTWB	0.011(0.019)	0.009(0.023)	0.009(0.026)	-0.026(0.028)	-0.023(0.024)
DWB	0.027(0.018)	0.012(0.022)	0.007(0.025)	-0.022(0.027)	-0.031(0.022)

*Note. DF = 143. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. b = unstandardized partial regression coefficients of interaction terms in models in which the specified moderator and personality state interact to predict change in total composite state well-being (average of self-esteem, life satisfaction, positive affect and negative affect-reversed). EX, ES, CO, AG and OP = state extraversion, emotional stability, conscientiousness, agreeableness and openness. MSP = mean state personality during experience sampling. For example, MSP moderator for state extraversion predicting change in composite state well-being is mean state extraversion. DP = dispositional personality trait measured at baseline. For example, DP moderator for state extraversion predicting change in composite state well-being is dispositional extraversion. DWB = dispositional well-being measured at baseline (composite of dispositional self-esteem, life satisfaction and relationship well-being).

Table 17 shows the unstandardized regression coefficients from interactions between dispositional personality traits and state well-being and between dispositional self-esteem and state well-being in predicting change in each of the Big Five personality states in Study 1. Results show that neither dispositional personality traits nor dispositional self-esteem significantly moderated the extent to which state well-being predicted change in personality states. Table 18 shows the regression coefficients from interactions between dispositional personality traits and state well-being and between dispositional well-being and state well-being in predicting change in each of the five personality states. Results showed that neither dispositional personality traits nor dispositional well-being moderated the extent to which state well-being predicted change in any of the five personality states in Study 2.

In addition, these moderation analyses were re-computed using individuals' average level of exhibited personality states as indicators of dispositional personality traits, and individuals' average level of exhibited state well-being as indicators of dispositional well-being. These results appear alongside the results for dispositional personality traits and dispositional well-

being in Tables 15-18. Across Studies 1 and 2 these average indicators from experience sampling did not moderate any cross lagged pathways.

In sum, across Studies 1 and 2 it did not generally appear that dispositional personality traits, mean personality states, dispositional well-being or mean level of state well-being moderated lagged effects of personality states on state well-being or lagged effects of state well-being on personality states.

Table 17. *Study 1 Moderators of State Well-Being Predicting Change in Personality States (Moderators of Path d)*

Moderator	Personality State				
	EX b(se)	ES b(se)	CO b(se)	AG b(se)	OP b(se)
MSP	-0.025(0.068)	0.003(0.046)	-0.031(0.066)	-0.110(0.064)	-0.015(0.068)
DP	-0.019(0.040)	-0.008(0.050)	-0.059(0.054)	-0.023(0.053)	0.028(0.059)
MSWB	0.027(0.034)	-0.030(0.037)	0.032(0.037)	0.010(0.035)	0.010(0.039)
DSE	0.014(0.024)	0.010(0.026)	0.014(0.027)	-0.004(0.027)	-0.035(0.028)

Note.* DF = 156 (N = 159). * = $p < .05$, ** = $p < .01$, * = $p < .001$. b = unstandardized partial regression coefficients of interaction terms in models in which the designated moderator interacts with state well-being (composite of self-esteem and life satisfaction) to predict *change* in the specified personality state. EX, ES, CO, AG and OP = state extraversion, emotional stability, conscientiousness, agreeableness and openness. MSP = mean state personality during experience sampling. For example MSP moderator for state well-being predicting change in state extraversion is mean state extraversion. DP = dispositional personality trait measured at baseline. For example, DP moderator for state well-being predicting change in state extraversion is dispositional extraversion measured with BFI at baseline. MSWB = mean state well-being (composite of self-esteem and life satisfaction) measured during experience sampling. DSE = dispositional self-esteem measured at baseline.

Table 18. *Study 2 Moderators of State Well-being Predicting Change in Personality States (Moderators of Path d)*

Moderator	Personality State				
	EX b(se)	ES b(se)	CO b(se)	AG b(se)	OP b(se)
MSP	0.005(0.031)	-0.047(0.031)	0.003(0.023)	0.018(0.025)	-0.013(0.020)
DP	-0.011(0.021)	-0.042(0.022)	0.000(0.018)	0.017(0.023)	-0.010(0.020)
MSTWB	-0.044(0.023)	-0.039(0.025)	0.002(0.017)	-0.003(0.019)	-0.015(0.017)
DWB	0.003(0.021)	-0.009(0.023)	0.009(0.015)	0.017(0.018)	-0.006(0.015)

Note.* DF = 143. * = $p < .05$, ** = $p < .01$, * = $p < .001$. b = unstandardized partial regression coefficients of interaction terms in models in which the specified moderator and total composite well-being (average of self-esteem, life satisfaction, positive affect and negative affect) interact to predict change in the specified personality state. EX, ES, CO, AG and OP = state extraversion, emotional stability, conscientiousness, agreeableness and openness. MSP = mean state personality during experience sampling. For example MSP moderator for state well-being predicting change in state extraversion is mean state extraversion. DP = dispositional personality trait measured at baseline. For example, DP moderator for state well-being predicting change in state extraversion is dispositional extraversion. DWB = dispositional well-being measured at baseline (average of dispositional self-esteem, life satisfaction and relationship well-being).

Discussion

Main Findings

Concurrent associations between personality and well-being states. The first question addressed in this research was whether Big Five personality states are correlated with indicators of well-being within individuals. Past research has consistently shown that extraversion is positively correlated with positive affect (Fleeson, Malanos & Achille, 2002; Lischetzke et al, 2012; McNiel, Lowman, & Fleeson, 2010; McNiel & Fleeson, 2006; Wilt et al, 2012) and that neuroticism is positively correlated with negative affect within individuals (e.g. Heller, Komar & Lee, 2007). However, relatively little research has actually examined relations between the *other* Big Five personality states and affective experience, as well as relations between Big Five personality states and the more cognitive or evaluative aspects of well-being (e.g. life satisfaction and self-esteem).

In this research we found that across Studies 1 and 2, *all* Big Five personality states were correlated with *all* indicators of well-being (self-esteem, life satisfaction, positive affect and negative affect) within individuals. When individuals' behaviour was more extraverted, emotionally stable, conscientious, agreeable and open they reported having higher self-esteem, life satisfaction, positive affect and lower negative affect. These associations remained significant while controlling for the other four personality states, indicating that each of the Big Five personality states is independently associated with well-being within individuals. Moreover, associations between personality states and self-esteem and life satisfaction remained significant while controlling for positive and negative affect, indicating that personality states are uniquely associated with self-esteem and life satisfaction, over and above their relations with positive affect.

The strength of the relationships between each personality state and well-being differed somewhat between Studies 1 and 2. In Study 1, standardized betas for univariate relationships between personality states and well-being states ranged between 0.152 to 0.255, with conscientiousness exhibiting the strongest association with measures of state well-being, followed by extraversion, agreeableness, emotional stability and openness. These results suggest that, unlike the corresponding between person relationships (De Neve & Cooper, 1998; Diener et al., 2003; Steele, et al., 2008; Robbins et al., 2001), emotional stability and extraversion are not particularly strongly associated with well-being within individuals. Rather, they indicate that all Big Five personality states are *similarly* associated with momentary feelings of well-being within individuals.

In Study 2, variation in personality states appeared to be more strongly associated with variation in well-being within individuals. Standardized betas ranged from 0.275 to 0.559, with emotional stability exhibiting the strongest relationship with well-being, followed by extraversion, agreeableness, openness and conscientiousness. These results are more consistent with traditional conceptions of emotional stability and extraversion as being most strongly associated with affective experience and well-being generally. However, it's interesting to note that in Study 2 of this research, emotional stability and extraversion were approximately equally correlated with positive affect. Thus, it may be the case that up until now it has appeared that extraversion and positive affect have an especially strong relationship within individuals simply because oftentimes these are the only two constructs measured (Fleeson et al., 2002; Lischetzke et al, 2012; McNiel et al., 2010; McNiel & Fleeson, 2006; Wilt et al, 2012).

In sum, there were a number of differences between Study 1 and Study 2 and between the findings of this research generally and what is known about relations between personality traits

and dispositional well-being. It's unclear why correlations were higher in Study 2 compared to Study 1. In Study 2, personality states were measured with 31 adapted BFI items (compared to the 22 trait adjectives used in Study 1). As a result personality states may have been measured more reliably or more comprehensively in Study 2, leading to higher correlations with well-being measures. Similarly, while the content in personality state measures overlapped substantially between Studies 1 and 2, any differences in content that did exist may have contributed to the differences in findings. Alternatively, differences between well-being measures may have affected the results: in Study 1, state self-esteem and life satisfaction were measured with the full Rosenberg Self-Esteem Scale and the Satisfaction With Life scale. By contrast in Study 2, these constructs were measured with single item scales. However, it seems unlikely that these less reliable single item measures were responsible for producing the higher correlations observed in Study 2.

Do personality states predict change in well-being states and do well-being states predict change in personality states? The next two major questions addressed in this research were whether personality states influenced change in well-being states, and whether well-being states influenced change in personality states. That is, we assessed whether individuals' behaviour in one moment influenced their level of well-being ~2-3 hours later and also whether their level of well-being in one moment, influenced their behaviour ~2-3 hours later. In both studies there was evidence of personality states predicting change in self-esteem and life satisfaction: in Study 1, conscientiousness and openness both significantly predicted change in self-esteem and life satisfaction, and in Study 2 *all* Big Five states predicted change in self-esteem and life satisfaction, with the exception of agreeableness, which did not significantly predict change in life satisfaction. By contrast, personality states did not appear to influence

change in affect: in Study 2, the only personality state to predict subsequent change in positive or negative affect was emotional stability, which predicted change in both positive and negative affect.

Thus, following moments when individual's behaviour was more conscientious and open (Study 1 and 2) and more extraverted, emotionally stable and agreeable (Study 2), their level of self-esteem and life satisfaction tended to increase. By contrast, these results suggest that Big Five behaviours do not significantly influence change in positive and negative affect between measurement occasions. When individuals' behaviour was more extraverted, emotionally stable, conscientious, agreeable and open they did not experience gains in positive affect or drops in negative affect by the next measurement occasion.

These results may appear to conflict with prior experimental research which has found that behaving extraverted leads to heightened positive affect (Fleeson et al., 2002; McNiel & Fleeson, 2006; McNiel et al., 2010; Smilie et al, 2015; Zelenski et al., 2012) and that behaving emotionally unstable leads to heightened negative affect (McNeil & Fleeson, 2006). However, these apparent discrepancies between the present research and these experimental studies may be due, in part, to differences in the amount of time between measurements of behaviour and affect. Whereas in experimental research individuals' affect is measured immediately after being instructed to behave extraverted, introverted, emotionally stable or emotionally unstable, the present research examined the influence of behaviour on affect approximately 2-3 hours later. Thus, it may be that the behaviour has a more short term impact on affect which cannot be detected with longer time lags. Future experience sampling research should assess personality and well-being states at shorter time intervals (for example every 30 minutes) in order to assess whether effects are stronger when these variables are measured closer together.

The findings from this research that extraverted behaviour does not lead to increased positive affect also do not appear to replicate findings from Lischetzke et al's (2012) study in which they used crossed lagged analyses to assess the influence of extraversion on change in affect. However, this study assessed low arousal pleasant affect (*unhappy–happy, bad–good, discontented–contented, unwell–well*) as opposed to the high arousal positive affect captured in the current research (*happy, cheerful, excited*). Thus, the difference between these findings may indicate that extraversion is differentially related to pleasant affect compared to high arousal positive affect. However, more research is required in order to fully understand whether these distinctions actually exist.

While the current research found a number of significant pathways between personality states and lagged well-being states, across Studies 1 and 2 there was even more consistent evidence for well-being states exerting an influence on change in personality states. In Study 1, life satisfaction significantly predicted positive change in conscientiousness, agreeableness and openness, and self-esteem significantly predicted positive change in agreeableness and openness. That is, following moments when individuals reported experiencing higher life satisfaction and higher self-esteem, their behaviour became more agreeable, more open, and in the case of life satisfaction, more conscientious. Similarly, in Study 2, self-esteem and life satisfaction predicted positive change in extraversion, emotional stability, agreeableness and openness. Moreover, in Study 2 both positive affect and negative affect predicted change in *all five* personality states. Specifically, following moments when individuals experienced a high degree of positive affect or a low degree of negative affect, their behaviour became more extraverted, emotionally stable, conscientious, agreeable, and open. In addition, results showed that positive affect was the only well-being state which independently predicted change in all five personality states, over and

above the influence of the other three well-being states (state self-esteem, life satisfaction and negative affect).

In sum, these results suggest that momentary experiences of well-being exert lasting impacts on behaviour several hours later. When individuals felt better about themselves and about their lives, when they experienced greater positive affect and less negative affect, their behaviour tended to change in a positive, more socially desirable direction across broad domains of behaviour. In particular, variation in positive affect appears to underly the effect of well-being states on subsequent behaviour.

Do dispositional personality traits and well-being moderate within person associations? Lastly, we examined whether dispositional personality traits or dispositional well-being moderated within person relations between personality and well-being states. We examined the moderating effect of both dispositional personality traits and dispositional well-being measured at baseline as well as the moderating effect of individual's mean level of exhibited personality states and well-being during the experience sampling period. Across Studies 1 and 2, dispositional personality traits and individuals' mean level of exhibited personality states were generally not found to moderate within person pathways between personality and well-being states. This was the case for both concurrent and lagged relationships between personality and well-being states. For instance, individuals who were both high and low on conscientiousness tended to experience higher well-being in moments when their behaviour was more conscientious, and individuals who were both high and low on openness tended to experience higher well-being in moments when their behaviour was more open.

The only exception to this pattern was that in Study 1 mean state emotional stability moderated within person associations between state emotional stability and state well-being, and

in Study 2 dispositional emotional stability moderated within person relations between state emotional stability and state well-being. Individuals who were more emotionally stable exhibited a weaker relationship between their state emotional stability and their experiences of well-being, compared to individuals who were less emotionally stable.

By contrast, dispositional well-being significantly moderated a number of pathways in Study 1: specifically, mean state well-being (individuals' average level of self-esteem and life satisfaction during experience sampling) and dispositional self-esteem both moderated within person associations between four of the five personality states (extraversion, conscientiousness, agreeableness, and openness) and state well-being. The moderations were such that individuals who were dispositionally high in self-esteem, and individuals who exhibited a higher level of self-esteem and life satisfaction on average during the experience sampling period, exhibited *weaker* within person relationships between personality states and momentary experiences of well-being. However, the moderating influence of well-being was generally not significant in Study 2. In Study 2, dispositional well-being (average of dispositional self-esteem, life satisfaction and relationship well-being measured at baseline) and mean state well-being (average level of self-esteem, life satisfaction, positive affect and negative affect-reversed) only moderated within person relations between state extraversion and state well-being. Individuals who reported higher levels of dispositional and average well-being exhibited a weaker association between behaving extraverted and experiencing higher well-being. Finally, across Studies 1 and 2, dispositional well-being generally did not appear to moderate the lagged relationships between personality and well-being states.

The finding that personality traits generally do not moderate within person relationships between personality and well-being states replicates and extends previous work which has shown

that trait extraversion does not moderate the within person extraversion-positive affect link (Fleeson et al., 2002; Lischetzke et al, 2012; McNiel & Fleeson, 2006; McNielet al., 2010; Zelenski et al., 2012). Moreover, it provides additional support for the trait-state isomorphism hypothesis, or the notion that personality traits and states operate similarly between and within individuals (Fleeson 2001; Fleeson et al., 2002).

The finding that dispositional emotional stability and dispositional well-being moderate relations between personality and well-being states suggests that momentary experiences of well-being are more closely tied to behaviour among individuals with dispositionally low well-being. Thus, it may be the case that low well-being individuals are more responsive to variations in behaviour or to variations in situations. This effect appears to support prior research showing that low self-esteem individuals are more reactive to both positive and negative stimuli (Campbell & Lavalley, 1993; Jones, 1973; Shrauger, 1975; Swann, Pelham & Krull, 1989). However, because the present research was the first to examine these questions, and because these effects were generally not significant in Study 2, more research is needed to further examine the potential role of dispositional well-being in moderating within person relationships between personality and well-being states.

Implications

This research has a number of important implications. First, it provides new information about how dispositional personality traits and well-being may come to be associated with one another. Findings from this research that individuals express more positive behaviours in moments when they are experiencing higher well-being suggest that individuals who experience higher well-being more consistently (i.e. those who are dispositionally high on well-being) will also exhibit higher levels of Big Five personality states more frequently (i.e. those who are

dispositionally high on personality traits). Thus, this research provides a bottom-up, within person account of how personality traits and dispositional well-being may come to be associated with one another.

The cross lagged analyses from this research demonstrated that personality states and well-being states exerted lasting influences on one another (approximately 2-3 hours later) in daily life. That is, in a number of cases more positive behaviour in one moment led to higher self-esteem and life satisfaction 2-3 hours later. Similarly, higher self-esteem, life satisfaction, positive affect and lower negative affect led to more extraverted, emotionally stable, conscientious, agreeable and open behaviour 2-3 hours later. While these lagged effects appeared to be relatively small (partial regression coefficients ranging from 0.022 to 0.143), considering the fact that they represent short term, within person changes in daily life, they have the potential to have large cumulative impact on individuals.

One potential implication of the finding that personality states predicted change in a number of well-being states (life satisfaction and self-esteem) is that individuals may be able to increase their level of well-being through enacting certain types of behaviours. That is, individuals may be able to develop higher self-esteem and higher life satisfaction through incorporating more extraverted, emotionally stable, conscientious, agreeable and open behaviours into their daily lives. Experimental work has shown that individuals instructed to behave extraverted or emotionally stable actually *do* increase their level of extraversion and emotional stability (Fleeson et al., 2002; McNiel & Fleeson, 2006; McNiel et al., 2010; Smilie et al., 2015; Zelenski et al., 2012), suggesting that individuals may be able to consciously enact more positive behaviours in an effort to increase their self-esteem and life satisfaction.

By the same token, this research suggests that individuals may be able to increase the positivity or social desirability of their behaviour by increasing their level of well-being. Most researchers examining links between personality and well-being states have focused exclusively on the possibility of developing behavioural interventions as a method of improving well-being (e.g. Fleeson et al., 2002). This may be because behaviour is perceived to be more controllable than well-being, and because increasing well-being is recognized as an important goal to strive toward (Ryan & Deci, 2001; Seligman & Csikszentmihalyi, 2000; Sheldon & King 2001).

However, experimental work examining the influence of affect on various types of behaviours has shown that individuals can be relatively easily induced to be in a positive mood through the use of positive video clips, positive images or through pleasant activities (e.g. review by Isen, 1987). Moreover, considering the wide-ranging associations between Big Five personality traits and important life outcomes (e.g. Nettle & Robins, 2007; Ozer & Benet-Martinez, 2006), altering behaviour to become more extraverted, emotionally stable, conscientious, agreeable and open could have an enormous impact on individuals' lives. For instance, increasing extraversion may lead individuals to be exposed to more opportunities to meet others and develop friendships, increasing conscientiousness may lead to increased success in school or work, increasing agreeableness may lead to better relationship functioning, and increasing openness may lead to more exploration and more cognitively stimulating experiences. Moreover, such outcomes would likely have a positive impact on well-being, which in turn may reinforce more positive behaviours. Thus, interventions aimed at increasing well-being have the potential to directly impact behaviour and indirectly impact a variety of life outcomes, including well-being.

Research will need to explore the most effective ways to momentarily increase well-being among individuals; perhaps individuals' level of well-being could be increased through watching a pleasant or funny video clip, through writing about positive events, listening to pleasant music, or exercising. If well-being can be momentarily increased consistently throughout the day or even once or twice per day, this could have a lasting influence on individuals' patterns of behaviour, and eventually on their dispositional traits. In addition, if individuals are experiencing problems with a particular type of behaviour in a particular situation in their lives, they may consciously work toward increasing well-being (positive affect in particular) prior to those situations in an effort to moderate their behaviour. For example, someone who is anxious about giving presentations may consciously increase their state well-being in the 2-3 hours before their presentation in an effort to increase their emotional stability and extraversion during the presentation.

Clinical psychology has long operated on the assumption that behaviours and well-being influence one another. For instance, Cognitive Behavioural Therapy is based on the idea that cognitions, emotions and behaviours reciprocally influence one another (Dryden & Branch, 2011). In CBT clients learn to identify and challenge maladaptive patterns of cognitions, emotions and behaviours in order to reduce psychological distress and promote healthy life functioning (Dryden & Branch, 2011). While these ideas have been prominent in clinical theory and practise for some time, it is important to incorporate them into the Big Five framework and into descriptions of how well-being and behaviour are associated in *non-clinical* populations. The positive psychology movement has emphasized the importance not only of describing and treating mental illness, but also of studying the ways in which mental *health* and well-being can

be promoted and sustained within individuals (e.g. Ryan & Deci, 2001; Seligman & Csikszentmihalyi, 2000; Sheldon & King 2001).

Limitations & Future Directions

This research has a number of limitations. First, because the relations between personality and well-being states observed in this research are correlational, they do not provide information regarding causality. While lagged relationships show that behaviours in one moment are *associated* with change in well-being and that well-being in one moment is *associated* with change in behaviour, they do not determine with certainty that behaviour *causes* change in well-being and that well-being *causes* change in behaviour. Future research may evaluate causal pathways through the use of experimental designs in which either behaviour or well-being is manipulated and the effect on the other variable is measured. While there have been a number of experimental studies which have examined the effect of extraversion on positive affect (Fleeson et al., 2002; McNiel & Fleeson, 2006; McNiel et al., 2010; Smilie et al., 2015; Zelenski et al., 2012) and the effect of emotional stability on negative affect (McNeil & Fleeson, 2006), future research may examine causal pathways between *all* Big Five states and multiple indicators of well-being.

Second, while these findings suggest that relations between personality and well-being states may influence the development of dispositional well-being and personality traits over time, this possibility will need to be empirically assessed. Specifically, researchers may measure dispositional personality and well-being on a monthly basis in addition to measuring personality and well-being at the state level through a series of experience sampling studies. Such research would allow for the examination of whether relations between personality and well-being states

predict long term changes in dispositional personality traits and well-being. This would provide a detailed description of how well-being and personality traits develop within individuals through the cumulative impact of daily experiences.

Another major limitation of the current research is that it relies on self reported behaviour and well-being (Block, 1989; Furr, 2009). Participant's account of their personality and well-being states may be influenced by a number of biases including their motivation to respond in a socially desirable, or positive, manner. Thus, it's possible that individuals tend to report both higher well-being and more positive behaviour (more extraverted, emotionally stable, conscientious, agreeable and open) in moments when they are more motivated to respond socially desirably. Similarly, research has shown that when individuals are experimentally induced to be in a positive mood, they selectively attend to and recall more positive information (e.g. Natale & Hantas, 1982; Saranson, Potter & Saranson, 1986; Teasdale & Fogarty, 1979; Teasdale & Russell, 1983). Thus, concurrent relationships observed between personality and well-being states, as well as lagged effects of well-being states on personality states, may result in part from the fact that individuals are more likely to attend to and recall positive information about themselves when they are in more positive moods.

There are a number of ways that future research may work toward determining the extent to which relations between personality and well-being states are influenced by biases in self-reporting. For instance, individuals' tendencies to respond to self report questionnaires in a biased manner can be assessed with the Balanced Inventory of Desirable Responding (BIDR-6; Paulhus, 1988) and then controlled in all subsequent analyses. Another way to account for social desirability would be to have personality and well-being items rated for social desirability or

positivity and then control for the extent to which items are socially desirable/positive in all analyses. However, because many personality state items are inherently socially desirable, removing variance associated with social desirability may take too much away from what the construct is meant to capture (Robbins et al., 2001). For example, it would be difficult to remove the socially desirable components of agreeableness (*considerate, kind, cooperative*) without changing the meaning of the construct. Lastly, future research may avoid self report biases by observing behaviour and well-being in the lab, using independent raters of behaviour. However, while these methods avoid the use of self report, they also lack the ecological validity provided by experience sampling research. Thus, future research may best be able to determine the true relationship between personality and well-being states by utilizing diverse methods and comparing results across studies.

Other limitations of the current research include the fact that our sample was drawn from psychology undergraduate populations. As a result, our two samples were skewed toward being female (69-76%), young (median age = 19 and 21) and higher SES. In addition, samples were comprised almost entirely of ethnic Caucasian and Asian students residing in a Canadian city. As such, while the combined sample sizes from these two studies were substantial ($N = 307$) these findings are not generalizable to the broader population. Future research should examine relations between behaviour and well-being among community samples with more diverse groups of individuals.

Conclusion

In conclusion, this research demonstrated that short term variation in Big Five behaviours are tied to fluctuations in well-being within individuals. Individuals' behaviour was more

extraverted, emotionally stable, conscientious, agreeable and open in moments when they reported higher self-esteem and life satisfaction, greater positive affect and less negative affect. Moreover, this research showed that behaviour and well-being dynamically influenced one another in daily life. Specifically, more positive behaviour in a given moment was associated with increases in self-esteem and life satisfaction. In addition, higher levels of well-being (higher life satisfaction, self-esteem, positive affect and less negative affect) in a given moment was associated with positive change in behaviour (i.e. behaviour became more extraverted, emotionally stable, conscientious, agreeable and open). Finally, this research found little to no evidence that these within person relationships were moderated by personality traits, and mixed evidence that they were moderated by dispositional well-being.

This study was one of the first to (1) examine relations between all Big Five personality states with multiple indicators of well-being (2) use cross lagged analyses to assess the relative influence of personality and well-being states on one another in daily life and (3) examine possible moderations of all five dispositional personality traits and dispositional well-being. Findings from this research suggest that it may be possible to increase well-being through promoting Big Five behaviours, and that it may be possible to facilitate the development of more positive behaviours through increasing individuals' level of well-being (positive affect in particular). However, future experience sampling research will need to replicate findings from this study, and future lab based research will need to confirm whether causal relationships exist between personality and well-being states. In addition, researchers should measure personality and well-being dimensions on multiple levels (i.e. state, weekly, monthly, yearly assessments) in order to determine whether within person relations between personality and well-being states influence the long term development of dispositional personality and well-being.

References

- Abele-Brehm, A. (1992). Positive versus negative mood influences on problem solving: A review. *Polish Psychological Bulletin*, 23(3), 187-202.
- Abbott, R. A., Croudace, T. J., Ploubidis, G. B., Kuh, D., Richards, M., & Huppert, F. A. (2008). The relationship between early personality and midlife psychological well-being: evidence from a UK birth cohort study. *Social Psychiatry and Psychiatric Epidemiology*, 43(9), 679-687. doi: 10.1007/s00127-008-0355-8
- Allport, G. W. (1937). *Personality: A psychological interpretation*. New York: Holt.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.)
- Anglim, J., & Grant, S. (2014). Predicting psychological and subjective well-being from personality: Incremental prediction from 30 facets over the Big 5. *Journal of Happiness Studies*, 17(1), 59-80. doi:10.1007/s10902-014-9583-7
- Anusic, I., Yap, S. C., & Lucas, R. E. (2014). Does personality moderate reaction and adaptation to major life events? Analysis of life satisfaction and affect in an Australian national sample. *Journal of Research in Personality*, 51, 69-77. doi:10.1016/j.jrp.2014.04.009
- Baird, B. M., Le, K., & Lucas, R. E. (2006). On the nature of intraindividual personality variability: reliability, validity, and associations with well-being. *Journal of Personality and Social Psychology*, 90(3), 512. doi: 10.1037/0022-3514.90.3.512
- Baron, R. A., Fortin, S. P., Frei, R. L., Hauver, L. A., & Shack, M. L. (1990). Reducing organizational conflict: The role of socially-induced positive affect. *International Journal of Conflict Management*, 1(2), 133-152.

- Barret, D. (2006). ESP Manual (Version 4.0) [Software]. Available from http://www.experience-sampling.org/esp.html#SEC_Top
- Bartels, M., & Boomsma, D. I. (2009). Born to be happy? The etiology of subjective well-being. *Behavior Genetics*, 39(6), 605-615. doi: 10.1007/s10519-009-9294-8
- Bates, D., Maechler, M., Bolker, B., & Walker, S. (2015). Fitting Linear Mixed-Effects Models Using *lme4*. *Journal of Statistical Software*, 67, 1-48. doi:10.18637/jss.v067.i01.
- Bleidorn, W., Kandler, C., Riemann, R., Angleitner, A., & Spinath, F. M. (2009). Patterns and sources of adult personality development: growth curve analyses of the NEO PI-R scales in a longitudinal twin study. *Journal of Personality and Social Psychology*, 97(1), 142. doi: 10.1037/a0015434
- Block, J. (1989). Critique of the act frequency approach to personality. *Journal of Personality and Social Psychology*, 56, 234–245. doi: 10.1037/0022-3514.56.2.234
- Bouchard, T. J., & McGue, M. (2003). Genetic and environmental influences on human psychological differences. *Journal of Neurobiology*, 54(1), 4-45. doi: 10.1002/neu.10160
- Boyce, C. J., & Wood, A. M. (2011). Personality Prior to Disability Determines Adaptation Agreeable Individuals Recover Lost Life Satisfaction Faster and More Completely. *Psychological Science*, 22(11), 1397-1402. doi: 10.1177/0956797611421790
- Boyce, C. J., Wood, A. M., & Brown, G. D. (2010). The dark side of conscientiousness: Conscientious people experience greater drops in life satisfaction following unemployment. *Journal of Research in Personality*, 44(4), 535-539. doi:10.1016/j.jrp.2010.05.001

- Campbell, J. D., & Lavalley, L. F. (1993). Who am I? The role of self-concept confusion in understanding the behavior of people with low self-esteem. In *Self-esteem* (pp. 3-20). Springer US.
- Carnevale, P. J., & Isen, A. M. (1986). The influence of positive affect and visual access on the discovery of integrative solutions in bilateral negotiation. *Organizational Behavior and Human Decision Processes*, 37(1), 1-13. doi:10.1016/0749-5978(86)90041-5
- Carver, C. S., Sutton, S. K., & Scheier, M. F. (2000). Action, emotion, and personality: Emerging conceptual integration. *Personality and Social Psychology Bulletin*, 26(6), 741-751. doi: 10.1177/0146167200268008
- Charles, S. T., Reynolds, C. A., & Gatz, M. (2001). Age-related differences and change in positive and negative affect over 23 years. *Journal of Personality and Social Psychology*, 80(1), 136. doi: 10.1037/0022-3514.80.1.136
- Cloninger, C. R. (2000). Biology of personality dimensions. *Current Opinion in Psychiatry*, 13(6), 611-616.
- Costa, P. T., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO PI-R) and NEO Five-Factor Inventory professional manual*. Odessa, FL: Psychological Assessment Resources.
- Cunningham, M. R. (1988a). What do you do when you're happy or blue? Mood, expectancies, and behavioral interest. *Motivation and Emotion*, 12(4), 309-331. doi: 10.1007/BF00992357

- Cunningham, M. R. (1988b). Does happiness mean friendliness? Induced mood and heterosexual self-disclosure. *Personality and Social Psychology Bulletin*, 14(2), 283-297. doi: 10.1177/0146167288142007
- Cunningham, M. R., Steinberg, J., & Grev, R. (1980). Wanting to and having to help: Separate motivations for positive mood and guilt-induced helping. *Journal of Personality and Social Psychology*, 38(2), 181. doi: 10.1037/0022-3514.38.2.181
- Davidson, R. J. (2005). Well-being and affective style: Neural substrates and biobehavioral correlates. In F. Huppert, N. Baylis, & B. Keverne (Eds.), *The science of well-being* (pp. 107–139). Oxford, England: Oxford University Press.
- DeNeve, K. M., & Cooper, H. (1998). The happy personality: A meta-analysis of 137 personality traits and subjective well-being. *Psychological Bulletin*, 124, 197–229. doi: 10.1037/0033-2909.124.2.197
- Depue, R. A., & Collins, P. F. (1999). Neurobiology of the structure of personality: Dopamine, facilitation of incentive motivation, and extraversion. *Behavioral and Brain Sciences*, 22, 491–569.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49, 71-75. doi: 10.1207/s15327752jpa4901_13
- Diener, E., Oishi, S., & Lucas, R. E. (2003). Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. *Annual Review of Psychology*, 54(1), 403-425. doi: 10.1146/annurev.psych.54.101601.145056
- Dryden, W., & Branch, R. (Eds.). (2011). *The CBT handbook*. Sage.

- Elliot, A. J., & Thrash, T. M. (2002). Approach-avoidance motivation in personality: approach and avoidance temperaments and goals. *Journal of Personality and Social Psychology*, 82(5), 804. doi: 10.1037/0022-3514.82.5.804
- Emmons, R. A., Diener, E., & Larsen, R. J. (1986). Choice and avoidance of everyday situations and affect congruence: Two models of reciprocal interactionism. *Journal of Personality and Social Psychology*, 51, 815– 826. doi: 10.1037/0022-3514.51.4.815
- Epstein, S. (1982). A research paradigm for the study of personality and emotions. In *Nebraska symposium on motivation*. University of Nebraska Press.
- Fleeson, W. (2001). Toward a structure- and process-integrated view of personality: Traits as density distributions of states. *Journal of Personality and Social Psychology*, 80, 1011-1027. doi: 10.1037/0022-3514.80.6.1011
- Fleeson, W., & Wilt, J. (2010). The Relevance of Big Five Trait Content in Behavior to Subjective Authenticity: Do High Levels of Within–Person Behavioral Variability Undermine or Enable Authenticity Achievement? *Journal of Personality*, 78(4), 1353-1382. doi: 10.1111/j.1467-6494.2010.00653.x
- Fleeson, W., Malanos, A. B., & Achille, N. M. (2002). An intraindividual process approach to the relationship between extraversion and positive affect: Is acting extraverted as “good” as being extraverted? *Journal of Personality and Social Psychology*, 83, 1409–1422. doi: 10.1037/0022-3514.83.6.1409
- Fredrickson, B. L. (1998). What good are positive emotions? *Review of General Psychology*, 2, 300–319. doi: 10.1037/1089-2680.2.3.300

- Friedman, H. S., Kern, M. L., & Reynolds, C. A. (2010). Personality and health, subjective well-being, and longevity. *Journal of Personality*, 78(1), 179-216. doi: 10.1111/j.1467-6494.2009.00613.x
- Forgas, J. P. (1998). On feeling good and getting your way: mood effects on negotiator cognition and bargaining strategies. *Journal of Personality and Social Psychology*, 74(3), 565. doi: 10.1037/0022-3514.74.3.565
- Friedman, H. S., Kern, M. L., & Reynolds, C. A. (2010). Personality and health, subjective well-being, and longevity. *Journal of personality*, 78(1), 179-216. doi: 10.1111/j.1467-6494.2009.00613.x
- Funder, D. C. (2001). Personality. *Annual Review of Psychology*, 52, 197–221. doi: 10.1146/annurev.psych.52.1.197
- Furr, R. M. (2009). Personality psychology as a truly behavioral science. *European Journal of Personality*, 23, 369–401. doi: 10.1002/per.724
- George, J. M., & Brief, A. P. (1992). Feeling good—doing good: A conceptual analysis of the mood at work—organizational spontaneity relationship. *Psychological Bulletin*, 112, 310–329. doi: 10.1037/0033-2909.112.2.310
- Goldberg, L. R. (1990). An alternative" description of personality": the big-five factor structure. *Journal of Personality and Social Psychology*, 59(6), 1216. doi: 10.1037/0022-3514.59.6.1216
- Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment*, 4, 26–42. doi: 10.1037/1040-3590.4.1.26
- Gray, J. A. (1971). The psychophysiological basis of introversion-extraversion.

- Behaviour Research and Therapy*, 8, 249-266. doi:10.1016/0005-7967(70)90069-0
- Gray, J. A. (1987). Perspectives on anxiety and impulsivity: A commentary. *Journal of Research in Personality*, 21, 493-509. doi:10.1016/0092-6566(87)90036-5
- Graziano, W. G., & Tobin, R. M. (2009). Agreeableness. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 46–61). New York: Guilford Press.
- Griffin, P. W., Mroczek, D. K., & Spiro, A. (2006). Variability in affective change among aging men: Longitudinal findings from the VA Normative Aging Study. *Journal of Research in Personality*, 40(6), 942-965. doi:10.1016/j.jrp.2005.09.011
- Headey, B., & Wearing, A. (1989). Personality, life events, and subjective well-being: toward a dynamic equilibrium model. *Journal of Personality and Social psychology*, 57(4), 731. doi: 10.1037/0022-3514.57.4.731
- Heller, D., Komar, J., & Lee, W. B. (2007). The dynamics of personality states, goals, and well-being. *Personality and Social Psychology Bulletin*, 33(6), 898-910. doi: 10.1177/0146167207301010
- Hirschfeld, R. M. (2001). The comorbidity of major depression and anxiety disorders: recognition and management in primary care. *Primary Care Companion Journal of Clinical Psychiatry*, 3(6), 244-54.
- Isen, A. M. (1987). Positive affect, cognitive processes, and social behavior. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 20, pp. 203–253). New York: Academic Press.

- Jang, K. L., Livesley, W. J., & Vernon, P. A. (1996). Heritability of the big five personality dimensions and their facets: A twin study. *Journal of Personality*, 64(3), 577-592. doi: 10.1111/j.1467-6494.1996.tb00522.x
- John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 102–138). New York: Guilford Press.
- Johnson, J. A. (1997). Units of analysis for the description and explanation of personality. In R. Hogan, J. Johnson, & S. Briggs (Eds.), *Handbook of personality psychology*. San Diego, CA: Academic Press.
- Jones, S. C. (1973). Self and interpersonal evaluations: Esteem theories versus consistency theories. *Psychological Bulletin*, 79, 185-199. doi: 10.1037/h0033957
- Kernis, M.H., & Goldman, B.M. (2003). Stability and variability in self-concept and self-esteem. In M.R. Leary & J.P. Tangney (Eds), *Handbook of self and identity* (pp. 106-127). New York, NY, US: Guilford Press.
- Kling, K. C., Ryff, C. D., Love, G., & Essex, M. (2003). Exploring the influence of personality on depressive symptoms and self-esteem across a significant life transition. *Journal of Personality and Social Psychology*, 85(5), 922. doi: 10.1037/0022-3514.85.5.922
- Larsen, R. J., & Ketelaar, T. (1991). Personality and susceptibility to positive and negative emotional states. *Journal of Personality and Social Psychology*, 61(1), 132. doi: 10.1037/0022-3514.61.1.132

- Larsen, R. J. (1989). A process approach to personality psychology: Utilizing time as a facet of data. In D. M. Buss & N. Cantor (Eds.), *Personality psychology: Recent trends and emerging directions* (pp. 177–193). New York: Springer-Verlag.
- Lasky-Su, J. A., Faraone, S. V., Glatt, S. J., & Tsuang, M. T. (2005). Meta-Analysis of the association between two polymorphisms in the serotonin transporter gene and affective disorders. *American Journal of Medical Genetics*, *133*, 110–115. doi: 10.1002/ajmg.b.30104
- Leith, K. P., & Baumeister, R. F. (1996). Why do bad moods increase self-defeating behavior? Emotion, risk taking, and self-regulation. *Journal of Personality and Social Psychology*, *71*(6), 1250. doi: 10.1037/0022-3514.71.6.1250
- Lischetzke, T., Pfeifer, H., Crayen, C., & Eid, M. (2012). Motivation to regulate mood as a mediator between state extraversion and pleasant–unpleasant mood. *Journal of Research in Personality*, *46*(4), 414–422. doi:10.1016/j.jrp.2012.04.002
- Lucas, R. E. (2007). Adaptation and the set-point model of subjective well-being does happiness change after major life events? *Current Directions in Psychological Science*, *16*(2), 75–79. doi: 10.1111/j.1467-8721.2007.00479.x
- Luhmann, M., & Eid, M. (2009). Does it really feel the same? Changes in life satisfaction following repeated life events. *Journal of Personality and Social Psychology*, *97*, 363–381. doi: 10.1037/a0015809
- Magnus, K., Diener, E., Fujita, F., & Pavot, W. (1993). Extraversion and neuroticism as predictors of objective life events: a longitudinal analysis. *Journal of Personality and Social Psychology*, *65*(5), 1046. doi: 10.1037/0022-3514.65.5.1046

- Manucia, G. K., Baumann, D. J., & Cialdini, R. B. (1984). Mood influences on helping: Direct effects or side effects? *Journal of Personality and Social Psychology*, 46(2), 357. doi: 10.1037/0022-3514.46.2.357
- McGregor, I., & Little, B. R. (1998). Personal projects, happiness, and meaning: On doing well and being yourself. *Journal of Personality and Social Psychology*, 74, 494–512. doi: 10.1037/0022-3514.74.2.494
- McNiel, J. M., & Fleeson, W. (2006). The causal effects of extraversion on positive affect and neuroticism on negative affect: Manipulating state extraversion and state neuroticism in an experimental approach. *Journal of Research in Personality*, 40, 529–550. doi:10.1016/j.jrp.2005.05.003
- McNiel, J. M., Lowman, J. C., & Fleeson, W. (2010). The effect of state extraversion on four types of affect. *European Journal of Personality*, 24, 18–35. doi: 10.1002/per.738
- Natale, M., & Hantas, M. (1982). Effect of temporary mood states on selective memory about the self. *Journal of Personality and Social Psychology*, 42(5), 927. doi: 10.1037/0022-3514.42.5.927
- Nesselroade, J. R. (1991). Interindividual differences in intraindividual change. In L. M. Collins & J. L. Horn (Eds.), *Best methods for the analysis of change* (pp. 92–105). Washington, DC: American Psychological Association.
- Newton-Howes, G., Horwood, J., & Mulder, R. (2015). Personality characteristics in childhood and outcomes in adulthood: Findings from a 30 year longitudinal study. *Australian and New Zealand Journal of Psychiatry*, 49(4), 377–386. doi: 10.1177/0004867415569796

- Nofhle, E. E., & Robins, R. W. (2007). Personality predictors of academic outcomes: big five correlates of GPA and SAT scores. *Journal of Personality and Social Psychology*, 93(1), 116. doi: 10.1037/0022-3514.93.1.116
- O'Malley, M. N., & Andrews, L. (1983). The effect of mood and incentives on helping: Are there some things money can't buy? *Motivation and Emotion*, 7(2), 179-189. doi:10.1007/BF00992901
- Ozer, D. J., & Benet-Martinez, V. (2006). Personality and the prediction of consequential outcomes. *Annual Review of Psychology*, 57, 401–421. doi: 10.1146/annurev.psych.57.102904.190127
- Paulhus, D. L. (1988). Balanced inventory of desirable responding (BIDR). *Acceptance and Commitment Therapy. Measures Package*, 41.
- Pervin, L. A. (1994). A critical analysis of current trait theory. *Psychological Inquiry*, 5, 122–130. doi:10.1207/s15327965pli0502_1
- Rauthmann, J.F., Jones, A.B., & Sherman, R.A. (2016). *Directionality of person-situation transactions: Are there spill overs among and between situation experiences and personality states?* Manuscript submitted for publication.
- Roberts, B. W., & DelVecchio, W. F. (2000). The rank-order consistency of personality traits from childhood to old age: a quantitative review of longitudinal studies. *Psychological Bulletin*, 126(1), 3. doi: 10.1037/0033-2909.126.1.3
- Roberts, B. W., Walton, K. E., & Viechtbauer, W. (2006). Patterns of mean-level change in personality traits across the life course: A meta-analysis of longitudinal studies. *Psychological Bulletin*, 132, 1–25. doi: 10.1037/0033-2909.132.1.1

- Robins, R. W., Tracy, J. L., Trzesniewski, K., Potter, J., & Gosling, S. D. (2001). Personality correlates of self-esteem. *Journal of Research in Personality*, 35(4), 463-482. doi: 10.1006/jrpe.2001.2324
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52(1), 141-166. doi: 10.1146/annurev.psych.52.1.141
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069. doi: 10.1037/0022-3514.57.6.1069
- Sarason, I. G., Potter, E. H., & Sarason, B. R. (1986). Recording and recall of personal events: Effects on cognitions and behavior. *Journal of Personality and Social Psychology*, 51(2), 347. doi: 10.1037/0022-3514.51.2.347
- Saucier, G., & Goldberg, L. R. (1996). The Language of Personality: Lexical Perspectives. The five-factor model of personality: *Theoretical perspectives*, 21.
- Schnika, J. A., Busch, R. M., & Robichaux-Keene, N. (2004). A metaanalysis of the association between the serotonin transporter gene polymorphism (5-HTTLPR) and trait anxiety. *Molecular Psychiatry*, 9, 197-202. doi:10.1038/sj.mp.4001405
- Seligman, M. E., & Csikszentmihalyi, M. (2014). *Positive psychology: An introduction* (pp. 279-298). Springer Netherlands.

- Sheldon, K. M., Ryan, R. M., Rawsthorne, L. J., & Ilardi, B. (1997). Trait self and true self: Cross-role variation in the Big-Five personality traits and its relations with psychological authenticity and subjective wellbeing. *Journal of Personality and Social Psychology*, 73, 1380–1393. doi: 10.1037/0022-3514.73.6.1380
- Sheldon, K. M., & King, L. (2001). Why positive psychology is necessary. *American Psychologist*, 56(3), 216. doi: 10.1037/0003-066X.56.3.216
- Shrauger, J. S. (1975). Responses to evaluation as a function of initial self-perceptions. *Psychological Bulletin*, 82, 581-596. doi: 10.1037/h0076791
- Smillie, L. D., Wilt, J., Kabbani, R., Garratt, C., & Revelle, W. (2015). Quality of social experience explains the relation between extraversion and positive affect. *Emotion*, 15(3), 339. doi: 10.1037/emo0000047
- Soldz, S., & Vaillant, G. E. (1999). The Big Five personality traits and the life course: A 45-year longitudinal study. *Journal of Research in Personality*, 33(2), 208-232. doi:10.1006/jrpe.1999.2243
- Soto, C. J. (2015). Is happiness good for your personality? Concurrent and prospective relations of the big five with subjective well-being. *Journal of Personality*, 83(1), 45-55. doi: 10.1111/jopy.12081
- Specht, J., Egloff, B., & Schmukle, S. C. (2011). Stability and change of personality across the life course: The impact of age and major life events on mean-level and rank-order stability of the big five. *Journal of Personality and Social Psychology*, 101, 862–882. doi: 10.1037/a0024950

- Specht, J., Egloff, B., & Schulke, S. C. (2013). Examining mechanisms of personality maturation: The impact of life satisfaction on the development of the Big Five personality traits. *Social Psychological and Personality Science*, 4, 181–189. doi: 10.1177/1948550612448197
- Steel, P., Schmidt, J., & Shultz, J. (2008). Refining the relationship between personality and subjective well-being. *Psychological Bulletin*, 134, 138–161. doi: 10.1037/0033-2909.134.1.138
- Swann, W. B., Jr., Pelham, B. W., & Krull, D. S. (1989). Agreeable fancy or disagreeable truth? Reconciling self-enhancement and self-verification. *Journal of Personality and Social Psychology*, 57, 782-791. doi: 10.1037/0022-3514.57.5.782
- Teasdale, J. D., & Fogarty, S. J. (1979). Differential effects of induced mood on retrieval of pleasant and unpleasant events from episodic memory. *Journal of Abnormal Psychology*, 88(3), 248. doi: 10.1037/0021-843X.88.3.248
- Teasdale, J. D., & Russell, M. L. (1983). Differential effects of induced mood on the recall of positive, negative and neutral words. *British Journal of Clinical Psychology*, 22(3), 163-171. doi: 10.1111/j.2044-8260.1983.tb00597.x
- Tellegen, A. (1985). Structures of mood and personality and their relevance to assessing anxiety, with an emphasis on self-report. In T.A. Hussain & J.D. Maser (Eds), *Anxiety and the anxiety disorders* (pp. 681-706). Hillsdale, NJ, England: Lawrence Erlbaum Associates
- Vernon, P. A., Martin, R. A., Schermer, J. A., & Mackie, A. (2008). A behavioral genetic investigation of humor styles and their correlations with the Big-5 personality

- dimensions. *Personality and Individual Differences*, 44(5), 1116-1125. doi:10.1016/j.paid.2007.11.003
- Watson, D., & Clark, L. A. (1997). Extraversion and its positive emotional core. In R. Hogan, J. Johnson, & S. Briggs, (Eds.), *Handbook of personality psychology* (pp. 767-793). New York: Academic Press.
- Watson, D., & Clark, L. A. (1999). The PANAS-X: *Manual for the positive and negative affect schedule-expanded form*.
- Watson, D., Clark, L. A., McIntyre, C. W., & Hamaker, S. (1992). Affect, personality, and social activity. *Journal of Personality and Social Psychology*, 63(6), 1011. doi: 10.1037/0022-3514.63.6.1011
- Wilt, J., Nettle, E. E., Fleeson, W., & Spain, J. S. (2012). The dynamic role of personality states in mediating the relationship between extraversion and positive affect. *Journal of Personality*, 80(5), 1205–1236. doi: 10.1111/j.1467-6494.2011.00756.x
- Yap, S. C., Anusic, I., & Lucas, R. E. (2012). Does personality moderate reaction and adaptation to major life events? Evidence from the British Household Panel Survey. *Journal of Research in Personality*, 46(5), 477-488. doi:10.1016/j.jrp.2012.05.005
- Zelenski, J. M., Santoro, M. S., & Whelan, D. C. (2012, August 22). Would introverts be better off if they acted more like extraverts? Exploring emotional and cognitive consequences of counterdispositional behavior. *Emotion*, 12, 290–303. doi:10.1037/a0025169

Appendix

Table 1. *Rosenberg Self Esteem Scale*

Please indicate the extent to which you agree or disagree with the following statements.

1	2	3	4	5	6	7
Disagree strongly	Disagree	Disagree a little	Neutral	Agree a little	Agree	Agree strongly

___ 1. I feel that I'm a person of worth, at least on an equal basis with others.

___ 2. I feel that I have a number of good qualities.

___ 3. All in all, I am inclined to feel that I am a failure.

___ 4. I am able to do things as well as most other people.

___ 5. I feel I do not have much to be proud of.

___ 6. I take a positive attitude toward myself.

___ 7. On the whole, I am satisfied with myself.

___ 8. I wish I could have more respect for myself.

___ 9. I certainly feel useless at times.

___ 10. At times I think I'm no good at all.

Items 3, 5, 8, 9, and 10 are reverse scored.

Table 2. *Satisfaction with Life Scale*

Please indicate the extent to which you agree or disagree with the following statements.

1	2	3	4	5	6	7
Disagree strongly	Disagree	Disagree a little	Neutral	Agree a little	Agree	Agree strongly

___ 1. In most ways my life is close to my ideal.

- ____ 2. The conditions of my life are excellent.
- ____ 3. I am satisfied with my life.
- ____ 4. So far I have gotten the important things I want in life.
- ____ 5. If I could live my life over, I would change almost nothing.

Table 3. *Relationship Well-Being Scale*

Please use this scale to answer the following questions:

1	2	3	4	5	6	7
Disagree strongly	Disagree	Disagree a little	Neutral	Agree a little	Agree	Agree strongly

- ____ 1. Most people see me as loving and affectionate.
- ____ 2. Maintaining close relationships has been difficult and frustrating for me.
- ____ 3. I often feel lonely because I have few close friends with whom to share my concerns.
- ____ 4. I enjoy personal and mutual conversations with family members or friends.
- ____ 5. It is important to me to be a good listener when close friends talk to me about their problems.
- ____ 6. I don't have many people who want to listen when I need to talk.
- ____ 7. I feel like I get a lot out of my friendships.
- ____ 8. It seems to me that most other people have more friends than I do.
- ____ 9. People would describe me as a giving person, willing to share my time with others.
- ____ 10. I have not experienced many warm and trusting relationships with others.
- ____ 11. I often feel like I'm on the outside looking in when it comes to friendships.
- ____ 12. I know that I can trust my friends, and they know they can trust me.

___ 13. I find it difficult to really open up when I talk with others.

___ 14. My friends and I sympathize with each other's problems.

Table 4. 22 *Trait Adjectives Measuring Personality States In Study 1*

“In the past 30 minutes, I was...”

<i>Disagree strongly</i>	<i>Disagree</i>	<i>Disagree a little</i>	<i>Neutral</i>	<i>Agree a little</i>	<i>Agree</i>	<i>Agree strongly</i>	<i>Skip Question</i>
1	2	3	4	5	6	7	
1. ___ Relaxed.							
2. ___ Organized.							
3. ___ Creative.							
4. ___ Talkative.							
5. ___ Energetic.							
6. ___ Considerate.							
7. ___ Nervous.							
8. ___ Careless.							
9. ___ Sloppy.							
10. ___ Imaginative.							
11. ___ Sympathetic.							
12. ___ Anxious.							
13. ___ Efficient.							
14. ___ Intellectual.							
15. ___ Unsophisticated.							
16. ___ Shy.							
17. ___ Kind.							
18. ___ Tense.							
19. ___ Reserved.							
20. ___ Reliable.							
21. ___ Responsible.							
22. ___ Cooperative.							
Openness:	3, 10, 14, 15(R)						
Conscientiousness:	2, 8(R), 9(R), 13, 20, 21						
Extraversion:	4, 5, 16(R), 19(R)						

Agreeableness: 6, 11, 17, 22
 Neuroticism: 1(R), 7, 12, 18

Table 5. 31 BFI Items Used To Measure Personality States in Study 2

<i>Disagree strongly</i>	<i>Disagree</i>	<i>Disagree a little</i>	<i>Neutral</i>	<i>Agree a little</i>	<i>Agree</i>	<i>Agree strongly</i>	<i>Skip Question</i>
1	2	3	4	5	6	7	
1. ___ Is full of energy.							
2. ___ Is intelligent.							
3. ___ Generates a lot of enthusiasm.							
4. ___ Remains calm in tense situations.							
5. ___ Tends to be quiet.							
6. ___ Makes plans and follows through with them.							
7. ___ Has an assertive personality.							
8. ___ Is sometimes shy, inhibited.							
9. ___ Is outgoing, sociable.							
10. ___ Tends to find fault with others.							
11. ___ Does a thorough job.							
12. ___ Is depressed, blue.							
13. ___ Is original, comes up with new ideas.							
14. ___ Is helpful and unselfish with others.							
15. ___ Can be somewhat careless.							
16. ___ Is relaxed, handles stress well.							
17. ___ Receives very good grades.							
18. ___ Starts quarrels with others.							
19. ___ Is a reliable worker.							
20. ___ Can be tense.							
21. ___ Is reserved.							
22. ___ Is ingenious, a deep thinker.							
23. ___ Has a forgiving nature.							
24. ___ Is bright.							
25. ___ Tends to be lazy.							
26. ___ Is considerate and kind to almost everyone.							
27. ___ Can be cold and aloof.							
28. ___ Is emotionally stable, not easily upset.							
29. ___ Worries a lot.							

30. ___ Likes to cooperate with others.

31. ___ Is easily distracted.

Openness: 2, 13, 22, 24

Conscientiousness: 6, 11, 15(R), 17, 19, 25(R), 31(R)

Extraversion: 1, 3, 5(R), 7, 8(R), 9

Agreeableness: 10(R), 14, 18(R), 23, 26, 27(R), 30

Neuroticism: 4(R), 12, 16(R), 20, 28

Table 6. *Study 1 Descriptive Statistics*

variable	mean	SD	median	range
DAG	5.48	0.56	5.58	3.57-6.57
DCO	5.01	0.66	5.08	3.03-6.26
DEX	4.66	0.89	4.77	2.67-6.66
DES	4.41	0.71	4.40	2.68-5.99
DOP	5.10	0.59	5.12	3.65-6.56
DSE	5.31	1.09	5.50	1.80-7.00
MSAG	4.91	0.55	4.85	3.49-6.01
MSCO	4.95	0.56	4.94	3.31-6.28
MSES	4.83	0.74	4.94	3.05-6.50
MSEX	4.54	0.54	4.51	3.15-5.77
MSOP	4.66	0.57	4.60	3.08-6.15
MSSE	5.25	0.84	5.37	3.02-6.80
MSLS	4.83	1.12	5.04	1.98-6.90
MSWB	5.04	0.90	5.20	2.83-6.85

*Note. N = 161. DAG, DCO, DEX, DES, DOP, DSE = dispositional agreeableness, conscientiousness, extraversion, emotional stability, openness, and self esteem measured at baseline. MSAG, MSCO, MSES, MSEX, MSOP, MSSE, MSLS = mean state agreeableness, conscientiousness, extraversion, emotional stability, openness, self esteem and life satisfaction measured during experience sampling. MSWB = mean level of composite measure of SE and LS during experience sampling.

Table 7. *Study 2 Descriptive Statistics*

variable	mean	SD	median	range
DAG	5.32	0.72	5.39	2.78-6.89
DCO	4.86	0.82	4.89	2.33-6.89
DEX	4.68	0.91	4.75	1.57-7.00
DES	4.24	0.86	4.25	2.04-6.42
DOP	4.94	0.72	4.93	2.30-6.70
DSE	5.08	0.98	5.30	2.40-7.0
DLS	4.63	1.18	4.60	1.60-7.0
DRWB	5.20	0.87	5.29	2.36-7.0
DWB	4.97	0.82	5.04	2.31-6.9
MSAG	4.94	0.81	4.88	1.12-7
MSCO	4.42	0.84	4.29	1-7
MSEX	4.15	0.93	4	1-7
MSES	4.5	0.91	4.5	1-7
MSOP	4.66	0.88	4.5	1-7
MSSE	4.58	1.38	5	1-7
MSLS	4.8	1.41	5	1-7
MSPA	4.48	1.26	4.33	1-7
MSNA	3	1.22	2.75	1-7
MSWB	4.69	1.27	5	1-7
MSTWB	4.76	1.09	4.89	1-7

**Note.* N = 146. DAG, DCO, DEX, DES, DOP, DSE = dispositional agreeableness, conscientiousness, extraversion, emotional stability, openness, and self-esteem measured at baseline. DWB = composite dispositional well-being (average of dispositional self esteem, life satisfaction, relationship well-being). MSAG, MSCO, MSES, MSEX, MSOP, MSSE, MSLS, MSPA, MSNA = mean state agreeableness, conscientiousness, extraversion, emotional stability, openness, self-esteem, life satisfaction, positive affect and negative

Table 8. *Associations Between Personality States and Self-Esteem & Life Satisfaction, Controlling For Positive And Negative Affect (path e)*

Personality State	Self-Esteem b(se)	Life Satisfaction b(se)
Extraversion	0.095(0.021)***	0.041(0.013)**
Emotional Stability	0.180(0.026)***	0.160(0.016)***
Conscientiousness	0.148(0.023)***	0.126(0.022)***
Agreeableness	0.112(0.029)***	0.127(0.026)***
Openness	0.212(0.026)***	0.143(0.023)***

Note.* DF = 143. * = $p < .05$, ** = $p < .01$, * = $p < .001$. b = unstandardized partial regression coefficients of specified personality state predicting concurrent well-being variable (self-esteem or life satisfaction), while controlling for positive affect and negative affect.

Table 9. *Independent Effects of Well-Being States Predicting Change In Personality States (Path d)*

Personality State	Self-Esteem b(se)	Life Satisfaction b(se)
Extraversion	0.010(0.016)	0.007(0.016)
Emotional Stability	0.025(0.015)	0.003(0.017)
Conscientiousness	0.006(0.014)	-0.028(0.014)*
Agreeableness	0.010(0.014)	-0.004(0.015)
Openness	0.035(0.014)*	0.003(0.014)

*Note. DF = 143. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. b = partial unstandardized regression coefficient of specified well-being variable at time $t-1$ predicting change in the specified personality state from time $t-1$ to time t , controlling for the other 3 other well-being variables measured at time $t-1$.

Table 10. *Independent Effects of Well-Being States Predicting Change In Personality States (Path d)*

Personality State	Positive Affect b(se)	Negative Affect b(se)
Extraversion	0.085(0.019)***	-0.015(0.017)
Emotional Stability	0.038(0.018)*	-0.064(0.016)***
Conscientiousness	0.044(0.014)**	-0.014(0.013)
Agreeableness	0.042(0.014)**	-0.008(0.012)
Openness	0.056(0.014)***	0.010(0.013)

*Note. DF = 143. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. b = partial unstandardized regression coefficient of specified well-being variable at time $t-1$ predicting change in the specified personality state from time $t-1$ to time t , controlling for the other 3 other well-being variables measured at time $t-1$.