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The Pursuit of Happiness: Freedom and Well-Being in Positive Psychology

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THE PURSUIT OF HAPPINESS: FREEDOM AND WELL-BEING IN POSITIVE PSYCHOLOGY

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ABSTRACT

THE PURSUIT OF HAPPINESS: FREEDOM AND WELL-BEING IN POSITIVE PSYCHOLOGY

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This project explores the relationship between freedom and well-being. Through reviewing the literature of positive psychology and existential psychology, clearer pictures of well-being and freedom emerge, allowing for statistical analysis. By adopting Seligman's well-being theory as a model that incorporates hedonic and eudaimonic elements of well-being and self-determination theory's conceptualization of autonomy as a proxy for freedom in existential psychology, this study explores the relationship between these constructs and their theorized factors through correlational analysis. A potential measurement model for an overall well-being measure incorporating freedom as a factor is proposed and tested using confirmatory factor analyses. The effects of demographic factors on well-being and freedom are also explored through analyses of variance. The results of this project suggest a moderate positive correlation between well-being and freedom, although the hypothesized measurement model fails to achieve good fit when tested using confirmatory factor analysis. Through model modifications, an acceptable fitting model emerges that reflects the relationship between freedom and well-being described in the literature review and bolstered by the data. This model, however, requires further study and verification due to the nature of its emergence. Certain identity and demographic factors are also identified as having effects on well-being and autonomy. These results are discussed, along with

the limitations of this study. Future directions for research and theoretical investigation are highlighted, including revisiting the measures used in this study through exploratory factor analyses or exploratory structural equation modeling. Clinical implications are identified and discussed, with suggestions for clinical practice also included, such as the need for clinicians to assess a person's level freedom and well-being as an element of motivation to change. This dissertation is available in open access at AURA (https://aura.antioch.edu/) and Ohio Link ETD Center (https://etd.ohiolink.edu/etd).

Keywords: Positive psychology, well-being, freedom, autonomy, confirmatory factor analysis, Index of Autonomous Functioning, PERMA Profiler, Self-Determination Theory

Dedication

To my teachers—

Past, present, and future.

and

To my parents—

Forever and for always.

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CHAPTER I: INTRODUCTION

In clinical psychology, the predominant focus of scientific inquiry, assessment, and treatment, and the motivating factor for clients' participation in these activities, often is to identify, understand, and relieve distress. While these are noble goals, such a focus on psychopathology can obscure larger questions of meaning, value, and flourishing that point to visions of well-being and the goals of human development. In concerning themselves with questions about meaning, suffering, and the ultimate aim of human life—happiness and well-being—psychologists can assist clients in this journey to self-discovery and to a fuller, more meaningful life (Franklin, 2010).

One important movement in furthering a psychological understanding of well-being is positive psychology, a discipline that aims to understand what makes individuals and communities flourish and achieve the ultimate goal of living—increased well-being for individuals and communities (Boniwell & Tunariu, 2019; Seligman, 2011). To this end, Seligman (2011) explored and theorized about well-being and flourishing, ultimately developing their well-being theory in which they identified several constitutive elements that, by increasing them for an individual, contribute to higher well-being. These elements are positive emotions, engagement, positive relationships, meaning, and accomplishment (PERMA; Seligman, 2011). In their well-being theory, Seligman contends that this list of elements is not exhaustive but a starting point for further inquiry, and they provides criteria for identifying other possible factors that may be a part of well-being (Seligman, 2011, 2018). In this vein, researchers have since identified additional elements that contribute to well-being, such as physical health and economic security (Donaldson et al., 2022).

Nevertheless, PERMA in its original form serves as a helpful and sufficient framework for designing and implementing interventions to reduce distress and to increase well-being using the positive psychology framework (Boniwell & Tunariu, 2019). Indeed, Seligman's well-being theory and their elaboration of those elements that contribute to well-being were developed to assist individuals in leading more fulfilling lives (Seligman, 2011). Positive psychology aims to mitigate distress and pathology through fostering resilience and cultivating strengths, while being practical and providing a framework for clinical intervention (Parks & Titova, 2016; Wood & Tarrier, 2010). Like other clinical approaches, positive psychology acknowledges and leverages the possibility and process of change.

The possibility and process of change, as conceptualized by Hanna (2011), is imbued with freedom and implicitly aims toward greater freedom. Hanna goes further by suggesting, "The purpose of virtually all counseling endeavors, at some level and to some degree, is to set people free" through assisting people and communities in their journeys to freedom from distress and toward freedom to pursue those things that contribute to well-being (Hanna, 2011, p. 363). In a similar vein, Seligman acknowledges that a defining characteristic of the elements of well-being is that they are chosen by "free people … for their own sake" (Seligman, 2011, p. 19). The recognition of the process of change, the importance of choice and freedom in this endeavor, and the role of freedom in flourishing at individual and community levels lead to important questions regarding what is meant by freedom in positive psychology: Is freedom a prerequisite for well-being, a product of it, or a constitutive element of well-being alongside the other domains of PERMA?

According to Seligman's well-being theory, freedom as a broad construct does not precisely constitute a separate element of well-being, as it is not neatly "defined and measured

independently of other elements" (Seligman, 2011, p. 20). At the same time, factors of the construct of freedom may well be definable domains of well-being. A clearer understanding of the relationship between freedom and well-being will advance the theoretical and practical application of Seligman's well-being theory and positive psychology more broadly.

In the current socioeconomic and political environment of the United States, questions of freedom and well-being abound as well. Freedom and well-being, their definitions, their manifestations, and their meaning for individuals and groups are salient questions across all systems, from the intrapsychic to the macrosystemic. Indeed, more recent attention and examination of systemic oppression in the United States implicate freedom and well-being. Efforts to decolonize psychological practice and to shift clinical psychology toward greater recognition and appreciation of identity, culture, and systemic oppression strive toward a decentering of a hegemonic view of wellness and an expansion of perspectives and actions (Comas-Díaz, 2020). In these efforts, empowerment and movement toward greater freedom are key feature, both in the processes and goals.

Understanding of the construct of freedom, however, is abstract, complex, and difficult (May, 1962). In attempting to operationalize it, researchers have used measures of agency, belief in free will, and autonomy, among others (Hanna, 2011). Nevertheless, scholars and researchers have posited that freedom is an important facet of therapeutic intervention and should be a focus of treatment for ameliorating distress and promoting well-being (Hanna, 2011; May, 1999). Rollo May is perhaps most responsible for elevating freedom as a focus of therapeutic engagement and as a goal of treatment. Their elaboration on existential and essential freedom provides a valuable discussion and distinction for psychological inquiry. Because of the nature of

May's existentialist-inspired definition of freedom, however, researchers have been challenged in their efforts to operationalize the construct.

In light of definitional disparities, the construct of autonomy as defined in self-determination theory serves as an appropriate proxy for essential freedom described by May (1999; Ryan & Deci, 2002). Autonomy, according to self-determination theory (SDT), is a basic psychological need necessary for well-being and flourishing. Autonomy "concerns acting from interest and integrated values" (Ryan & Deci, 2002, p. 8). In this way, it mirrors May's conceptualization of essential freedom as "an inner state" that allows a person to ponder, reflect, and operate from a place of congruence with their values and goals (May, 1999, p. 57).
By adopting the construct of autonomy as representative of essential freedom, clearer exploration and delineation of the relationship between freedom and well-being is possible.

The present study furthers our understanding of the connection between freedom and well-being through quantitative examination methods. Confirmatory factor and related analyses identified areas of communality between the existentialist understanding of freedom and positive psychology's conceptualization of well-being and flourishing. This project also identified opportunities for further theoretical and practical study and development in the field of positive psychology. The role of identity and demographic factors were also examined to better illuminate the intersection between identity, positionality, socioeconomic context, well-being, and freedom as defined by positive and existential psychology. In light of the results of this study, clinical and research implications are described with the hope that incorporating these results in clinical work will assist clinicians in fostering clients' sense of freedom and the development of resources, strengths, and resilience—helping them on their journey to self-discovery and more meaningful living (Parks & Titova, 2016).

CHAPTER II: THE PURSUIT OF HAPPINESS, A LITERATURE REVIEW

The difficulty in studying well-being has and continues to be in defining and operationalizing the construct (Hone et al., 2014; Jayawickreme et al., 2012). Theorists and researchers of well-being in psychology have used different theories and methods to conceptualize and operationalize the constructs of happiness and well-being, resulting in a disjointed picture of well-being research (Boniwell & Tunariu, 2019; Cooke et al., 2016). Nevertheless, they have generally conceptualized well-being as composed of two, yet distinct, constructs: hedonistic well-being and eudaimonic well-being (Boniwell & Tunariu, 2019; Jayawickreme et al., 2012; Waterman, 2008). *Hedonistic well-being* is generally characterized by a high level of subjectively positive experiences and a low level of subjectively negative experiences (Boniwell & Tunariu, 2019). Research into hedonistic well-being has consistently used Diener's model of subjective well-being (SWB), consisting of the combination of positive affect, negative affect, and general life satisfaction to operationalize the construct (Diener, 1984; Diener, Oishi, et al., 2018).

On the other hand, research into *eudaimonic well-being*, from the Greek for "good spirit," adopts a more objective approach, arguing that well-being is a product of a person's fulfillment of certain needs or their achievement of particular goals that promote "flourishing" (Heintzelman, 2018a). Researchers studying eudaimonic well-being, however, have adopted a wider variety of constituent elements and methods for operationalizing the construct (Cooke et al., 2016). While many models and measures of eudaimonic well-being include common elements, such as purpose and meaning in life and positive social relationships, these models and measures diverge in important ways, further complicating the study of eudaimonic well-being (Cooke et al., 2016; Huta & Waterman, 2014).

Nevertheless, researchers have identified hedonistic well-being and eudaimonic well-being as interconnected and pivotal to a global sense of well-being, as reflected in positive psychology's conceptualization of both types being foundational to flourishing (Boniwell & Tunariu, 2019; Disabato et al., 2016; Keyes et al., 2002; Schotanus-Dijkstra et al., 2016). In other words, a person's well-being is a combination of their subjective happiness and their sense of movement toward goals, growth, and meaning.

In addition to the distinction between hedonistic and eudaimonic visions of well-being, theorists and researchers have also suggested different methods for categorizing theories of well-being (Jayawickreme et al., 2012). For example, traditional theories of well-being generally fall into three groups: (a) hedonistic theories, (b) desire theories, or (c) objective list theories (Jayawickreme et al., 2012; Parfit, 1984; Peterson, 2006). These categories reflect a spectrum from purely subjective experience to objective evaluation. *Hedonistic theories* are the most subjective (Peterson, 2006). These theories posit that well-being resides in the maximization of subjectively positive feelings. *Desire theories* fall between subjective and objective evaluations and posit that people experience well-being when they receive what they desire, which is motivated by subjective experience and the objective value of those objects (Peterson, 2006). *Objective list theories* contend that there are objectively valuable goods in life and the acquisition of these goods results in well-being (Peterson, 2006).

Categorizing theories of well-being in this way serves as a foundation for understanding, differentiating, and examining the theories of well-being and their constitutive elements. Subjective well-being, for example, is considered a hedonistic theory because of its emphasis on one's subjectively positive and negative experiences (Jayawickreme et al., 2012). At the same time, however, the categorization of well-being theories into hedonistic, desire, and objective list

theories perpetuates a disconnection between various well-being theories. Some theories focus on hedonism as the defining element of well-being, while others emphasize eudaimonic elements. One effort to corral disparate theories, however, is Jayawickreme et al.'s (2012) engine model of well-being. The engine model suggests that all well-being theories attend to inputs, processes, and/or outcomes. (Jayawickreme et al., 2012). In doing so, the authors attempt to provide a more cohesive framework for understanding various facets of well-being and the ways well-being manifests. They also acknowledge the iterative nature of these variables; outcomes become inputs and processes (Jayawickreme et al., 2012). For example, positive emotions (a hedonic element) serve both as an outcome and as a process element by motivating increased striving toward accomplishment. While useful for conceptualizing the interactive dynamics of different elements of well-being, this Engine Model ultimately perpetuates the long-standing distinction between hedonistic and eudaimonic well-being and the tripartite categorization of hedonistic, desire, and objective list theories.

Well-Being theory from positive psychology, on the other hand, attempts to integrate hedonic and eudaimonic elements of well-being, while acknowledging the different roles these elements play in motivation and outcomes. Before examining well-being theory, however, further examination of hedonistic and eudaimonic well-being and these categories is necessary. In doing so, the contributions of hedonistic and eudaimonic theories of well-being to a holistic picture of well-being can be better understood. Such examination will also show the ways in which these theories interact with or detract from others.

Hedonistic Well-Being

Hedonistic well-being is concerned with subjective experiences of pleasure and the minimization of pain or negative experiences (Boniwell & Tunariu, 2019). In psychological

research, the construct of subjective well-being (SWB) has been used most often to capture hedonistic well-being (Boniwell & Tunariu, 2019; Disabato et al., 2016; Jayawickreme et al., 2012). Subjective well-being relies on a person's subjective appraisal of their experience and life satisfaction and "refers to people's evaluations of their lives—evaluations that are both affective and cognitive" (Diener, 2000, p. 34). In this model, a person's sense of well-being is captured in their experience of positive emotions, the relative absence of negative emotions, and their own appraisals of their life overall and in specific domains, such as in their significant relationships or their career (Diener, 1984; Diener & Suh et al., 1999; Schimmack, 2008). The SWB framework suggests that the individual's perception of their life is the most relevant measure of well-being. At the same time, SWB emphasizes the intersection of affective and cognitive components in how a person determines their sense of how life is going and, consequently, their well-being (Maddux, 2018).

Research into SWB has examined both the affective and cognitive components to determine the structure and causality within these domains and the intersection of the two (Schimmack, 2008). In reviewing the literature, Schimmack (2008) outlines these discoveries about SWB and highlights important facets. Regarding the *affective* component of SWB, researchers have identified that positive affect (PA) and negative affect (NA) are separate, yet not completely independent, components of affective well-being (Schimmack, 2008). Additionally, studies have shown that positive and negative affect can be experienced in the same moment, suggesting that positive and negative affect are "based on different neurobiological processes, but momentary activation of one system momentarily inhibits activation of the other system" (Schimmack, 2008, p. 114). Taken together, these studies

demonstrate that "a full understanding of subjective well-being requires an assessment of PA and NA" (Schimmack, 2008, p. 115).

Regarding the *cognitive* components of SWB, researchers have examined the relationship between a person's satisfaction with their life globally and in specific domains, including, for example, job and marital satisfaction, health, and friendships (Heller et al., 2004; Hsieh, 2016; Schimmack, 2008). To account for the relationship between life satisfaction globally (LS) and domain-specific satisfaction (DS), theorists and researchers have conceptualized bottom-up models, top-down models, or alternative conceptualizations that speak to the interaction between overall life satisfaction and domain-specific satisfaction (Schimmack, 2008). *Bottom-up* theorists posit that a person's judgements about their level of LS is based on satisfaction in different subdomains (DS), such as relationships and work. One difficulty with bottom-up theories of life satisfaction, however, concerns the relative weight of each DS and its subsequent effect on LS (Hsieh, 2016). One study, for example, grouped participants based on how those individuals judged specific domains to be important (Hsieh, 2016). In examining the results, the researchers found that LS and DS varied significantly between these groups, suggesting that further exploration is needed to account for the discrepancy between scores of life and domain-specific satisfaction. The authors recommended future explorations are needed to refine the methods used for properly weighing domain importance in SWB research (Hsieh, 2016).

In contrast, *top-down* theorists hold that a global life satisfaction results in satisfaction in specific domains (i.e., feeling broadly satisfied with one's life affects one's appraisal of specific domains; Schimmack, 2008). Investigations into top-down theories also encounter challenges. For example, a top-down theory would posit that specific domains would have strong correlations between them, when the opposite has been shown (Heller et al., 2004; Schimmack,

2008). When accounting for domain importance, however, top-down models similarly demonstrate some merit (Schimmack, 2008). As a result, extant research suggests that the full picture of life satisfaction involves both top-down and bottom-up processes—and their interactions (Schimmack, 2008).

Understanding the complex relationship between cognitive and affective components of SWB has also been a focus of study (Schimmack, 2008). For example, numerous studies have demonstrated a positive correlation between cognitive and affective components, although the range of magnitude varies (Schimmack, 2008). Theorists have attempted to account for this variance by suggesting that some people may rely more on affect to judge life satisfaction or may weigh information differently when forming their appraisals (Schimmack, 2008). Taken together, these studies into SWB demonstrate the robustness of the construct as initially described by Diener (2000, 2013) as a good definition and operationalization of hedonic well-being, resulting in its wide use in psychological research (Jayawickreme et al., 2012).

Cultural Considerations

Although the construct of SWB is a useful operationalization of hedonic well-being, some researchers have criticized the construct for emphasizing traditionally Western values and definitions of well-being (Christopher, 1999). Indeed, "believing that happiness is meant to be the goal of life could be a view most representative of contemporary Western cultures" (Suh & Koo, 2008, p. 422). As mentioned above, research has demonstrated that affect and emotions contribute to one's subjective appraisal of "the pleasurable life" and to a person's judgment of their life overall (Schimmack, 2008). The role of affect on judgments, however, depends on one's culture, with emotions having a stronger role in forming judgements for people in more individualistic nations (Schimmack et al., 2002; Suh et al., 1998). "For people in individualistic

cultures, emotions provide important information about life satisfaction" (Schimmack et al., 2002, p. 584).

Similarly, Western emphases on independence and agency contrast with the emphasis on interconnectedness in some cultures in East Asia and the Middle East (Suh & Oishi, 2002). In more collectivist cultures, concepts of self-esteem and self-actualization are placed below social cohesion and harmony in importance (Suh & Koo, 2008). Such cultural values would, therefore, influence how a person judges their life satisfaction in relation to their own goals and the expectations of their culture. Indeed, research of SWB demonstrates lower scores in nations whose primary culture is more collectivist in nature (Suh & Choi, 2018). Researchers also point to culture-person fit as a key factor in well-being, arguing that individuals whose personality and values align best with the dominant culture experience the highest level of well-being (Suh & Choi, 2018). As a result, some researchers have concluded that the notion of well-being is inherently socially constructed and embedded in culture (Christopher, 1999; Veenhoven, 2008).

In light of these factors, some have suggested that happiness or subjective well-being is a meaningless construct without a particular cultural context (Christopher, 1999). Nevertheless, studies of subjective well-being also point to universal predictors across cultures (Suh & Choi, 2018; Veenhoven, 2008). Researchers have demonstrated that, even in collectivistic cultures, individuals with more independent styles of thinking and behaving experience higher levels of happiness than those who embody the collectivist approach (Suh & Koo, 2008). While subjective well-being tends to be higher in countries with higher standards of living, stable and democratic governments, and more tolerant cultures, "these objective social characteristics explain about 75% of the differences in subjective well-being across nations" (Veenhoven, 2008, p. 49). These findings suggest that cultural context plays a noteworthy role in happiness and well-being,

although not to the extent that would suggests the adoption of an entirely socially constructed or relativistic stance when investigating happiness and well-being as subjects of psychological inquiry (Suh & Choi, 2018).

Eudaimonic Well-Being

In contrast to hedonistic theories of well-being, eudaimonic theories assert that well-being consists in more than the subjective experience of pleasure or happiness (Boniwell & Tunariu, 2019). Debate continues, however, regarding the precise elements of eudaimonic well-being and the relationship between eudaimonic and hedonistic well-being (Boniwell & Tunariu, 2019; Waterman, 2008). Broadly, theorists and researchers examining eudaimonic well-being have adopted definitions of well-being that devote greater attention toward well-being as the result of self-actualization, flourishing, and progressing toward one's full potential (Heintzelman, 2018a). These scholars view well-being as a dynamic process of growth toward an ultimate or objective goal that involves engagement in meaningful activities and in authentic living (Boniwell & Tunariu, 2019; Waterman, 2008). As such, most eudaimonic theories of well-being would be characterized as objective-list theories, insofar as they are concerned with the acquisition of certain needs or goals necessary for a "good" or fulfilling life.

One eudaimonic well-being theory with empirical support is Carol Ryff's psychological well-being (PWB) approach (Jayawickreme et al., 2012; Ryff, 2014). Ryff (1989b) sought to provide a more concise identification and operationalization of the features of the good life. Their initial studies into successful aging led them to examine the literature regarding development and well-being, looking to Erikson, Maslow, Rogers, Frankl, Jung, and others (Ryff, 1989a; Ryff et al., 2014). In doing so, Ryff was confronted by the problem of numerous definitions with no clear way of empirically operationalizing the constructs (Ryff, 1989a). In

response, they identified six components that constitute psychological well-being: self-acceptance (having "positive attitudes toward oneself"), autonomy (having "an internal locus of evaluation"), purpose in life (having a sense of direction in life and intentionality), environmental mastery (being able to modify complex environments to suit one's needs), positive relations with others (having empathy, affection, and "being capable of greater love, deeper friendship, and more complete identification with others"), and personal growth (continuous learning and challenge, realizing one's potential) (Ryff, 1989b, p. 1071). These components fulfilled Ryff's aim to "encompass the meaning making, self-realizing, striving aspects of being human" (Ryff, 2014, p. 12). In developing the Psychological Well-Being (PWB) Scales, furthermore, Ryff provided a valid and reliable self-report measure to ascertain an individual's well-being within each domain and overall psychological functioning (Ryff, 2014). This model and measure have been used extensively in psychological well-being research, including studies around aging, health outcomes, and inequality (Huppert, 2009).

Another eudaimonic theory is self-determination theory (SDT) (Jayawickreme et al., 2012). This theory of motivation, personality, and functioning posits that all individuals have an innate tendency toward developing "an ever more elaborated and unified sense of self" (Ryan & Deci, 2002, p. 5). In other words, and in line with many other theorists, human beings have a natural propensity toward self-actualization (Wehmeyer et al., 2021). To enable this growth process, people need to fulfill basic psychological needs: competence, autonomy, and relatedness (Ryan & Deci, 2002). These needs serve as "nutrients" necessary for a good life. Furthermore, SDT holds that the drive to fulfill these needs propels an individual's overall development and influences their motivations, behaviors, personality, and social relatedness (Deci & Ryan, 2013). Indeed, several studies demonstrate the importance of these basic psychological needs as they

relate to overall well-being, experiences of positive affect, and a sense of meaning in one's life (Martela & Sheldon, 2019; Reis et al., 2000; Tang et al., 2020). Both Ryff's psychological well-being theory and self-determination theory define well-being as a process of fulfillment beyond pleasure and life satisfaction. Further, both posit the important role of well-being in motivation and in overall wellness. Their elucidation of different components of well-being also provide valuable insights regarding those elements that, alongside positive emotion and life satisfaction, determine the good life (Boniwell & Tunariu, 2019).

Cultural Considerations

Similar to the critiques levied toward subjective well-being and hedonistic theories of well-being, eudaimonic theories have also been scrutinized as reflective of a Western, individualistic worldview (Ryff et al., 2014). In particular, the emphasis on self-actualization as the ultimate expression of eudaimonic well-being reflects a Western, individualized perspective (Suh & Koo, 2008). Regarding Ryff's psychological well-being theory, several studies have questioned the universal applicability of the theory. These studies have evaluated the PWB Scales in different cultures, revealing some discrepancies regarding factor loading and suggesting that alternative models of well-being might be more comprehensive (Sirigatti et al., 2013). For example, Ryff's model was confirmed in studies of non-Anglo-Saxon populations from Italy, Belarus, Spain, and Colombia, while disconfirmed in a South African population (Henn et al., 2016; Sirigatti et al., 2013; van Dierendonck et al., 2008).

One identified problem with Ryff's PWB model concerns the place of autonomy. Autonomy is perhaps most salient in Western cultures, yet they include it as one of the six components of universal psychological well-being. In evaluating the PWB Scales in an Indian population, for example, Mehrotra and colleagues (2013) discovered that autonomy did not

emerge as a consistent factor. To explain this result, they suggest that autonomy as defined in the PWB Scales is foreign to Indian culture altogether or that the manifestations of autonomy in Indian culture is not yet well enough understood for capturing the construct (Mehrotra et al., 2013).

Self-Determination theory has similarly been scrutinized for its cross-cultural applicability (Chirkov et al., 2011). While many researchers would support the claim that the basic psychological needs of competence and relatedness are universal, the need for autonomy is more contested. In response, SDT theorists reiterate that the basic psychological needs are universal, although their relative salience and meaning are culture dependent (Ryan & Deci, 2017). Furthermore, culture influences how the individual meets these needs. Cross-cultural studies examining the applicability of SDT have shown a relationship between the satisfaction of the basic psychological needs and well-being (Church et al., 2013; Ryan & Deci, 2017; Wichmann, 2011).

Studies specifically examining autonomy, furthermore, have also shown the cross-cultural applicability of the basic psychological needs framework in SDT. For example, in a meta-analysis of studies conducted in the United States and East Asia, researchers discovered a moderate correlation between autonomy and subjective well-being across the samples (Yu et al., 2018). Further, the researchers found that the difference in these correlations between studies conducted in the United States and those done in East Asia were not significant. Another related study also found that autonomy was an equally important factor in academic performance in Eastern and Western nations (Nalipay et al., 2020). Considering such evidence, SDT appears to have relevance and applicability to explaining and fostering well-being across cultures.

Seligman's Well-Being Theory

As Seligman (2011) describes, well-being theory asserts that the goal of human life is "flourishing." In their earlier work looking at authentic happiness, Seligman adopted a definition of well-being and happiness as the experience of positive emotions and life satisfaction, much like that of subjective well-being (Seligman, 2013). In moving to well-being theory, however, Seligman broadened their focus to the construct of well-being and its constitutive elements. The elements of well-being, according to Seligman (2011), must share three properties: (a) they must contribute to well-being, (b) people must pursue the element for its own sake, not as a means to another element of well-being, and (c) each element must be independently defined and measured from the other elements. Seligman arrived at five elements (PERMA) of well-being that share these properties: positive emotions, engagement, positive relationships, meaning, and accomplishment (Seligman, 2011).

In evaluating different theories, Jayawickreme and colleagues (2012) described Seligman's well-being theory as a composite theory that contains elements of hedonistic, desire, and objective-list theories, with both subjective and objective components. They also appreciated that well-being theory incorporated elements relating to the inputs, processes, and outcomes of their Engine Model. Positive emotion, for example, parallels the hedonistic theory of subjective well-being in its focus on the role of pleasant and unpleasant emotions; it is also a process element in the Engine Model (Jayawickreme et al., 2012). Accomplishment and relationships, on the other hand, parallel eudaimonic theories (desire and objective-list theories) in their focus on fulfilling desires and psychological needs and in their focus on outcomes. As a result, well-being theory and PERMA provide a useful framework for the study of well-being in individuals as it

bridges the gap between hedonistic, desire, and objective-list categories of well-being theories (Boniwell & Tunariu, 2019; Seligman, 2011).

Additionally, Seligman developed their well-being theory to be practical, hoping to provide tangible entrances for intervention (Seligman, 2011, 2018). This practical focus has allowed positive psychology practitioners and theorists to develop concrete interventions geared toward PERMA in an effort to assist clients in developing positivity, strengths, and increased well-being (Parks & Titova, 2016). In other schools of thought, as well, the elements of PERMA are foci for clinical intervention. Conversations around relationships and meaning, for example, are frequent in psychodynamic and existentialist consulting rooms. In consolidating these themes and identifying them as associated with well-being, Seligman and positive psychology thinkers have provided increased evidence for therapeutic practice and a renewed focus on ultimate questions of happiness and well-being.

Positive Emotions

Seligman (2011) describes positive emotions as a further stage of their work on happiness. Positive emotions attempts to encapsulate the "pleasant" life as reflected in subjective positive affect and life satisfaction; it is closely aligned with hedonistic well-being and the construct of SWB (Jayawickreme et al., 2012). Within this frame, the pursuit and experience of positive emotions—when considering or experiencing the past, present, and future—should result in a pleasant and happy life.

SWB research into positive emotions and life satisfaction has demonstrated such a relationship while research into the relationship between positive emotions and a happy life, such as Fredrickson's broaden and build theory of positive emotions, further contribute to this conclusion (Fredrickson, 2013). Fredrickson (2013), for example, explores 10 representative

positive emotions: joy, gratitude, serenity, interest, pride, hope, amusement, inspiration, awe, and love. In defining and measuring these emotions, Fredrickson examines the relationships among them and identifies the ways in which positive emotions function as signals for a person to approach novel experiences and to continue engaging with their environment (Fredrickson, 2005).

Fredrickson's research also demonstrates how positive emotions foster the development of alternative perspectives and personal resources (Boniwell & Tunariu, 2019; Fredrickson, 2001). The experience of positive emotions has "the ability to broaden people's momentary thought-action repertoires" and to "undo" negative emotions' effects on our physiology (Fredrickson, 2001, p. 219). For example, the positive emotions of play encourage children (and adults) to develop physical and social resources for later use, while also broadening their capacity for creativity and exploration (Fredrickson, 2005). Accordingly, positive emotions affect other elements of well-being (e.g., fostering social resources for positive relationships), as well as provide subjective happiness (Boniwell & Tunariu, 2019; Fredrickson, 2001, 2013).

Engagement

Engagement is central to Seligman's happiness theory. This element focuses on the experience of flow, a concept that emerged from research into intrinsic motivation (Boniwell & Tunariu, 2019; Seligman, 2011). Like positive emotions, flow is a purely subjective state where an individual experiences an "intense experiential involvement in moment-to-moment activity. Attention is fully invested in the task at hand, and the person functions at [their] fullest capacity" (Csikszentmihalyi et al., 2014, p. 230). Flow and engagement, further, involve the intersection of challenge and capacity; a person must use their strengths and talents (Csikszentmihalyi et al., 2014; Seligman, 2011). Achievement of engagement, or flow, results in the exclusion of negative

thinking and bolsters positive affect and optimal experience (Boniwell & Tunariu, 2019). Studies of flow have further demonstrated that experiences of flow are associated with better academic performance and increased accomplishment, as well as decreased negative outcomes (Csikszentmihalyi et al., 2014).

Positive Relationships

Social support and connection are well-established facets of well-being (Butler & Kern, 2016) included in many theories of well-being (Froh et al., 2007). Studies have shown a correlation between social relationships and life satisfaction, decreased psychopathology, increased health behaviors, and longevity (Boniwell & Tunariu, 2019; Butler & Kern, 2016; Froh et al., 2007). The strong association between positive relationships and outcomes makes social connection central to theories of well-being. In addition to being pursued for their own sake, positive relationships can also increase one's experience of positive emotions and meaning in life (Reis & Gable, 2003; Seligman, 2011). In this way, positive relationships, like the other elements of PERMA, contribute as an input, a process element, and an outcome in the engine of well-being model described by Jayawickreme et al. (2012).

Meaning

Meaning involves believing that one's life matters, that one belongs to something larger than the self, and that one has a sense of purpose in life (Heintzelman & King, 2014; Seligman, 2011). In this way, meaning tends to find a home in eudaimonic theories (Jayawickreme et al., 2012). According to Seligman (2011), meaning has a subjective and objective component. People can experience positive emotions or feel a sense of connection to something larger than themselves, attributing a sense of meaning to their endeavors. People may also engage in meaningful activities without positive emotions or in spite of believing that their activities are

meaningless (Seligman, 2011). For example, Seligman suggests that people may believe their lives or work to be meaningless, while others (now or in the future) may recognize value in them. Furthermore, meaning-making serves as an important activity for fostering resilience and can mitigate psychological distress (Boniwell & Tunariu, 2019; Heintzelman, 2018b; Heintzelman & King, 2014). Meaning helps people make sense of the world, gives them a sense of purpose, and fosters belonging (Heintzelman, 2018b).

Accomplishment

Seligman (2011) included accomplishment as an element of well-being after a student posited that people pursue achievement and mastery for their own sake. While accomplishment may elicit positive emotions or give meaning to a person's experience, there are examples of people striving to win "only for winning's sake" (Seligman, 2011, p. 22). Accomplishment can include objective and subjective appraisals and a sense of mastery. It can also include the subjective sense of progressing toward goals (Butler & Kern, 2016; Donaldson et al., 2022).

As Seligman (2011) describes, however, people who aim to win for its own sake experience a profound level of devastation when losing, suggesting that their participation in the activity is not related to the PERMA domain of engagement. These individuals may also move on from a win so quickly that positive emotions may not even be a motivating factor—they do not win to feel good. Indeed, Seligman notes that the activities they seek to win can be meaningless subjectively and objectively, like card games. Taken together, these factors point to winning for its own sake— accomplishment—as a separate domain of well-being (Seligman, 2011).

Notably, Seligman also points to wealth accumulation as a manifestation of accomplishment or winning for its own sake. Some people may gather so much wealth that they

will never be able to spend it all in several lifetimes. Given the law of diminishing returns, the additional millions they earn do not convey any additional positive emotion. Additionally, their millions may also sit in a bank where the money is not necessarily contributing to anything meaningful or fostering positive relationships. To Seligman, such an example of accumulation demonstrates the drive to accomplishment—to win for its own sake.

The importance of accomplishment in the PERMA framework may be further illuminated by the ides of mastery from Ryff's work or by SDT's emphasis on competence as a basic psychological need. In Ryff's work, they emphasize environmental mastery as a key component of psychological well-being whereby a person is able to mold one's environment to meet one's needs (Ryff, 1989b). Similarly, competence in the SDT framework is understood as a feeling of effectiveness in one's environment that propels a person to seek out challenges that meet their capacities (Ryan & Deci, 2002). Building upon these ideas, accomplishment as a facet of PERMA aims to capture the "sense of working toward and reaching goals, mastery, and efficacy to complete tasks" (Butler & Kern, 2016, p. 4).

Cultural Considerations

Like subjective well-being and eudaimonic well-being, Seligman's well-being theory and positive psychology have also been critiqued for over-reliance on Western cultural norms, values, and perspectives (Cabanas, 2018; Christopher & Hickinbottom, 2008; Qureshi & Evangelidou, 2017). Indeed, recent critiques have emphasized that the field of positive psychology requires increased exploration of culture and diversity in development of theory and research (Lomas et al., 2021; Pedrotti et al., 2019).

In response to such criticism, some positive psychology theorists have suggested a middle way between the claims of universality and cultural relativism, while others assert the

data-driven nature of their claims (e.g., Lomas, 2015; Pedrotti et al., 2019). The PERMA Profiler, for example, has demonstrated acceptable validity and reliability in several diverse populations, including Ethiopia (Zewude & Hercz, 2022), Germany (Wammerl et al., 2019), Italy (Giangrasso, 2021), Iran (Payoun et al., 2020), Greece (Pezirkianidis et al., 2021), and Japan (Watanabe et al., 2018). While the nascent positive psychology field must better attend to cross-cultural and multicultural issues, these preliminary data suggest that well-being theory and PERMA have some cross-cultural validity. These data also encourage researchers and clinicians to attend to culture when applying theory and interpreting results across groups and in individual treatment.

Freedom

Well-Being theory suggests that the five elements of PERMA are necessary for an individual's well-being. Seligman's focus in developing this theory and in identifying the domains of PERMA was to provide a blueprint for understanding the "good life" and in promoting a more practical approach for fostering well-being among the population (Seligman, 2018). Notably absent from this theory, however, is the idea of freedom as a constituent element of well-being. Anecdotally, freedom is a salient concept in understanding well-being, especially in Western democratic cultures. While Seligman acknowledges that well-being theory is "essentially a theory of uncoerced choice, and its five elements comprise what free people will choose for their own sake," this theory does not address freedom, either as a prerequisite for or as an element of well-being (Seligman, 2011, p. 20).

This omission leaves unanswered questions and neglects to address freedom as a salient concept for many individuals and cultures. In the United States, for example, most people would readily identify freedom, especially freedom of expression, as a foundational element of our

collective society and national mythology (Winke & Simmons, 2015). At the same time, freedom is difficult to define, operationalize, and identify (May, 1999). “Freedom, by its very nature, is elusive. The word is difficult to define because of its quicksilver quality: freedom is always moving” (May, 1999, p. 52). This intangibility results in frequent reliance on simile, metaphor, and defining freedom in the negative. Metaphors and similes, however, quickly fall short of capturing the construct. Similarly, freedom is often defined by absence: freedom from undue influence, freedom from restriction, and freedom from oppression are all examples where freedom is characterized as the absence of something else. The difficulty of parsimony in defining and identifying freedom demonstrates its enigmatic nature (May, 1999).

From a psychological perspective, the elusiveness of freedom does not diminish its force as a motivating factor for behavior (Csikszentmihalyi et al., 2014). Researchers have tried to identify and distinguish the concepts of freedom, free will, agency, autonomy, and empowerment as related to behavior and behavior change (Hanna, 2011). They have examined how freedom is a motivating factor of behavior and can be a focus and goal of therapeutic intervention (May, 1962; Steindl et al., 2015). Hanna (2011) even suggests that freedom can provide an overarching transtheoretical paradigm for understanding therapy writ large: “The purpose of virtually all counseling endeavors, at some level and to some degree, is to set people free” (Hanna, 2011, p. 363).

Four Freedoms

Hanna’s (2011) conceptualization and delineation of freedom as a transtheoretical model is a useful framework for understanding the construct of freedom broadly. As Hanna describes, freedom can be conceptualized as a psychological state in which a person experiences both freedom from internal and external restrictions and a sense of mastery over their life and choices.

In this way, Hanna echoes Fromm's (1941) conceptualization of *freedom from* and *freedom to* and applies it to the individual engaged in the therapy process. In a similar vein, Paul Weiss's (1958) work also provides a valuable foundation for Hanna's model and expands on Fromm's work. Weiss distinguishes among four kinds of freedom: *freedom from, freedom to, freedom for,* and *freedom with*.

In the first place, *freedom from* speaks to the freedom from internal and external restrictions or burdens (Hanna, 2011; Weiss, 1958). *Freedom from* manifests in therapy as symptom reduction, alleviating destructive external situations, and increasing the client's ability to view, understand, and consider their presenting issues (Hanna, 2011). In other words, *freedom from* implies the movement of a person from a state of compulsion to a state of reflective action (Hanna, 2011; Weiss, 1958).

Freedom from thus provides the foundation for the second freedom: *freedom to*. *Freedom to* is characterized by a person's capacity to reflect on a given situation or issue, expand their choices, and increase their sense of mastery to solve problems, adapt, or change (Hanna, 2011). This *freedom to* is precipitated by *freedom from*, as removing forces of compulsion provides an individual a space for reflection and the capacity to then act. In the therapy room, this *freedom to* can be characterized by helping clients to change their beliefs, to challenge problematic thinking, and to face difficult emotions. At the same time, the therapy room provides an environment in which the individual is free to express these forbidden beliefs, negative self-perceptions, and fears that hold them back (Hanna, 2011; Kristeva, 1999). In this way, therapy engages the client in a liberatory process toward greater authenticity and integrity.

Freedom with, as Weiss conceptualizes it, involves an appreciation that one person's freedom is only meaningful when it is "intermesh[ed] with that exercised by others" (Weiss,

1958, p. 221). Hanna expounds on this understanding by connecting *freedom with* to "allowing others to be free without engaging competition, privilege, status, or exclusivity" (Hanna, 2011, p. 366). In this view, *freedom with* is conceptualized with a spirit of empathy, solidarity, and compassion. The therapist's practice of empathy and mutual empowerment in clinical encounters is a manifestation of *freedom with*. The interdependence of human beings and the nature of systems, furthermore, implicate the importance of *freedom with* as an antidote to zero-sum thinking. One's freedom is only powerful in the context of others' freedom.

To this end, therapy is ultimately an endeavor of *freedom for*. As Weiss describes, freedom for "is the power to commit oneself to an end and to work to bring it about" (Weiss, 1958, p. 221). In the context of therapy, Hanna connects this view of freedom for with the therapeutic goals of increasing knowledge and providing service to liberate others. In a sense, the liberating power of therapy equips clients to help others in their journeys of freedom. Because of this element of freedom, counseling becomes a "transformative instrument" (Hanna, 2011, p. 367).

As Hanna (2011) delineates, therapy is a form of engaging various mechanisms of change to facilitate a person's movement. The process, therefore, can be conceptualized as a process of moving toward greater levels of freedom and ultimately toward liberation (Hanna, 2011). Therapy provides the milieu and tools for psychological liberation for individuals who have found themselves unable to make change on their own. Therapy helps an individual to become free from the distress they are experiencing. Although using different techniques and theory, therapy broadly aims to reduce psychological distress and to engage individuals on a path to greater freedom. This *freedom to* implies that people, because of therapy, have a greater capacity for making choices and to act more intentionally in their lives to manage their symptoms, to live

in accordance with their goals and values, and to increase their own sense of ownership, responsibility, and agency over their lives.

Existential and Essential Freedom

Hanna's work positing a transtheoretical therapy model based on freedom clearly incorporates the existentialist thinkers' contributions to our understandings of freedom. In Rollo May's work in understanding and defining freedom, they asserts that freedom is the ultimate goal of therapy (May, 1962). May also makes a key distinction between existential *freedom of doing* and essential *freedom of being* (May, 1999). For May, *freedom of doing* implies the absence of restraint for a person to engage their lives as they see fit. This *freedom of doing* manifests in day-to-day life. Decisions about what to do and when concern the *freedom of doing*. On a psychological level, the *freedom of doing* implies "the capacity to pause" and to make a choice (May, 1999, p. 54). For May, however, the deeper essential *freedom of being* is more significant, as it provides the context out of which a person can exercise the *freedom of doing*. *Freedom of being* "involves the ability to reflect, to ponder, out of which the freedom to ask questions, whether spoken or not" (May, 1999, p. 55). This *freedom of being* is "an inner state" that gives a person "the experience of autonomy, identity, the capacity to use the pronoun 'I' with its full range of meaning" (May, 1999, p. 57).

The distinction between existential and essential freedom, furthermore, is germane in the context of the four freedoms as elucidated by Weiss (1958) and Hanna (2011). The *freedom from* and *freedom to* appear to speak to the conditions May described as constitutive of existential freedom, that day-to-day exercise of choice. Yet they also speak to the deeper, inner essential freedom May describes. As May posits, essential freedom provides the context for existential freedom (May, 1999).

The relationship between the two is complex and interesting. May (1999) argues that existential and essential freedom are not commensurate or incompatible. Indeed, they posits that the presence of existential freedom does not guarantee a high sense of essential freedom. In some instances, the absence of existential freedom can prompt a greater sense of essential freedom in the individual: "Is not the fact that life is a joy and a bondage at the same time enough to drive us to consider the deeper aspect of being?" (May, 1999, p. 60). A high degree of existential freedom may also detract from one's sense of essential freedom. The innumerable choices a person may face in modern life can lead to a sense of despair, leaving little room for consideration of essential freedom (May, 1999).

Autonomy

Although helpful as a transtheoretical framework and focus of therapy, for research purposes, Hanna and May's conceptualizations of freedom encounter the difficulty of measurement. Like well-being, the construct of freedom is difficult to operationalize. Freedom can be understood variously as free will, autonomy, independence, and agency (Hanna, 2011). In psychological studies, each has been operationalized and measured differently. For example, some scholars have operationalized free will as a construct dependent on executive functioning capacity (Lavazza & Inglese, 2015); others have developed a single measure that attempts to categorize individuals' beliefs in free will (Paulhus & Carey, 2011). On the other hand, some scholars have focused on agency, or the sense that one is control of one's life, and developed a measure to capture this construct (Tapal et al., 2017). Still others examine freedom of choice as a domain of freedom and its relationship to well-being (Koohborfardhaghighi et al., 2022).

In the domain of well-being research, the concept of autonomy has played a more prominent role. For example, Ryff's psychological well-being model and PWB Scales include

autonomy as one of the six constituent elements of well-being (Ryff, 1989b, 1989a). In studying well-being and self-actualization, Ryff encountered a long tradition of thinkers who asserted that self-actualization consisted in autonomous functioning, resistance to enculturation, and in having an internal locus of control and a sense of freedom from evaluation (Ryff, 1989a). As such, Ryff understood that "autonomy referred to self-determination, independence, and the regulation of behavior from within" (Ryff, 1989a, p. 42). In the PWB Scales, the authors sought to capture this sense of self-determination by asking participants about the degree to which their behaviors and opinions are influenced by other people (Ryff & Singer, 1996). Individuals with higher levels of autonomy demonstrate higher levels of confidence in their own opinions and consider other people's perceptions of them less than those who have lower levels of autonomy (Ryff & Singer, 1996).

Similarly, self-determination theory (SDT) contends that autonomy is one of the three basic psychological needs (Ryan & Deci, 2002). According to SDT, autonomy "concerns acting from interest and integrated values" and "refers to being the perceived origin or source of one's own behavior" (Ryan & Deci, 2002, p. 8). Furthermore, autonomy involves an "integrated sense of self through choice, agency, and volition" (Wehmeyer et al., 2021, p. 474). SDT theorists are quick to highlight, however, that autonomy is not equivalent with independence (Deci & Ryan, 2013). In SDT, a person can be autonomous even in circumstances outside one's control so long as the person is in congruence with those demands or environments. For example, a person's family of origin may ask them to financially contribute to the family or their religion may require adherence to certain dietary restrictions. The individual's autonomy may be at work so long as the acquiescence to such requests or requirements aligns with that person's values and the requested behavior is perceived as originating to some extent in the self. In such cases, one's

acquiescence is an expression of autonomy (Ryan & Deci, 2002). As autonomy consists of a subjective appraisal of one's actions and the motivations behind them, this definition of autonomy parallels May's (1999) conceptualization of the *freedom of being*, wherein an individual is able to reflect and act with their full self. This definition of autonomy also implicates the humanistic idea of congruence; people can have a sense of autonomy even when conforming to or complying with external demands (Ryan & Deci, 2002, 2004). In this way, autonomy in SDT serves as a useful and consistent operationalization of freedom as described by Hanna, May, and other existentialist thinkers (Hanna, 2011; May, 1999; Ryan & Deci, 2004).

Freedom Meets Well-Being

Using definitions generated by two distinct but connected areas of exploration, researchers have sought to identify the relationship between freedom and well-being. One group of salient studies examined individuals' beliefs in free will as it relates to well-being (Crescioni et al., 2016; Li et al., 2017). For these studies, researchers utilized the belief in free will as reflective of a sense of autonomy and self-control over one's behaviors (e.g., Crescioni et al., 2016; Li et al., 2017). For example, in one study of Chinese adolescents, the researchers utilized the Free Will and Determinism Plus Scale (FAD-Plus), to ascertain an individual's beliefs in free will as characterized by four subscales (Paulhus & Carey, 2011). These subscales capture the individual's beliefs in Free Will ("People can overcome obstacles if they truly want to"), Scientific Determinism ("People's biological makeup influences their talents and personality"), Fatalistic Determinism ("Fate already has a plan for each of us"), and Unpredictability ("Life is hard to predict because it is almost totally random"; Paulhus & Carey, 2011, p. 97). The researchers then examined the correlation between scores on the FAD-Plus, the Satisfaction With Life Scale, a measure that captures the cognitive aspects of SWB (Diener & Emmons et al.,

1985), and the PANAS, a widely used measure for gauging positive and negative affect (Watson et al., 1988).

Controlling for extraneous variables, the researchers discovered that belief in free will is positively correlated with life satisfaction and positive affect (Li et al., 2017). This study also contributes evidence to "the cultural generality of the positive effects of believing in free will on SWB," as Chinese culture generally does not emphasize freedom, free will, or independence as important values (Li et al., 2017, p. 76). Other studies conducted across international samples similarly demonstrate positive correlations between the belief in free will and SWB (Crescioni et al., 2016), belief in free will, life satisfaction, and meaning (Bergner & Ramon, 2013; Crescioni et al., 2016), and belief in free will and job performance (Stillman et al., 2010). Taken together, these results suggest a connection between freedom, as operationalized by the belief in free will, and well-being.

Studies of the relationship between well-being and autonomy have similarly demonstrated a positive correlation (Deci & Ryan, 2000). Scholars of self-determination theory have examined autonomy (as a basic psychological need) and its relationship to well-being (Deci & Ryan, 2013). For example, in one study, researchers compared college students scores on autonomy and competence measures against an aggregate well-being score composed of a mood checklist, a physical symptom checklist, and a scale to capture their sense of vitality over a 2-week period (Sheldon et al., 1996). Their results demonstrated a significant positive correlation between autonomy, aggregate well-being, vitality, and positive affect (Sheldon et al., 1996). Another related study demonstrated a similar correlation between autonomy and well-being, operationalized by the sum of positive affect and vitality minus negative affect and symptoms (Reis et al., 2000). In this case, the researchers' conceptualization of well-being more closely

aligns with the affective elements of SWB (positive and negative affective experiences), while omitting the cognitive components (life satisfaction) of SWB (Diener & Suh et al., 1999). In aggregate, the extant body of literature demonstrates a positive relationship between autonomy and multiple elements of subjective well-being.

The Research Gap

The literature on autonomy does not adequately bridge the gap between subjective well-being and eudaimonic well-being. SDT's theoretical emphasis on autonomy as a psychological need only suggests that it is an important facet of well-being (Deci & Ryan, 2013; Weinstein et al., 2012). Moreover, most studies to date have utilized measures of well-being that are predominantly reflective of hedonistic or subjective well-being and that do not consider freedom/autonomy as an element of well-being.

In this study, I explored the relationship between freedom and well-being through examination and further elaboration on the PERMA model described by Seligman in well-being theory and the model of autonomy from self-determination theory. As a construct that involves elements of hedonistic and eudaimonic well-being, the PERMA model provides the capacity to examine the relationship of autonomy to the constituent elements of well-being. Furthermore, the definition and method of operationalization of autonomy in self-determination theory closely aligns with the existentialist definition of essential freedom and their emphasis on freedom as "the capacity to use the pronoun 'I' with its full range of meaning" (May, 1999, p. 57).

Research Questions and Hypotheses

RQ1: What is the relationship between freedom (autonomy) and well-being (PERMA)?

Hypothesis 1: I hypothesized that freedom (autonomy) would have a positive correlation with well-being overall, suggesting that freedom contributes to a person's experience of overall

well-being or vice versa. The relevant literature from self-determination theory suggests that fulfillment of the basic psychological need of autonomy has a strong effect on how a person appraises their life and their overall well-being (Chirkov et al., 2011). Furthermore, because PERMA contains hedonistic and eudaimonic elements of well-being, I expected autonomy to be positively correlated with overall well-being as elucidated in this model.

RQ2: Along with PERMA, should freedom be considered in a measure of well-being?

Hypothesis 2: Through confirmatory factor and related analyses, I expected to find that freedom (autonomy) and the five domains of PERMA would demonstrate communality, sharing variance with the higher-order factor of well-being. Such a result would suggest that freedom should be considered as a separable, constituent element of well-being. This analysis would also allow us to better understand the relationship between autonomy and the domains of PERMA, potentially elaborating well-being theory further and opening possibilities for further theoretical and practical inquiry.

RQ3: What other variables might contribute to well-being and freedom?

Hypothesis 3: As demonstrated in the literature, various demographic variables have been associated with well-being (Diener & Ryan, 2009). In performing my analysis, I similarly expected demographic factors to account for some of the variance in well-being and freedom. Through one-way analyses of variance, I sought to identify the ways in which various demographic factors influence or do not influence well-being and freedom. This analysis, furthermore, would allow for the opportunity to revisit cultural considerations around well-being and freedom and to identify areas for further inquiry.

CHAPTER III: METHOD

Sampling Method and Size

Sampling recruitment was conducted using Prolific, an online crowdsourcing platform. Participation was limited to adults (18 years of age and older) residing in the United States. Like other online crowdsourcing platforms, Prolific enables researchers to connect with a large convenience sample for psychological research (Chandler & Shapiro, 2016; Peer & Brandimarte et al., 2017; Smith et al., 2015). Psychological research using such crowdsourcing platforms as a recruitment tool has been shown to provide similar results as traditional sampling methods, although it is not without issues (Casler et al., 2013; Chmielewski & Kucker, 2020; Follmer et al., 2017). For instance, these platforms provide convenient, nonrandom sample pools for researchers. As such, using crowdsourcing platforms for recruitment poses a threat to external validity (Chandler & Shapiro, 2016). Additionally, participants are incentivized to complete tasks quickly, resulting in higher rates of noncompletion, inattention, and the use of bots (Chmielewski & Kucker, 2020). Inclusion of validity and attention checks can mitigate the likelihood of these variables affecting the responses. Additionally, Prolific engages in a pre-screening process to ensure participants have historically provided high quality responses, resulting in more reliable data for researchers (Peer & Rothschild et al., 2021).

For the type of analyses I conducted, researchers suggest different sample sizes and provide various guidelines (T. A. Brown, 2015). For example, some argue confirmatory factor analyses should have at least 10–20 observations per manifest variable to ensure appropriate power. Brown suggests using the Satorra-Saris Method or Monte Carlo simulations to determine the required sample size based on the hypothesized model and previous research. Using the *pwrSem* Shiny app developed by Wang and Rhemtulla (2021) to ascertain the power between

factors, I determined that a sample size of at least 450 was necessary for detecting a medium effect (R^2 =0.13) with a high level of power (0.8), to reduce the possibility of a Type II error. Another Shiny app, *semPower* developed by Moshagen and Erdfelder (2016), was also used to verify the sample size necessary to achieve the desired effect size (.05) for the root mean square error of approximation (RMSEA) fit index with a high level of power (0.8) at $\alpha = .05$. Results of this analysis indicated that a sample size of at least 80 participants was necessary. To ensure a high level of power for the confirmatory factor analyses and the analyses of variance, I elected to recruit as many as 500 participants for this study as a conservative requirement to achieve the desired level of power while permitting for some attrition due to inadequate or unreliable responses.

Procedure

Upon approval from the Antioch University Institutional Review Board, I recruited participants using Prolific and invited them to complete the survey between April 6 and 7, 2023. Within Prolific, I set the demographic parameters to include only those participants who were living in the United States and fluent in English, as the survey was entirely in English without possibility for translation. Prolific only allows adults aged 18 or older to be participants on the platform, so this requirement of my study was built in. Potential participants were presented with a recruitment notice (Appendix A). Upon registering for the study, participants were directed to a Google Form that presented the informed consent document outlining the purpose, risks, and benefits of participating in the study, as well as the voluntary nature of their participation (Appendix B). Participants were also provided the contact information for the 988 Suicide and Crisis Lifeline for their use should they experience a mental health crisis or emergency.

Participants who indicated their consent and that they met the sampling criteria then provided their Prolific ID, a unique identifier used by the Prolific platform to allow for linking participants to responses to ensure completion of the survey and for quality control and validity purposes. They were then invited to complete the demographic questionnaire (Appendix C). In answering some demographic questions, participants were able to select "prefer not to say." For the questions related to gender identity, sexual orientation/identity, race and ethnicity, marital status, living situation, and employment status, participants were instructed to select all identities that applied to them. They were also able to list or describe an identity or identities not listed in the questions. Upon completion of the demographic items, participants were presented with the items of the PERMA Profiler (Butler & Kern, 2016) and the Index of Autonomous Functioning (Weinstein et al., 2012) in a randomized order and were required to complete each item. In randomizing the order delivery of items from the Index of Autonomous Functioning (IAF) and PERMA Profiler for each participant, I sought to minimize the potential for order bias. For example, presenting the IAF before the PERMA Profiler may introduce a bias where participants are primed to answer in a certain way. Randomization for each participant statistically minimizes the risk of such biases influencing the results overall (Loiacono & Wilson, 2020).

Participants who elected to complete the entire survey were invited to submit their response and receive a validation code for entry into the Prolific platform. This validation code was the same for every participant to ensure continued anonymity. I then compensated those who completed the survey for their time and effort, authorizing a $2.00 payment to each participant through the Prolific platform. I arrived at this level of compensation as I estimated that completing the entire survey would take participants approximately 10 minutes, equating to a rate of $12 per hour (the actual average time taken to complete the survey was 6.5 minutes while

the median time taken by all participants was 5.1 minutes, equating to a compensation rate of $23.44 per hour).

Upon closure of the study and compensating the participants, participants' Prolific IDs were removed from the response data to eliminate further association between participants and particular responses. The responses were then screened based on participants' performance on included attention and logic checks. For the remaining responses, I then cleaned the data by calculating the averages of the subscales and overall score for the IAF and PERMA Profiler and organizing and grouping participants based on their demographic information to provide for exclusive groupings when conducting the subsequent analyses of variance. Participants who selected more than one identity or characteristic were grouped together under an exclusive, umbrella category to ensure that each person is reflected only once, allowing group comparisons to be independent. For example, participants who identified as agender, nonbinary, and as a woman were grouped with other individuals with transgender, nonbinary, or gender nonconforming identities (TGNC) rather than in the group of those participants who identified exclusively as women. The diversity of participants' identities is reflected in the descriptive statistics in Chapter IV, where the total number of participants who selected a particular identity of characteristic are displayed.

Measures

PERMA Profiler

The PERMA Profiler is a brief multidimensional measure developed to operationalize PERMA from Seligman's well-being theory (Butler & Kern, 2016). The PERMA Profiler is a self-report measure consisting of 23 Likert-type items, capturing the five elements of PERMA, along with questions assessing negative emotion, and physical health. Studies into the reliability

and validity of the PERMA Profiler have demonstrated acceptable construct validity and reliability, as well as acceptable convergent and discriminant validity (Bartholomaeus et al., 2020; Butler & Kern, 2016). One study found that the PERMA Profiler demonstrated both a one factor well-being model and five factor model, suggesting that it effectively captures both the higher-order well-being construct of interest while preserving adequate discriminant validity to the constituent factors (Bartholomaeus et al., 2020). Researchers have also found that the PERMA Profiler has a strong correlation with SWB, further suggesting convergent validity with the construct of well-being. The PERMA Profiler serves as an appropriate measure for further elaboration of elements of well-being as Seligman proposes (Goodman et al., 2018; Seligman, 2018).

The items of the PERMA Profiler are specific to the domains of Positive Emotions (e.g., "In general, how often do you feel joyful?"), Engagement (e.g., "In general, to what extent do you feel excited and interested in things?"), Positive Relationships (e.g., "To what extent do you receive help and support from others when you need it?"), Meaning (e.g., "In general, to what extent do you lead a purposeful and meaningful life?"), Accomplishment (e.g., "How often are you able to handle your responsibilities?"), Negative Emotion (e.g., "In general, how often do you feel sad?"), Physical Health (e.g., "How satisfied are you with your current physical health?"), Happiness ("Taking all things together, how happy would you say you are?"), and Loneliness ("How lonely do you feel in your daily life?"; Butler & Kern, 2016). The items within each domain are averaged to determine the score of the domain. The means of the items within the Positive Emotions, Engagement, Positive Relationships, Meaning, Accomplishment domains and one Happiness item are averaged to create an overall well-being score.

The Index of Autonomous Functioning

The Index of Autonomous Functioning was developed to be a theoretically and empirically derived measure of autonomy as defined in the SDT literature (Weinstein et al., 2012). To this end, the authors developed a self-report measure of 15 Likert-type items across three subscales to reflect the characteristics of autonomy: Authorship/Self-Congruence (e.g., "My actions are congruent with who I really am"), Interest-Taking (e.g., "I often reflect on why I react the way I do"), and Susceptibility to Control (e.g., "I believe certain things so that others will like me"; Weinstein et al., 2012). Authorship/Self-Congruence measures the extent to which individuals view themselves as the authors of their own actions. Interest-Taking refers to the "tendency to openly reflect on inner and outer events" (Weinstein et al., 2012, p. 398). This facet reflects individuals' openness to learning more about themselves and making reflective choices. The third subscale concerns Susceptibility to Control. This element aims to capture the absence of feelings of pressure for behaving in certain ways. The items of the Susceptibility to Control subscale are reverse scored. All item scores are then averaged to provide an overall assessment of Autonomy, which is the "most parsimonious way to assess autonomy" as demonstrated in various studies (Weinstein et al., 2012, p. 410). Initial validation of the measure demonstrates internal consistency, strong predictive ability, and reliability (Weinstein et al., 2012). Importantly, previous studies have demonstrated that scores of the IAF correlate with measures of subjective well-being. This suggests that the IAF has construct validity within self-determination theory's conceptualization of the relationship between autonomy and well-being (Weinstein et al., 2012).

Data Analysis

To evaluate the hypotheses and to better ascertain the relationship between freedom and well-being, various data analysis procedures were used. Analyses were performed using Stata 17, IBM SPSS Statistics, version 29, R Statistical Software, version 4.2.3 as implemented in the RStudio Integrated Development Environment, version 2023.3.0.386. I also used the R packages of *lavaan* (Rosseel, 2012); *semPlot*, version 1.1.6 (Epskamp, 2022); *semTools*, version 0.5-6.922 (Jorgensen et al., 2023); and *semptools*, version 0.2.9.6 (Cheung & Lai, 2023).

The data were screened prior to analysis. Participants who failed at least one attention or logic check were removed from analysis, as mentioned. Scores that were outliers, defined by > |± 3| standard deviations from the mean, were also identified in the continuous scale scores used for correlation analyses and analyses of variance—the composite scores of the PERMA and IAF factors and the overall Well-Being and Autonomy scores. As these outliers were not due to data entry error, they were retained in the original data set for the analyses of variance and confirmatory factor analyses, as they may represent some facet of the population at large (Field, 2018; Hair & Black et al., 2019). Nevertheless, additional analyses were performed for comparative purposes using winsorized data; winsorizing involves replacing these identified outliers with values ± 3 standard deviations from the respective mean (Field, 2018). When analyses using winsorized data resulted in *p*-values that differed in significance from the original analyses, the result of the winsorized analysis are reported in that case. In total, 491 participants completed the survey and the responses of 465 participants were included in data analysis after screening.

Hypothesis One: Correlation of Well-Being and Freedom

Regarding the first research question, I hypothesized that a correlation analysis would suggest a positive correlational relationship between overall well-being and freedom. To evaluate such a relationship between well-being and freedom, the correlation of the composite well-being score from the PERMA Profiler and the composite autonomy score from the IAF were evaluated using the Pearson correlation coefficient, Spearman's rho, and Kendall's Tau using Stata 17 and IBM SPSS Statistics, version 29. Since the composite scores for well-being and autonomy are generated from the average of items from their respective measures, these scores act on a continuous scale despite being based on ordinal scale items. While some researchers agree that measures using Likert-type items can be evaluated using Pearson's correlation coefficient after calculating a summative or average composite score, others argue that calculating Pearson's correlation coefficient for such measures can result in underestimations of the strength of relationships between variables and biased factor loading (Baglin, 2014). As such, calculating Spearman's correlation coefficient or Kendall's tau is also appropriate and can provide valuable information about the relationship between well-being and freedom (Baglin, 2014; Watkins, 2018).

Additionally, the relationships between the factors of the PERMA Profiler and the IAF were evaluated by calculating the Pearson correlation coefficients, the polychoric correlation coefficients, and polyserial correlations for the relations between the factors. Since the authors designed the PERMA Profiler using an 11-point Likert-type scale to mirror an interval scale, the Pearson correlations between these items were calculated. The items of the IAF, however, are based on a 5-point Likert-type scale, requiring the use of polychoric correlation coefficients. Polychoric correlation coefficients estimate a continuous latent variable underlying the ordinal

observed variable, providing a more accurate description of the relationships between these items (Holgado-Tello et al., 2010). Similarly, the use of polyserial correlation coefficients is necessary to ascertain the relationships between the items of the IAF and those of the PERMA Profiler.

Hypothesis Two: Confirmatory Factor Analyses

For the second research question, I hypothesized that freedom should be considered a constitutive element of well-being measures. Building on the theoretical and empirical relationship between these constructs, I hoped to demonstrate that, using the identified measures, a measurement model would emerge that supports this hypothesis. To evaluate this hypothesis, confirmatory factor analyses (CFAs) were performed using the procedures described by Brown (2015). Because of the ordinal nature of the item scales of the PERMA Profiler and the IAF, a means and variance adjusted weighted least squares estimator (WLSMV) was most appropriate (T. A. Brown, 2015). The WLSMV estimator involves calculating a polychoric correlation matrix that represents the underlying continuous factor of the ordinal items and subsequently using a diagonal weight matrix, robust standard errors, and a means and variance adjusted χ^2 test statistic (T. A. Brown, 2015). The WLSMV estimator has been shown to be more effective with smaller sample sizes and when data do not conform to expectations of normality (Flora & Curran, 2004). Additionally, all analyses utilized the marker method for scaling latent variables (i.e., latent factors were scaled to the first item of their respective scale) and is indicated by a dotted line in the figures (T. A. Brown, 2015). To interpret the fit measures of the CFA models, robust or scaled measures and indices were used when available, as these compensate for issues related to skewness, kurtosis, and other potential issues related to nonnormality. Results displayed in the diagramed models are standardized to better convey the relationships among the factors and to provide for easier computation of the coefficients of determination (r^2).

Goodness of Fit Indices

Regarding analysis of goodness of fit of the hypothesized model, absolute fit (χ^2, normed χ^2, and SRMR), parsimony correction (RMSEA), and comparative fit (CFI and TFI) indices were calculated and are reported in the Chapter IV. *Absolute fit indices* evaluate the theoretical hypothesis that the model-implied covariance or correlation matrix (S) is equal to the population covariance or correlation matrix (Σ). As a measure of absolute fit, χ^2 serves as the "only statistical test of significance for testing the theoretical model" (Whittaker & Schumacker, 2022, p. 134). As such, a nonsignificant χ^2 statistic ($p > 0.05$) would suggest that the population covariance or correlation matrix and the model-implied covariance or correlation matrix are not statistically different, therefore implying that the hypothesized model is a good overall fit for the population (T. A. Brown, 2015). However, χ^2 is very sensitive to sample size and model complexity and so cannot be used as the sole criterion of model fit (T. A. Brown, 2015). To address this issue, some researchers recommend the normed χ^2 as a measure of model fit, which is the ratio of χ^2/df, with values greater than one and less than or equal to two or three indicating a superior fit and values less than or equal to five suggesting acceptable fit (Alavi et al., 2020; Hair & Black et al., 2019; Schumacker & Lomax, 2004). The standardized root mean square residual (SRMR) is another absolute fit index, reflecting "the average discrepancy between the correlations observed in the input matrix and the correlations predicted by the model," with values closer to zero suggesting better fit (T. A. Brown, 2015, p. 70).

Parsimony correction indices are similar to absolute fit indices as they similarly assess the hypothesis that the model-implied covariance or correlation matrix is equal to the population covariance or correlation matrix (T. A. Brown, 2015). They differ, however, insofar as they incorporate a "penalty function for poor model parsimony (i.e., number of freely estimated

parameters as expressed by model *df*"; T. A. Brown, 2015, p. 71). In the case of the root mean square error of approximation (RMSEA) for instance, this measure relies on the noncentral χ^2 distribution, reflecting the degree of misspecification of the hypothesized model. As such, RMSEA "assesses the extent to which a model fits reasonably well in the population," whereas the χ^2 value assesses perfect equality between the model (S) and the population (Σ; T. A. Brown, 2015, p. 71). For both the absolute and parsimony correction indices, values closer to zero indicate good fitting models.

Comparative fit indices, on the other hand, reflect the fit of the hypothesized model compared to a more restricted baseline model (T. A. Brown, 2015). For these indices, a baseline null model is generated by the computer where the covariances of all indicators are fixed to zero. This generates a nested model with which the hypothesized model can be compared using χ^2 statistics and degrees of freedom (T. A. Brown, 2015). The comparative fit index (CFI) and the Tucker-Lewis index (TLI) are two comparative fit indices that assess a hypothesized model against a null baseline model. The Tucker-Lewis index also compensates for model complexity by including a penalty function that reflects freely estimated parameters in the model that do not improve fit (T. A. Brown, 2015). As these comparative fit indices evaluate hypothesized models to similar nested models, values closer to one indicate good fit.

While researchers have demonstrated the strengths and weaknesses of these fit indices depending on model complexity, sample size, and estimation methods, some cutoffs have been proposed as first steps for interpreting the indices (e.g., Browne & Cudeck, 1992; Fan & Sivo, 2007; Hu & Bentler, 1999). Brown suggests using the cutoffs proposed by Hu & Bentler (1999), while attending to the nuances of the model that may cause fit indices to not conform to Hu & Bentler's conservative criteria (T. A. Brown, 2015). The cutoffs for fit indices according to Hu &

Bentler (1999) are: standardized root mean square residual (SRMR) close to .08 or below; root mean square error of approximation (RMSEA) close to .06 or below; and the comparative fit index (CFI) and Tucker-Lewis index (TLI) close to .95 or above.

Brown (2015) suggests some flexibility with these criteria, citing other researchers who have advocated for use of gradients in interpreting these indices. For instance, Brown cites Browne and Cudeck (1992) who have suggested that an RMSEA below .05 signifies "good fit," one below .08 represents "adequate fit," and an RMSEA above .1 should be rejected. Similarly, a CFI or TLI between .90 and .95 may signal an acceptable model fit (T. A. Brown, 2015). Whittaker and Schumacker (2022) also advise flexibility in using cutoffs to evaluate model fit. Given the sensitivity of different indices to various factors, they provide guidelines based on simulations for evaluating these indices. For this project, with more than 250 participants and 30 observed variables, Whittaker and Schumacker (2022) acknowledge that significant *p* values for χ^2 tests are expected. They also suggest that CFI or TLI values greater than .92, an SRMR value at .08 or less, and an RMSEA value less than .07 would indicate a well-fitting model with this sample size and number of observed variables. The cutoff values for the indices used in this project are displayed in Table 3.1.

Table 3.1

Fit Indices and Cutoff Criteria Used in This Study

Index	χ^2/df	SRMR	RMSEA	CFI	TLI	MI	Standardized Residuals
Acceptable Fit	≤ 5.00	≤ 0.08	≤ 0.08	≥ 0.90	≥ 0.90	< 3.84	< |± 2.58|
Good Fit	≤ 3.00	≤ 0.08	≤ 0.05	≥ 0.95	≥ 0.95	< 3.84	< |± 1.96|

Note. MI = Modification Index; SRMR = standardized root mean-square residual; RMSEA = root mean square error of approximation; CFI = comparative fit index; TLI = Tucker-Lewis index.

Brown's method for conducting a CFA also includes examining the residuals, modification indices, and parameter estimates. The modification indices reflect the expected decrease in the χ^2 statistic if a given parameter is freed. The expected parameter change (EPC) conveys the direction and magnitude of change in the parameter estimate if it is freely estimated in subsequent analyses. Standardized residual values within ± 2.58 (representing significance of *z*-values at the α = .01 level), modification indices below 3.84 (critical value of χ^2 at $p < .05$ with $df = 1$), and parameter *z*-values greater than 1.96 (α = .05) are considered acceptable (T. A. Brown, 2015). Standardized residual values within ± 1.96 are considered good, while values within ± 2.58 are considered acceptable. Parameter estimates also need to be examined to ensure that the direction and magnitude are as might be expected given the theoretical basis for the CFA. If any of these areas indicate a poor or less-than-adequate fit, respecification is necessary (T. A. Brown, 2015).

Hypothesis Three: Analyses of Variance

My third research question concerned the possible relationship between various demographic factors, well-being, and freedom. I hypothesized that, in line with previous research, certain demographic factors would account for some of the variance in well-being and autonomy scores. In this hypothesis, however, I was more concerned with identifying possible factors to take into future consideration when developing a cohesive measure of well-being, rather than confirming previously demonstrated relationships between demographic factors, well-being, and autonomy. Potential interaction effects between demographic variables were not analyzed, as such an analysis is beyond the scope of this project. The demographic analyses performed provide additional insight regarding the measurement of well-being and autonomy across identity groups.

To evaluate this exploratory hypotheses, one-way analyses of variance (ANOVAs) were conducted for each categorical demographic factor and Pearson correlation coefficients for demographic factors measured on continuous scales to evaluate the relationship of these characteristics, identities, and qualities to well-being and freedom. Alternative statistical procedures were considered for evaluating the relationship between demographic variables and well-being and autonomy scores, such as factorial ANOVA, analysis of covariance (ANCOVA), and multivariate analysis of covariance (MANOVA). Due to the exploratory nature of this hypothesis and the presumed independence of well-being and autonomy underlying the original measures, I decided to conduct independent ANOVAs based each demographic factor to identify areas for further exploration, while recognizing that repeated ANOVAs increase probability of significant results and affects statistical power (Field, 2018).

Prior to computing all one-way ANOVAs, the underlying assumptions required for performing an ANOVA were evaluated. Although studies have shown that it lacks sensitivity for small samples and is oversensitive for large samples, the Shapiro-Wilk test of normality was used as one component for assessing normality within groups, where significant findings ($p < .05$) suggest nonnormal distributions (Field, 2018; Mishra et al., 2019). Visual inspection of Q–Q plots and histograms, and analysis of skewness and kurtosis values, for all groups were also conducted to assess for normality (Field, 2018). Based on previous research, normal distributions within groups was assumed if the SPSS computed skewness and kurtosis values were between ± 1.00 or if the transformed *z*-scores for these values were between ± 1.96 (Ghasemi & Zahediasl, 2012; Mishra et al., 2019). Homogeneity of variance was assessed using Levene's test.

Significant results of this test ($p < .05$) indicate heterogeneity of variance, requiring additional care when performing calculations and interpretations (Field, 2018).

To attend to potential issues related to normality, heterogeneity of variance, and the large discrepancy in group sample sizes in some independent variables, *Welch's F* statistic (F_{Welch}) was used in performing the ANOVAs. *Welch's F* is a robust test that controls for Type I errors due to unequal sample sizes between groups, mild violations of normality, and heterogeneity of variance, as recommended by previous researchers (Delacre et al., 2019; Field, 2018). Additionally, the Games-Howell procedure was used for all post hoc comparisons, as it too is robust against violations of the assumptions underlying analyses of variances (Sauder & DeMars, 2019). In instances where group sizes were especially unequal and scores nonnormally distributed, ANOVAs using the winsorized data and the nonparametric Kruskal-Wallis test were also performed and compared to the Welch statistic (Field, 2018). Pairwise comparisons following Kruskal-Wallis tests were performed using the Dunn approach, as executed by IBM SPSS Statistics, version 29, and evaluated using the Bonferroni-corrected, adjusted significance value at an α level of .05.

Effect size values were also calculated and are reported in the Results section as omega-squared (ω^2) for ANOVA results. The omega-squared values were derived from the Welch statistic using the formula described by Carroll and Nordholm (1975). Omega-squared is a less biased description of effect size, as it relates to the population rather than the sample itself (as eta-squared does; Tomczak & Tomczak, 2014). Nevertheless, effect sizes for Kruskal-Wallis tests are reported as eta-squared (η_H^2) to allow for straight-forward conclusions about the variance to be made. Eta-squared values were computed using the formula described by

Tomczak and Tomczak (2014). All tests of significance were evaluated using $\alpha = .05$ and confidence intervals are reported at 95%.

CHAPTER IV: RESULTS

Participant Demographics

After 2 days on Prolific, 491 participants had provided consent and completed the survey. In screening the responses based on participants' performance on the attention and logic checks, 26 (5.3%) participants were removed from the sample for failing at least one check. As a result, data analysis involved 465 responses. The results in Table 4.1 describes the number of participants who endorsed a particular demographic category. As a result, the sums of the number (*n*) of participants within a given demographic category may equal more than the total number (*N*) of participants.

Table 4.1

Demographic Characteristics Endorsed by Participants

Identity or Characteristic	*n*	%
Full sample	465	100.0
Gender		
Agender	2	0.4
Bigender	1	0.2
Demi	2	0.4
Genderfluid	4	0.9
Genderqueer	4	0.9
Man	227	48.8
Nonbinary	22	4.7
Pangender	1	0.2
Trans	9	1.9
Woman	220	47.3
Prefer not to say	2	0.4
Sexual Identity/Orientation		
Asexual	16	3.4
Bisexual	48	10.3
Demisexual	2	0.4
Gay	11	2.4

Identity or Characteristic	*n*	%
Lesbian	8	1.7
Omnisexual	1	0.2
Pansexual	17	3.7
Queer	4	0.9
Same Gender Loving	4	0.9
Straight	369	79.4
Prefer not to say	8	1.7
Race or Ethnicity		
Asian, Asian American, Pacific Islander	38	8.2
Black or African American	41	8.8
Caribbean	1	0.2
Hispanic or Latino/Latina/Latinx	41	8.8
Native American or Alaskan Native	8	1.7
Biracial or Multiracial	9	1.9
White or Caucasian	361	77.6
Prefer not to say	4	0.9
Age range		
18–24	75	16.1
25–34	170	36.6
35–44	111	23.9
45–54	46	9.9
55–64	46	9.9
65–74	13	2.8
75 +	4	0.9
Region of residence		
Great Lakes	66	14.2
Mid-Atlantic	73	15.7
New England	23	4.9
Plains	31	6.7
Rocky Mountain	19	4.1
Southeast	117	25.2
Southwest	57	12.3
West	79	17.0

Identity or Characteristic	*n*	%
Highest level of education		
Some high school	2	0.4
High school diploma or equivalent	54	11.6
Associate's degree	51	11.0
Some college	108	23.2
Bachelor's degree	175	37.6
Some graduate school	12	2.6
Graduate or professional degree	63	13.5
Marital/Relationship status		
Single	183	39.4
Married	170	36.6
Partnered	77	16.6
Divorced or separated	25	5.4
Widowed	6	1.3
Divorced and re-partnered	4	0.9
Living situation		
Alone	82	17.6
Dorm	6	1.3
Family (Parents, siblings, or multigenerational)	118	25.4
Partner	229	49.2
Partner and children	100	21.5
Roommates	40	8.6
Unstable	3	0.6
With children	116	24.9
Employment		
Full-time	242	52.0
Part-time	101	21.7
Student	48	10.3
Unemployed	47	10.1
Stay-at-home or homemaker	32	6.9
Retired	18	3.9
Disabled	10	2.2

Of the 465 respondents, 436 (93.9%) identified exclusively as either a man (225, 48.4%) or a woman (211, 45.4%), while 27 (5.8%) participants identified with at least one transgender, gender nonconforming, or nonbinary identity (TGNC). Of the 465 participants, 22 (4.7%) identified as nonbinary, nine (1.9%) identified as trans, four (0.9%) identified as genderfluid, four (0.9%) as genderqueer, two (0.4%) as demigender, two (0.4%) as agender, one (0.2%) as pangender, and one (0.2%) as bigender. Two participants (0.4%) selected "prefer not to say."

Of the participants in the study, 369 (79.4%) identified as only straight or heterosexual and 90 (19.4%) participants identified with at least one sexual identity that is nonheterosexual. Eight (1.7%) participants preferred not to disclose their sexual orientation. Of the 465 total participants, 48 (10.3%) identified as bisexual, 17 (3.7%) as pansexual, 16 (3.4%) identified as asexual, 11 (2.4%) as gay, eight (1.7%) as lesbian, four (0.9%) as queer, four (0.9%) as same-gender-loving (SGL), two (0.4%) as demisexual, and one (0.2%) as omnisexual.

Regarding racial and ethnic identity, participants were also instructed to select all identities that apply to them. In total, 361 (77.6%) participants identified as White or Caucasian with 332 (71.4%) identifying White or Caucasian as their only racial or ethnic identity. Forty-one (8.8%) participants identified as Black or African American with 34 (7.3%) identifying Black or African American as their only racial or ethnic identity. Forty-one (8.8%) participants identified as Hispanic or Latino/Latina/Latinx with 25 (5.4%) selecting Hispanic or Latino/Latina/Latinx as their only racial or ethnic identity. Additionally, 38 (8.2%) participants identified as Asian, Asian American, or Pacific Islander with 31 (6.7%) identifying only as Asian, Asian American, or Pacific Islander. Nine (1.9%) participants identified as biracial or multiracial. Eight (1.7%) participants identified as Native American or Alaskan Native with only one (0.2%) individual identifying Native American or Alaskan Native as their only racial or ethnic identity. One (0.2%)

participant identified as Caribbean. Four (0.9%) preferred not to answer this demographic question. While only nine participants self-identified as biracial or multiracial, a total of 37 (8%) participants selected more than one racial or ethnic identity in response to this question.

Regarding age, participants identified the age range that applied to them. Seventy-five (16.1%) participants indicated they were between 18 and 24 years old. One hundred seventy (36.6%) participants were between 25 and 34 years old. One hundred eleven (23.9%) were between 35 and 44 years old. Forty-six (9.9%) were between 45 and 54 years old. 46 (9.9%) were between 55 and 64 years old. Thirteen (2.8%) were between 65 and 74 years old. Four (0.9%) indicated they were either 75 years old or older. Participants also indicated the highest level of education they have achieved. Two (0.4%) participants indicated they completed some high school; 54 (11.6%) participants achieved a high school diploma or equivalent (e.g., GED). One hundred eight (23.2%) participants have completed some college. Fifty-one (11.0%) completed an associate degree. One hundred seventy-five (37.6%) participants completed a bachelor's degree. Twelve (2.6%) have completed some graduate school coursework. Sixty-three (13.5%) have completed a graduate degree, including master's, doctoral, or professional degrees. Participants were asked to report their income rounded to the nearest thousand. Participant incomes ranged from $0 to $259,000; the mean was $51,597.31 (*SD* = $45,564.95) with the median income being $40,000.

Participants also selected their state of residence. States were organized into regions to better manage the data. Twenty-three (4.9%) participants live in New England (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, or Vermont). Seventy-three (15.7%) live in Mid-Atlantic states (Delaware, the District of Columbia, Maryland, New Jersey, New York, or Pennsylvania). Sixty-six (14.2%) participants live in the Great Lakes region (Illinois, Indiana,

Michigan, Ohio, or Wisconsin). Thirty-one (6.7%) live in the Plains region (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, or South Dakota). One hundred seventeen (25.2%) participants live in the Southeast (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, or West Virginia). Fifty-seven (12.3%) live in the Southwest (Arizona, New Mexico, Oklahoma, or Texas). Nineteen (4.1%) live in the Rocky Mountains region (Colorado, Idaho, Montana, Utah, or Wyoming). Fifty-seven participants (17%) live in the West (Alaska, California, Hawaii, Nevada, Oregon, or Washington).

For demographic questions about employment, marital status, and living situation, participants selected all options that applied to them. Of the 465 participants, 183 (39.4%) identified as single, never married. Two hundred fifty-two (54%) reported that they have a significant other, partner or spouse. Of these participants, 170 (36.6%) are currently married. Twenty-five (5.4%) participants reported that they are divorced or separated and not currently in a relationship. Six (1.3%) have experienced the death of a partner or spouse. Additionally, four (0.9%) have experienced divorce or separation and currently have a significant other, partner, or spouse.

Of the 465 participants, 77 (17.6%) reported that they live alone. One hundred twenty-two (26.2%) indicated that they live with their significant other, partner, or spouse. One hundred (21.5%) participants live with their significant other, partner, or spouse, and their children. One hundred seven (23%) reported that they live in a multigenerational household with their parents, siblings, and (if applicable) their children. Thirty-nine (8.4%) live with unrelated roommates. Eleven (2.4%) participants are single parents living with their children. Six (1.3%)

participants currently live in a dormitory or a boarding situation. Three (0.6%) reported that they are currently unhoused or did not have stable housing at the time they completed the survey.

Two hundred forty-two (52%) participants reported having a full-time job. One hundred one (21.7%) participants have part-time jobs. Thirty-two (6.9%) reported that they are stay-at-home parents or homemakers. Forty-seven (10.1%) reported that they are unemployed. Eighteen (3.9%) are retired. Ten (2.2%) are disabled and unable to work. Forty-eight (10.3%) are students. Of these students, 20 also work at least part-time. In total, 341 (73.3%) participants are employed at least part-time. Forty (8.6%) are unemployed and are not students, retired, or stay-at-home parents or homemakers. Twenty-nine (6.2%) are full-time stay-at-home parents or homemakers. Seventeen (3.7%) are fully retired. Twenty-eight (6%) are students who are not employed.

Descriptive Statistics of the Measures

Although the items are based on Likert-type ordinal scales, the authors of the PERMA Profiler and the Index of Autonomous Functioning instruct for the average scores to be calculated for each subscale to create overall scores for each domain (Butler & Kern, 2016; Weinstein et al., 2012). The authors of the PERMA Profiler also instruct for the average to be taken of the Positive Emotions, Engagement, Positive Relationships, Meaning, and Accomplishment subscales and combined with the single Happiness item to generate an overall Well-Being score (Butler & Kern, 2016). Similarly, the authors of the Index of Autonomous Functioning instruct for the average of all items to generate an overall Autonomy score (Weinstein et al., 2012). As a result, these average scores can function as continuous data and the means and standard deviations of these subscales and the composite scores can be calculated.

The means and standard deviations of the scales of interest are displayed in Table 4.2: Positive Emotions, Positive Relationships, Meaning, Accomplishment, Authorship/Self-Congruence (Authorship), Susceptibility to Control (Control), Interest-Taking (Interest), the overall Well-Being score, and the overall Autonomy score. Table 4.2 also displays the means and standard deviations of the subscales and the composite scores for the sample organized by demographic characteristics, both in their exclusive categorizations and of all participants who selected a given identity, characteristic, or status.

Of particular interest, the composite score of Well-Being from the PERMA Profiler resulted in an overall mean of 6.3 (*SD* = 1.8). The PERMA Profiler had a Cronbach's α of .944. These results generally align with the data obtained in the original study behind the PERMA Profiler (Butler & Kern, 2016). In that endeavor, the researchers conducted several studies during the development of the measure. The data from the combined samples yielded a mean of 7.0 (*SD* = 1.7) and Cronbach's α of .94. Although the means from this study are lower than those from Butler & Kern's study, the internal consistency values are similar to the results yielded in this study.

The overall Autonomy score is similarly determined by averaging all items of the IAF. The items related to Susceptibility to Control were reverse scored according to the scale authors' instructions prior to calculation. The overall mean of the Autonomy score was 3.5 (*SD* = 0.5). The measure all together had a Cronbach's α of .703. In the initial studies behind the IAF, the authors treated each subscale independently and did not average the results to generate an overall autonomy score (Weinstein et al., 2012). In those initial studies, the means of the Authorship/Self-Congruence scale ranged from 3.9 to 4.0 (*SD* range: 0.6 to 0.72), the means of the Interest-Taking subscale ranged from 3.82 to 3.89 (*SD* range: 0.62 to 0.69), and the means of

the Susceptibility to Control subscale ranged from 2.62 to 2.84 (*SD* range: 0.78 to 0.86). In these studies, the Susceptibility to Control subscale was not reverse scored, however. In reverse scoring these means, the range of the Susceptibility to Control subscale means ranged from 3.2 to 3.4, with the *SD* range of 0.78 to 0.86. In comparison, the resultant means of this present study are lower than those of the studies conducted by Weinstein and colleagues (2012).

Table 4.2

Means and Standard Deviations by Demographic Factor

Identity or Characteristic		P		E		R		M		A		Well-Being		Authorship		Control		Interest		Autonomy	
	n	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Total	465	5.9	2.2	6.7	1.6	6.5	2.3	6.0	2.5	6.4	2.0	6.3	1.8	3.8	0.7	3.3	0.8	3.6	1.0	3.5	0.5
Gender																					
Man, Alone	225	5.9	2.1	6.5	1.6	6.3	2.3	6.0	2.5	6.5	1.9	6.2	1.8	3.7	0.7	3.3	0.8	3.5	0.9	3.5	0.5
TGNC (All who identified a TGNC identity or more than one gender identity)	27	4.0	2.0	6.3	1.6	5.1	2.4	4.0	2.6	4.7	1.9	4.7	1.8	3.4	0.8	2.8	0.8	3.9	0.8	3.4	0.4
Woman, Alone	211	6.2	2.1	7.0	1.5	7.0	2.2	6.4	2.5	6.5	1.9	6.6	1.8	3.9	0.7	3.2	0.8	3.7	1.0	3.6	0.5
Prefer not to say	2	2.7	3.8	3.3	4.7	3.2	4.5	3.3	4.7	4.5	3.1	3.3	4.2	2.4	1.7	3.5	0.1	2.8	0.8	2.9	0.8
-- Inclusive																					
Another Gender	10	4.6	1.8	6.2	1.7	5.7	2.1	4.7	2.2	4.6	1.9	5.1	1.7	3.4	0.8	3.1	0.4	3.8	0.6	3.4	0.4
Man	227	5.9	2.1	6.5	1.6	6.2	2.3	5.9	2.5	6.5	1.9	6.2	1.8	3.7	0.7	3.3	0.8	3.5	0.9	3.5	0.5
Nonbinary	21	4.1	2.1	6.4	1.5	5.3	2.5	4.1	2.6	5.0	2.0	4.9	1.8	3.5	0.8	2.9	0.8	4.0	0.9	3.5	0.4
Trans	9	4.9	2.5	7.0	1.1	6.0	2.4	4.6	2.9	4.9	1.7	5.4	1.9	3.6	0.6	2.7	0.6	4.0	0.5	3.5	0.4
Woman	220	6.1	2.1	7.0	1.5	6.9	2.2	6.3	2.5	6.5	2.0	6.5	1.8	3.9	0.7	3.2	0.8	3.7	1.0	3.6	0.5
Sexual Orientation																					
All nonheterosexual identities or those who selected more than one identity	90	5.0	1.9	6.3	1.3	6.1	2.1	5.1	2.4	5.6	1.9	5.5	1.6	3.5	0.7	2.9	0.7	3.7	0.9	3.4	0.5
Straight, Alone	367	6.1	2.1	6.8	1.6	6.6	2.3	6.3	2.5	6.6	2.0	6.4	1.8	3.8	0.7	3.3	0.8	3.6	1.0	3.6	0.5

Identity or Characteristic		P		E		R		M		A		Well-Being		Authorship		Control		Interest		Autonomy	
	n	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Prefer not to say	8	5.5	2.4	6.5	2.7	6.2	3.1	5.7	2.5	6.1	1.8	6.0	2.4	3.4	1.0	3.5	0.6	3.5	1.1	3.4	0.6
-- Inclusive																					
Another Orientation	10	4.0	2.4	6.0	1.8	4.5	2.3	3.7	2.6	5.2	2.3	4.6	1.9	3.4	0.9	3.0	0.7	3.6	1.0	3.3	0.5
Asexual	16	4.8	1.8	6.1	1.6	5.7	1.8	4.8	2.4	5.2	1.3	5.3	1.5	3.5	0.6	3.0	0.7	3.9	0.9	3.4	0.5
Bisexual	48	5.1	2.0	6.2	1.3	6.2	2.2	5.2	2.5	5.7	2.1	5.6	1.8	3.6	0.7	2.8	0.6	3.8	0.9	3.4	0.5
Gay/Lesbian	18	5.2	2.1	6.1	1.4	6.2	2.0	5.3	2.4	6.3	1.5	5.7	1.6	3.5	0.7	2.9	0.8	3.6	0.8	3.3	0.5
Pansexual	17	5.0	1.9	6.9	1.3	5.9	2.2	4.8	2.4	5.1	1.6	5.5	1.7	3.5	0.8	3.0	0.8	3.5	1.1	3.3	0.5
Race/Ethnicity																					
Asian or Asian American, alone	31	5.5	2.0	6.2	1.7	6.2	2.4	5.7	2.2	6.0	1.7	5.9	1.7	3.5	0.7	2.9	0.9	3.6	0.9	3.3	0.5
Black or African American, alone	34	5.6	2.3	6.8	1.6	6.1	2.3	5.8	2.6	6.1	2.1	6.0	1.9	3.7	0.7	3.2	0.8	3.8	0.9	3.6	0.4
Caribbean	1	7.3	.	8.3	.	9.7	.	6.3	.	6.3	.	7.7	.	5.0	.	4.0	.	4.4	.	4.5	.
Hispanic or Latino/Latina/ Latinx, alone	25	6.2	2.5	7.1	2.0	6.8	2.1	6.4	3.1	6.2	2.2	6.5	2.2	3.9	0.9	3.5	1.0	3.6	1.0	3.7	0.5
Multiracial (All who selected “Biracial or multiracial” or selected more than one racial/ethnic identity)	37	6.0	1.7	6.9	1.6	6.9	2.2	6.4	2.1	6.4	1.9	6.5	1.5	3.9	0.5	3.1	0.8	3.7	1.0	3.6	0.4
Native American or Alaskan Native, alone	1	6.3	.	6.0	.	6.0	.	3.3	.	6.7	.	5.7	.	2.8	.	2.6	.	2.8	.	2.7	.

Identity or Characteristic		P		E		R		M		A		Well-Being		Authorship		Control		Interest		Autonomy	
	n	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
White or Caucasian, alone	332	5.9	2.2	6.7	1.5	6.5	2.3	6.0	2.6	6.5	2.0	6.3	1.8	3.8	0.7	3.3	0.8	3.6	1.0	3.6	0.5
Prefer not to say	4	4.8	3.7	5.4	3.8	4.9	4.3	4.8	3.9	5.8	2.6	5.1	3.6	3.2	1.5	3.7	0.4	3.5	1.1	3.5	1.0
-- Inclusive																					
Asian, Asian American or Pacific Islander	38	5.7	1.9	6.3	1.6	6.2	2.3	6.0	2.1	6.1	1.7	6.0	1.6	3.6	0.7	2.9	0.8	3.7	0.9	3.4	0.5
Black or African American	41	6.0	2.2	6.9	1.5	6.4	2.2	6.3	2.6	6.3	2.0	6.3	1.9	3.8	0.7	3.3	0.8	3.8	1.0	3.6	0.4
Hispanic or Latino/Latina/ Latinx	41	5.9	2.2	7.0	2.0	6.9	2.2	6.2	2.8	6.0	2.1	6.4	2.0	3.9	0.7	3.2	0.9	3.8	1.0	3.6	0.4
Native American or Alaskan Native	8	5.8	1.8	6.9	1.2	6.7	1.8	6.3	2.0	7.3	1.1	6.5	1.3	3.8	0.6	2.8	0.7	3.4	1.2	3.3	0.5
Multiracial	9	5.6	1.0	6.5	1.0	5.3	1.8	6.1	1.7	5.9	2.1	5.9	1.0	3.8	0.5	3.1	0.7	4.0	1.0	3.6	0.4
White or Caucasian	361	5.9	2.1	6.7	1.5	6.6	2.3	6.0	2.5	6.5	2.0	6.3	1.8	3.8	0.7	3.3	0.8	3.6	1.0	3.6	0.5
Age Range																					
18–24	75	5.6	2.1	6.8	1.5	6.4	2.1	5.6	2.4	5.9	2.1	6.0	1.8	3.6	0.7	3.1	0.8	3.6	0.9	3.4	0.5
25–34	170	5.8	2.1	6.6	1.5	6.5	2.4	5.8	2.6	6.3	2.0	6.2	1.9	3.7	0.7	3.1	0.8	3.8	0.8	3.5	0.5
35–44	111	6.1	2.1	6.8	1.7	6.6	2.2	6.3	2.5	6.7	1.8	6.5	1.7	3.8	0.6	3.3	0.8	3.6	1.0	3.6	0.5
45–54	46	5.8	2.3	6.5	1.7	6.1	2.5	5.9	2.7	6.6	1.9	6.1	2.0	3.9	0.7	3.6	0.8	3.2	1.1	3.6	0.5
55–64	46	6.0	2.3	6.9	1.6	6.8	2.3	6.3	2.7	6.6	2.1	6.5	2.0	3.9	0.8	3.6	0.8	3.3	1.1	3.6	0.5
65–74	13	6.6	2.4	6.7	2.4	6.9	2.8	7.0	2.6	6.8	2.0	6.8	2.3	4.1	0.9	3.8	0.6	3.3	1.3	3.7	0.6
75 +	4	6.3	1.6	6.9	1.1	6.4	1.4	7.2	0.6	6.8	1.6	6.6	1.2	3.8	0.7	3.5	0.5	4.1	0.8	3.8	0.5
Geographic Region																					
Great Lakes	66	5.4	2.0	6.5	1.6	6.5	2.2	5.2	2.6	5.7	2.1	5.8	1.8	3.6	0.7	3.2	0.8	3.4	1.1	3.4	0.4

Identity or Characteristic		P		E		R		M		A		Well-Being		Authorship		Control		Interest		Autonomy	
	n	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Mid-Atlantic	73	6.0	2.4	6.7	1.6	6.6	2.5	6.4	2.7	6.5	2.1	6.4	2.0	3.8	0.8	3.0	0.9	3.7	0.9	3.5	0.5
New England	23	6.3	2.0	7.2	1.3	6.8	1.7	6.2	2.3	6.9	1.9	6.6	1.6	3.6	0.6	3.0	0.6	3.6	0.6	3.4	0.3
Plains	31	6.0	2.0	7.0	1.3	6.3	2.3	6.3	2.1	6.8	1.5	6.4	1.6	3.8	0.7	3.5	0.7	3.4	1.2	3.6	0.5
Rocky Mountain	19	5.6	2.0	6.9	1.5	6.5	2.5	5.9	2.7	6.2	1.7	6.2	1.8	3.7	0.6	3.2	0.7	3.8	0.7	3.6	0.4
Southeast	117	5.9	2.1	6.6	1.7	6.6	2.2	6.0	2.4	6.4	1.9	6.3	1.8	3.8	0.7	3.4	0.7	3.6	1.0	3.6	0.5
Southwest	57	6.2	2.3	6.8	1.7	6.5	2.5	6.5	2.6	6.8	2.1	6.5	1.9	3.9	0.7	3.2	0.9	3.5	1.1	3.5	0.4
West	79	5.9	2.2	6.7	1.6	6.2	2.3	5.9	2.7	6.3	2.1	6.1	1.8	3.8	0.7	3.4	0.8	3.7	0.9	3.7	0.5
Education Level																					
Associate degree	51	6.3	2.1	6.7	1.5	7.3	1.9	6.2	2.7	6.5	2.1	6.6	1.9	4.0	0.7	3.3	0.7	3.6	1.1	3.6	0.5
Bachelor's degree	175	6.0	2.1	6.5	1.6	6.7	2.2	6.2	2.4	6.6	1.8	6.4	1.8	3.7	0.7	3.2	0.7	3.6	0.9	3.5	0.4
Graduate or professional degree	63	6.0	2.0	6.6	1.9	6.6	2.2	6.4	2.3	6.9	1.6	6.4	1.7	3.8	0.7	3.2	0.7	3.6	0.9	3.5	0.5
High school diploma or equivalent	54	5.7	2.5	6.9	1.7	6.2	2.4	5.4	2.7	5.9	2.4	6.0	2.1	3.8	0.8	3.4	0.9	3.5	1.0	3.6	0.4
Some college	108	5.7	2.0	7.0	1.5	6.1	2.4	5.7	2.7	6.0	1.9	6.0	1.8	3.7	0.8	3.3	0.9	3.7	1.0	3.6	0.5
Some graduate school	12	5.8	2.2	6.4	1.4	6.6	1.9	6.9	1.6	6.4	2.2	6.4	1.5	4.0	0.7	3.3	0.9	4.2	1.0	3.8	0.7
Some high school	2	1.3	1.4	5.8	0.2	1.2	1.2	0.0	0.0	3.0	4.2	1.9	1.2	3.7	0.4	3.3	1.6	2.0	0.8	3.0	0.4
Relationship Status																					
Divorced or separated	25	5.7	2.2	6.9	1.6	6.0	2.2	5.8	2.7	6.3	2.1	6.1	1.9	4.0	0.6	3.6	0.8	3.4	1.1	3.7	0.4
Married	170	6.6	1.9	7.0	1.5	7.3	2.0	6.9	2.1	6.9	1.8	6.9	1.6	3.9	0.7	3.3	0.8	3.5	1.1	3.6	0.5
Partnered	77	5.9	1.9	6.9	1.4	6.8	1.8	6.0	2.2	6.5	1.7	6.4	1.5	3.7	0.6	3.1	0.8	3.8	0.9	3.5	0.5

Identity or Characteristic		P		E		R		M		A		Well-Being		Authorship		Control		Interest		Autonomy	
	n	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Divorced and re-partnered	4	5.3	1.5	6.4	1.1	7.3	0.7	5.6	1.4	6.3	1.9	6.1	1.0	4.0	0.7	3.6	1.0	3.9	1.4	3.8	0.5
Single	183	5.2	2.2	6.3	1.8	5.6	2.4	5.1	2.7	5.8	2.1	5.6	1.9	3.6	0.8	3.2	0.8	3.7	0.9	3.5	0.5
Widowed	6	7.8	0.9	6.9	1.1	7.8	2.5	8.2	1.4	8.3	1.0	7.9	1.0	4.4	0.5	3.9	0.5	3.4	1.3	3.9	0.4
Living Situation																					
Alone	77	5.6	2.3	6.2	1.9	5.7	2.4	5.6	2.6	6.4	1.9	5.8	1.9	3.6	0.8	3.3	0.9	3.5	1.0	3.5	0.6
Dormitory	6	6.4	1.6	7.3	1.2	7.1	1.3	7.5	1.5	7.2	1.0	7.1	1.2	3.9	0.5	3.8	0.6	2.9	1.0	3.5	0.4
Family (Parents, siblings, or multigen.)	107	5.2	2.1	6.5	1.7	5.7	2.3	4.8	2.8	5.6	2.2	5.5	1.9	3.7	0.7	3.1	0.8	3.6	0.9	3.5	0.5
With children	11	6.2	2.5	7.2	1.5	7.2	2.5	7.0	2.6	6.8	2.1	6.8	2.0	4.3	0.5	3.1	0.6	3.9	1.0	3.8	0.3
Partner and children	100	6.6	2.0	7.0	1.4	7.1	2.2	6.8	2.3	6.9	1.7	6.9	1.7	3.9	0.6	3.4	0.8	3.4	1.1	3.6	0.5
Partner	122	6.3	1.9	7.0	1.4	7.3	1.9	6.7	2.0	6.8	1.8	6.8	1.5	3.9	0.7	3.3	0.8	3.8	0.9	3.7	0.4
Roommates	39	5.6	2.2	6.4	1.5	6.4	2.0	5.9	2.2	6.0	1.9	6.0	1.7	3.6	0.5	2.9	0.7	3.8	0.8	3.4	0.4
Unstable	3	2.1	0.5	6.7	2.7	1.3	1.0	2.7	1.5	3.3	1.2	2.9	0.4	3.1	0.5	2.8	0.5	4.2	0.3	3.4	0.2
Employment Status																					
Employed	341	6.0	2.1	6.7	1.6	6.7	2.2	6.2	2.5	6.6	1.9	6.4	1.8	3.8	0.7	3.2	0.8	3.6	1.0	3.6	0.5
Disabled	10	5.2	2.3	6.8	1.1	6.2	2.5	4.6	3.0	5.5	2.1	5.6	2.0	3.8	0.8	3.3	1.0	4.1	0.7	3.7	0.6
Homemaker	29	6.6	2.3	7.0	1.6	7.1	2.8	6.8	2.7	6.5	2.1	6.8	2.1	3.9	0.8	3.6	0.8	3.2	1.1	3.5	0.5
Retired	17	6.6	1.5	6.8	1.4	6.6	1.9	6.8	1.6	6.8	1.4	6.7	1.2	4.0	0.6	3.9	0.7	3.3	1.1	3.7	0.3
Student (Not working)	28	5.2	1.8	6.6	1.4	5.7	2.0	5.4	2.1	5.8	1.7	5.7	1.4	3.5	0.5	3.1	0.7	3.4	0.9	3.3	0.4
Unemployed	40	4.8	2.2	6.5	2.1	5.4	2.5	4.3	2.8	4.7	2.3	5.1	2.1	3.6	0.9	3.1	0.7	4.0	0.7	3.5	0.6
--Inclusive																					
Full-time	235	6.2	2.1	6.8	1.6	6.7	2.2	6.5	2.4	6.9	1.7	6.6	1.7	3.9	0.6	3.2	0.8	3.6	1.0	3.6	0.4
More than one job	2	5.8	2.1	6.8	1.2	8.3	0.9	3.7	3.8	3.7	0.5	5.6	1.8	3.7	0.4	2.7	0.7	4.8	0.3	3.7	0.5

Identity or Characteristic		P		E		R		M		A		Well-Being		Authorship		Control		Interest		Autonomy	
	n	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Part-time	83	5.6	2.3	6.6	1.7	6.5	2.3	5.6	2.6	6.1	2.1	6.0	1.9	3.7	0.8	3.4	0.8	3.6	1.0	3.6	0.5
Retired and working	1	6.3	.	8.0	.	6.7	.	8.3	.	7.0	.	7.4	.	4.4	.	3.2	.	5.0	.	4.2	.
Student and working	20	5.6	1.7	6.2	1.6	6.5	1.6	6.1	1.7	6.1	1.7	6.0	1.3	3.5	0.7	3.0	0.8	3.7	1.0	3.4	0.6

Note. Cells with only a period (.) indicate a value cannot be calculated.

Establishing a Relationship: Correlations

Based on previous research into the relationship between well-being and freedom, I hypothesized that the results of this study would similarly demonstrate a positive relationship between the overall Well-Being score from the PERMA Profiler and the overall Autonomy score from the IAF. The Pearson correlation coefficient between these scores indicated that there is a moderate positive correlation between Well-Being and Autonomy, $r(465) = .57$, $p < 0.001$, 95% CI [.505, .628]. The Spearman's rank correlation also suggested a positive correlation between these constructs, $r_s(463) = .56$, $p < 0.001$, 95% CI [.496, .624]. The results of Kendall's tau similarly indicated a positive relationship between Autonomy and Well-being, $\tau = .40$, $p < 0.000$, 95% CI [.352, .453].

Overall, the subscale scores of the PERMA Profiler and the IAF factors were also positively correlated, as displayed in Table 4.3. The statistically significant positive Pearson correlation coefficients range from .09 to .83. The main exception is the correlation between the factors of Interest-Taking and Susceptibility to Control. The Susceptibility to Control items are reverse scored for computing the composite overall autonomy score on the IAF and are reverse scored for this analysis. As such, I expected positive correlations between these items, the factors' composite score, and the other factors and items of the IAF and the PERMA Profiler. Surprisingly, the correlation between Interest-Taking and the (reverse scored) Susceptibility to Control factors was negative: $r(465) = –.37$, $p < 0.05$, indicating an inverse relationship between these constructs. In other words, as a person becomes more aware and reflective of their motives (Interest-Taking), they also behave more self-consciously and in line with the expectations of others (Susceptibility to Control).

In turning to the items of the measures themselves, the design of the Likert-type items of the IAF and the PERMA Profiler require the use of Pearson correlation coefficients, polychoric correlation coefficients, and polyserial coefficients to capture the continuous nature of the underlying constructs. Table 4.4 displays the Pearson correlation coefficients between items of the PERMA Profiler, the polyserial correlation coefficients between items of the PERMA Profiler and those of the IAF, and the polychoric correlation coefficients between the items of the IAF, indicated by different font qualities.

Table 4.3

Correlation Coefficients between Scales

		P	E	R	M	A	Authorship	Control	Interest	Autonomy	Wellbeing
P	Pearson Correlation	--									
	Sig. (2-tailed)	--									
	Kendall's Tau	--									
	Sig. (2-tailed)										
	Spearman's Rho	--									
	Sig. (2-tailed)										
	N	465									
E	Pearson Correlation	.60**	--								
	Sig. (2-tailed)	0.000									
	Kendall's Tau	.43**	--								
	Sig. (2-tailed)	0.000									
	Spearman's Rho	.58**	--								
	Sig. (2-tailed)	0.000									
	N	465	465								
R	Pearson Correlation	.73**	.45**	--							
	Sig. (2-tailed)	0.000	0.000								
	Kendall's Tau	.57**	.33**	--							
	Sig. (2-tailed)	0.000	0.000								
	Spearman's Rho	.73**	.45**	--							

		P	E	R	M	A	Authorship	Control	Interest	Autonomy	Wellbeing
	Sig. (2-tailed)	0.000	0.000								
	N	465	465	465							
M	Pearson Correlation	.82**	.50**	.71**	--						
	Sig. (2-tailed)	0.000	0.000	0.000							
	Kendall's Tau	.67**	.36**	.56**	--						
	Sig. (2-tailed)	0.000	0.000	0.000							
	Spearman's Rho	.83**	.49**	.72**	--						
	Sig. (2-tailed)	0.000	0.000	0.000							
	N	465	465	465	465						
A	Pearson Correlation	.74**	.43**	.60**	.77**	--					
	Sig. (2-tailed)	0.000	0.000	0.000	0.000						
	Kendall's Tau	.59**	.33**	.47**	.63**	--					
	Sig. (2-tailed)	0.000	0.000	0.000	0.000						
	Spearman's Rho	.75**	.44**	.62**	.79**	--					
	Sig. (2-tailed)	0.000	0.000	0.000	0.000						
	N	465	465	465	465	465					
Authorship	Pearson Correlation	.57**	.54**	.53**	.62**	.63**	--				
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000					
	Kendall's Tau	.43**	.40**	.41**	.48**	.48**	--				
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000					
	Spearman's Rho	.56**	.53**	.54**	.62**	.63**	--				
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000					

		P	E	R	M	A	Authorship	Control	Interest	Autonomy	Wellbeing
	N	465	465	465	465	465	465				
Control	Pearson Correlation	.28**	0.08	.23**	.24**	.26**	.17**	--			
	Sig. (2-tailed)	0.000	0.11	0.000	0.000	0.000	0.000				
	Kendall's Tau	.21**	0.060	.18**	.18**	.20**	.13**	--			
	Sig. (2-tailed)	0.000	0.07	0.000	0.000	0.000	0.000				
	Spearman's Rho	.28**	0.08	.24**	.25**	.27**	.18**	--			
	Sig. (2-tailed)	0.000	0.079	0.000	0.000	0.000	0.000				
	N	465	465	465	465	465	465	465			
Interest	Pearson Correlation	.12**	.25**	.09*	.13**	0.09	.27**	–.37**	--		
	Sig. (2-tailed)	0.009	0.000	0.043	0.006	0.058	0.000	0.000			
	Kendall's Tau	.09**	.19**	.08*	.11**	.07*	.20**	–.24**	--		
	Sig. (2-tailed)	0.004	0.000	0.018	0.001	0.037	0.000	0.000			
	Spearman's Rho	.13**	.26**	.11*	.15**	.10*	.28**	–.32**	--		
	Sig. (2-tailed)	0.005	0.000	0.021	0.001	0.041	0.000	0.000			
	N	465	465	465	465	465	465	465	465		
Autonomy	Pearson Correlation	.52**	.48**	.45**	.52**	.52**	.77**	.39**	.60**	--	
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
	Kendall's Tau	.37**	.33**	.34**	.39**	.37**	.59**	.26**	.46**	--	
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
	Spearman's Rho	.51**	.46**	.47**	.54**	.51**	.74**	.35**	.63**	--	
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
	N	465	465	465	465	465	465	465	465	465	

		P	E	R	M	A	Authorship	Control	Interest	Autonomy	Wellbeing
Well-Being	Pearson Correlation	.94**	.66**	.84**	.91**	.84**	.66**	.27**	.14**	.57**	--
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	
	Kendall's Tau	.80**	.48**	.67**	.77**	.68**	.49**	.20**	.11**	.40**	--
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	
	Spearman's Rho	.94**	.64**	.84**	.91**	.84**	.65**	.28**	.15**	.56**	--
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	
	N	465	465	465	465	465	465	465	465	465	465

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 4.4

Correlations Between Items of the PERMA Profiler and IAF

Item	p1	p2	p3	e1	e2	e3	r1	r2	r3	m1	m2	m3	a1	a2	a3	au 1	au 2	au 3	au 4	au 5	c1	c2	c3	c4	c5	int 1	int 2	int 3	int 4	int 5
p1	*1.00*																													
p2	*0.83*	*1.00*																												
p3	*0.75*	*0.79*	*1.00*																											
e1	*0.35*	*0.37*	*0.32*	*1.00*																										
e2	*0.76*	*0.76*	*0.70*	*0.42*	*1.00*																									
e3	*0.19*	*0.16*	*0.14*	*0.46*	*0.23*	*1.00*																								
r1	*0.52*	*0.52*	*0.54*	*0.29*	*0.48*	*0.08*	*1.00*																							
r2	*0.64*	*0.62*	*0.63*	*0.26*	*0.57*	*0.11*	*0.72*	*1.00*																						
r3	*0.67*	*0.65*	*0.70*	*0.28*	*0.57*	*0.10*	*0.63*	*0.77*	*1.00*																					

Item	p1	p2	p3	e1	e2	e3	r1	r2	r3	m1	m2	m3	a1	a2	a3	au 1	au 2	au 3	au 4	au 5	c1	c2	c3	c4	c5	int 1	int 2	int 3	int 4	int 5
m1	*0.72*	*0.76*	*0.74*	*0.31*	*0.67*	*0.10*	*0.55*	*0.64*	*0.68*	*1.00*																				
m2	*0.70*	*0.73*	*0.70*	*0.34*	*0.66*	*0.13*	*0.59*	*0.64*	*0.63*	*0.84*	*1.00*																			
m3	*0.67*	*0.69*	*0.71*	*0.26*	*0.61*	*0.08*	*0.48*	*0.56*	*0.63*	*0.84*	*0.78*	*1.00*																		
a1	*0.64*	*0.65*	*0.64*	*0.29*	*0.58*	*0.05*	*0.44*	*0.51*	*0.60*	*0.73*	*0.65*	*0.74*	*1.00*																	
a2	*0.58*	*0.61*	*0.63*	*0.27*	*0.53*	*0.07*	*0.43*	*0.45*	*0.58*	*0.68*	*0.61*	*0.68*	*0.77*	*1.00*																
a3	*0.50*	*0.54*	*0.56*	*0.25*	*0.48*	*0.02*	*0.38*	*0.42*	*0.48*	*0.55*	*0.51*	*0.53*	*0.56*	*0.61*	*1.00*															
au1	**0.41**	**0.44**	**0.45**	**0.44**	**0.42**	**0.12**	**0.40**	**0.38**	**0.44**	**0.52**	**0.45**	**0.50**	**0.52**	**0.50**	**0.44**	1.00														
au2	**0.48**	**0.48**	**0.47**	**0.42**	**0.47**	**0.24**	**0.35**	**0.42**	**0.43**	**0.55**	**0.47**	**0.48**	**0.49**	**0.46**	**0.40**	0.61	1.00													
au3	**0.44**	**0.47**	**0.49**	**0.39**	**0.43**	**0.14**	**0.37**	**0.37**	**0.45**	**0.53**	**0.47**	**0.48**	**0.47**	**0.49**	**0.47**	0.56	0.51	1.00												
au4	**0.42**	**0.46**	**0.48**	**0.46**	**0.45**	**0.16**	**0.38**	**0.41**	**0.41**	**0.49**	**0.48**	**0.49**	**0.48**	**0.50**	**0.49**	0.71	0.58	0.61	1.00											
au5	**0.37**	**0.40**	**0.41**	**0.45**	**0.44**	**0.21**	**0.33**	**0.37**	**0.36**	**0.46**	**0.42**	**0.43**	**0.39**	**0.40**	**0.38**	0.62	0.59	0.57	0.64	1.00										
c1	**0.14**	**0.20**	**0.22**	**–0.02**	**0.13**	**–0.07**	**0.12**	**0.13**	**0.19**	**0.18**	**0.15**	**0.16**	**0.14**	**0.12**	**0.23**	0.02	0.00	0.15	0.06	–0.04	1.00									
c2	**0.18**	**0.24**	**0.25**	**–0.04**	**0.14**	**–0.03**	**0.13**	**0.19**	**0.25**	**0.21**	**0.20**	**0.24**	**0.23**	**0.20**	**0.29**	0.07	0.07	0.22	0.19	0.07	0.61	1.00								
c3	**0.22**	**0.28**	**0.31**	**0.06**	**0.18**	**–0.01**	**0.19**	**0.22**	**0.27**	**0.24**	**0.24**	**0.27**	**0.26**	**0.21**	**0.30**	0.23	0.18	0.28	0.27	0.17	0.39	0.47	1.00							
c4	**–0.10**	**0.00**	**0.01**	**0.17**	**0.00**	**0.16**	**0.02**	**0.03**	**0.00**	**0.00**	**0.02**	**–0.01**	**–0.07**	**–0.05**	**0.11**	0.05	0.04	0.18	0.22	0.18	0.22	0.34	0.22	1.00						
c5	**0.21**	**0.23**	**0.28**	**–0.06**	**0.11**	**–0.06**	**0.07**	**0.13**	**0.20**	**0.14**	**0.14**	**0.16**	**0.11**	**0.09**	**0.20**	0.02	0.01	0.09	0.09	–0.05	0.34	0.34	0.47	0.00	1.00					
int1	**0.10**	**0.10**	**–0.01**	**0.28**	**0.12**	**0.19**	**0.06**	**0.05**	**–0.01**	**0.07**	**0.12**	**0.01**	**0.07**	**0.04**	**–0.01**	0.20	0.21	0.15	0.18	0.26	–0.31	–0.29	–0.27	–0.06	–0.34	1.00				
int2	**0.08**	**0.03**	**–0.05**	**0.14**	**0.08**	**0.07**	**0.00**	**0.04**	**–0.03**	**0.05**	**0.04**	**0.01**	**0.04**	**–0.01**	**–0.06**	0.17	0.16	0.01	0.12	0.19	–0.24	–0.30	–0.23	–0.08	–0.21	0.56	1.00			
int3	**0.15**	**0.15**	**0.04**	**0.32**	**0.17**	**0.11**	**0.12**	**0.07**	**0.03**	**0.17**	**0.16**	**0.09**	**0.15**	**0.13**	**0.02**	0.25	0.24	0.17	0.19	0.29	–0.28	–0.32	–0.19	–0.07	–0.27	0.69	0.59	1.00		
int4	**0.17**	**0.16**	**0.07**	**0.30**	**0.21**	**0.12**	**0.12**	**0.09**	**0.07**	**0.16**	**0.17**	**0.10**	**0.14**	**0.15**	**0.08**	0.25	0.26	0.20	0.23	0.30	–0.27	–0.30	–0.24	–0.06	–0.28	0.70	0.65	0.79	1.00	
int5	**0.20**	**0.21**	**0.07**	**0.26**	**0.22**	**0.09**	**0.18**	**0.17**	**0.10**	**0.17**	**0.22**	**0.11**	**0.13**	**0.13**	**0.03**	0.28	0.24	0.21	0.24	0.33	–0.19	–0.20	–0.15	–0.07	–0.30	0.76	0.63	0.70	0.74	1.00

Note. Italics = Pearson correlation coefficient; Bold = polyserial correlation; No Bold or Italics = polychoric correlations.

Examining Relationships: Confirmatory Factor Analyses

Building upon the hypothesis that well-being and freedom are related, I hypothesized that freedom (autonomy) should be considered as a constituent part of an overall well-being measure. To evaluate this hypothesis, I developed a hypothesized factor structure of a measurement model of well-being that included the factors of PERMA and the IAF and evaluated this model using confirmatory factor analysis. Building upon the literature of the PERMA Profiler and the IAF, I hypothesized that the model of interest would consist of the blending of the models of these measures with a higher-order Well-Being factor, displayed in Figure 4.1.

Hypothesized Model Specification and Identification

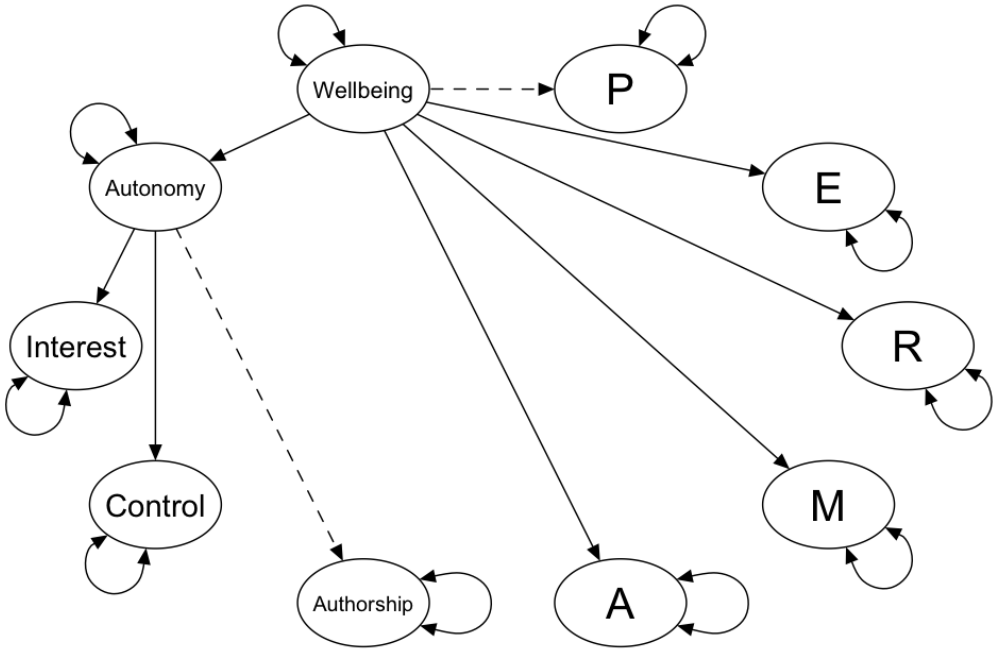
The hypothesized model (Figure 4.1) consisted of the factors of the PERMA Profiler and those of the IAF subsumed under the higher-order factor Autonomy, as postulated by the authors of the IAF. As such, this model included the first-order factors of Positive Emotions (P), Engagement (E), Positive Relationships (R), Meaning (M), Accomplishment (A), Authorship/Self-Congruence (Authorship), Susceptibility to Control (Control), and Interest-Taking (Interest). For each of these first-order factors, all items of their respective scales loaded onto the factor (e.g., items P1, P2, and P3 load onto the factor "P"). The second-order factor of Autonomy was also included, with the IAF first-order factors loading onto it.

Based on my hypothesized relationships between these factors, the first-order factors of the PERMA Profiler and the second-order factor of Autonomy of the IAF loaded onto the higher-order factor of Well-Being (labeled Wellbeing in Figure 4.1). Aside from their communality with the higher-order Well-Being factor, the factors of the PERMA Profiler and IAF were not hypothesized to share other sources of variance. The items of each subscale,

similarly, were not hypothesized to share common error or other sources of variation. Notably, this model was over-identified, with 396 degrees of freedom, with 465 entries in the input matrix and 69 freely estimated parameters. Over-identification of the model is a necessary quality for confirmatory factor analysis as under-identified ($df < 0$) models result in an "infinite number of parameter estimates that result in perfect model fit" and just-identified ($df = 0$) models result in a single perfect fitting estimate (T. A. Brown, 2015, p. 57).

Figure 4.1

Hypothesized Model Path Diagram



Hypothesized Model Internal Consistency

Given the hypothesized relationship that all items reflect some element of overall well-being, I expected that a new measure of well-being composed of the PERMA Profiler items and the IAF items would have an acceptable level of internal consistency as measured by Cronbach's α. Excellent internal consistency, on the other hand, would suggest that the items all

capture a singular factor, rather than multiple factors that contribute to or are reflective of overall well-being (Hair & Black et al., 2019). In analyzing the individual subscales of the PERMA Profiler, the internal consistency values for each subscale were good, suggesting high reliability, except for the Engagement subscale. For this subscale, internal consistency was acceptable although much lower than the other scales of the PERMA Profiler. (Cronbach's α = .62). Internal consistency values for all subscales are displayed in Table 4.5.

Table 4.5

Internal Consistency of Scales

Scale	P	E	R	M	A	Author-ship	Inte-rest	Con-trol	PER MA	Auto-nomy	Well-Being
Number of Items	3	3	3	3	3	5	5	5	15	15	30
Cronbach's α	0.92	0.62	0.88	0.93	0.85	0.85	0.89	0.69	0.94	0.70	0.93
Average Variance Extracted (AVE)	0.82	0.46	0.75	0.84	0.69	0.61	0.69	0.39	0.60	0.34	0.40

Similarly, the internal consistencies for each subscale of the IAF also suggested acceptable to high reliability. The Susceptibility to Control subscale had lower reliability than the other two scales (Cronbach's α = .69). When combined into respective overall measures of autonomy and PERMA, the PERMA Profiler and the IAF's respective reliabilities remained acceptable, although the Autonomy scale of the IAF measure had a lower overall reliability. This can be attributed to the items' loading onto the first-order factors of Authorship/Self-Congruence, Interest-Taking, and Susceptibility to Control. In other words, the items of the IAF do not capture the same overarching construct directly. I would expect a similar result when examining the reliability of all the items of the PERMA Profiler together. As

postulated by its authors, the PERMA Profiler items should load onto independent factors with little overlap (Butler & Kern, 2016). However, the high reliability of the combined scales (PERMA) suggests that, perhaps, all the items are directly capturing a single higher-order construct. When the PERMA Profiler and the IAF are combined into a single scale of Well-Being furthermore, the reliability of the scale remained high (Cronbach's $\alpha = .93$).

The average variance extracted (AVE) values, however, revealed a more complicated picture. AVE is derived from hypothetical confirmatory analyses that rely on the factor loadings and the number of items to estimate the average amount of the construct variance extracted by each item (i.e., convergence; Hair & Black et al., 2019). AVE values greater than .5 imply adequate convergence. In the case of the PERMA scales, Engagement was the only construct with inadequate convergence. The Susceptibility to Control scale, similarly, demonstrated inadequate convergence. In these cases, the implication is that the items of these scales, on average, include more error than common variance of the intended factor. The low AVE values for the Autonomy and Well-Being composite scales consisting of all the items of the IAF and all the items of the PERMA factors and the IAF, respectively, also suggested poor convergence and that combining the items into single scales for Autonomy and Well-Being did not produce unidimensional measures of these respective constructs (Hair & Black et al., 2019).

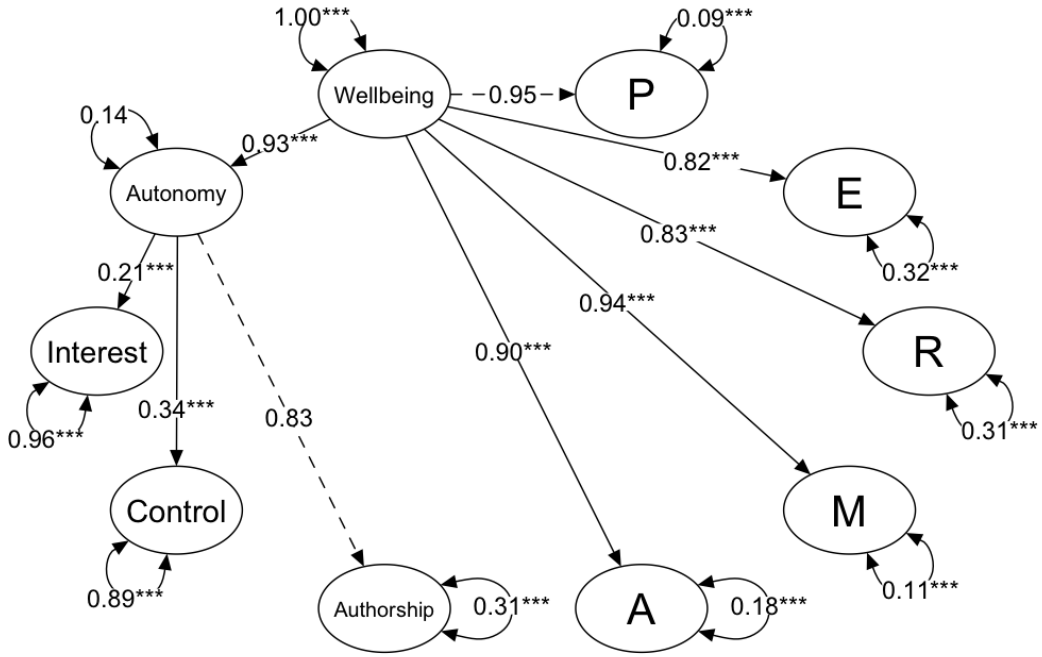
Hypothesized Model Estimation

To evaluate the hypothesized model, a confirmatory factor analysis was conducted and evaluated for goodness of fit using the global and local fit statistics described earlier. The estimated standardized factor loadings and error variances of the latent factors of the hypothesized model are displayed in Figure 4.2. The items themselves and their respective estimated parameters are omitted from the figure for the sake of clarity but are reported in Table

4.6. Model fit indices for the hypothesized model suggested that this model is a poor fit to the data. Absolute fit indices especially suggested that modifications are needed: $\chi^2(396) = 2{,}347.84$, $p = 0.000$; $\chi^2/df = 5.93$. The scaled SRMR (.096) indicated a poor fit as well, suggesting that this model requires modifications. The robust RMSEA also suggested a relatively poor fit: Robust RMSEA = .086 (90% CI [.082, .090, CFit ≤ .05 = 0.000). A close fit would fall below .05 and an RMSEA below .08 is a reasonable approximate fit. The robust Comparative Fit Index (CFI = 0.877) and the robust Tucker-Lewis Index (TLI = 0.864) also indicated that this model requires modifications to obtain greater parsimony and to accurately reflect the population.

Figure 4.3

Hypothesized Model with Standardized Estimates



* $p < .05$, ** $p < .005$, *** $p < .001$.

Table 4.6

Parameter Estimates for Hypothesized Model

Latent Variables:	Observed/ Latent Variables:	Estimate	Std. Error	*z*-value	*P*(>|*z*|)	Std. Latent Variables	Std. All Variables
P	=~ *						
	p1	1.000				0.894	0.894
	p2	1.032	0.013	77.010	0.000	0.923	0.923
	p3	1.005	0.013	75.794	0.000	0.898	0.898
E	=~						
	e1	1.000				0.569	0.569
	e2	1.731	0.110	15.805	0.000	0.986	0.986
	e3	0.477	0.070	6.791	0.000	0.272	0.272
R	=~						
	r1	1.000				0.785	0.785
	r2	1.122	0.030	37.224	0.000	0.881	0.881
	r3	1.171	0.033	35.210	0.000	0.920	0.920
M	=~						
	m1	1.000				0.950	0.950
	m2	0.939	0.011	82.761	0.000	0.893	0.893
	m3	0.946	0.012	77.376	0.000	0.899	0.899
A	=~						
	a1	1.000				0.898	0.898
	a2	0.947	0.019	50.481	0.000	0.851	0.851
	a3	0.822	0.026	31.521	0.000	0.738	0.738
Authorship	=~						
	au1	1.000				0.798	0.798
	au2	0.974	0.041	23.604	0.000	0.777	0.777
	au3	0.962	0.041	23.304	0.000	0.767	0.767
	au4	1.021	0.031	32.481	0.000	0.815	0.815
	au5	0.929	0.035	26.161	0.000	0.741	0.741
Control	=~						
	c1	1.000				0.609	0.609
	c2	1.232	0.125	9.856	0.000	0.751	0.751
	c3	1.349	0.143	9.468	0.000	0.822	0.822
	c4	0.384	0.116	3.319	0.001	0.234	0.234
	c5	0.855	0.108	7.904	0.000	0.521	0.521
Interest	=~						
	int1	1.000				0.811	0.811
	int2	0.834	0.038	22.086	0.000	0.676	0.676
	int3	1.057	0.032	32.723	0.000	0.857	0.857
	int4	1.111	0.030	37.611	0.000	0.901	0.901
	int5	1.083	0.030	36.268	0.000	0.878	0.878
Autonomy	=~						

Latent Variables:	Observed/ Latent Variables:	Estimate	Std. Error	*z*-value	*P*(>|*z*|)	Std. Latent Variables	Std. All Variables
	Authorship	1.000				0.832	0.832
	Control	0.311	0.051	6.153	0.000	0.339	0.339
	Interest	0.255	0.054	4.706	0.000	0.208	0.208
Wellbeing	=~						
	P	1.000				0.953	0.953
	E	0.550	0.036	15.137	0.000	0.823	0.823
	R	0.766	0.025	30.169	0.000	0.832	0.832
	M	1.050	0.017	62.162	0.000	0.942	0.942
	A	0.952	0.020	48.330	0.000	0.903	0.903
	Autonomy	0.723	0.031	23.461	0.000	0.929	0.929

Note. * =~ stands for "is measured by" and defines the latent variable.

Exploratory Modifications to the Hypothesized Model

In following Brown's recommended steps for conducting confirmatory factor analyses, examination of the modification indices provides insights into areas of misfit and potential changes to the model that would more accurately and parsimoniously reflect the data (T. A. Brown, 2015). The modification indices for the hypothesized model are reported in Table 4.7. These data suggested that redefining the relationships between the factors of the IAF and the overall Well-Being factor would result in a better fitting model.

Table 4.7

Fifteen Largest Modification Indices of the Hypothesized Model

Variable	Operator	Variable	Modification Index	Expected Parameter Change (EPC)	EPC Std. Latent Variables	EPC Std. All Variables	EPC Std. All but Exogenous Variables
Authorship	~~ *	Autonomy	976.696	3.420	31.387	31.387	31.387
Control	~~	Interest	976.655	–0.271	–0.596	–0.596	–0.596
Authorship	~~	Wellbeing	975.964	–29.599	–78.491	–78.491	–78.491
Control	~~	Wellbeing	301.303	2.292	4.692	4.692	4.692
Authorship	~~	Interest	301.284	0.217	0.617	0.617	0.617
Control	~~	Autonomy	301.283	–0.265	–1.875	–1.875	–1.875
Interest	=~ **	c1	269.815	–0.463	–0.376	–0.376	–0.376

Variable	Operator	Variable	Modification Index	Expected Parameter Change (EPC)	EPC Std. Latent Variables	EPC Std. All Variables	EPC Std. All but Exogenous Variables
Interest	=~	c2	266.596	–0.496	–0.402	–0.402	–0.402
Interest	=~	c5	252.263	–0.454	–0.368	–0.368	–0.368
Control	=~	int2	206.951	–0.627	–0.382	–0.382	–0.382
Control	=~	int1	196.784	–0.630	–0.384	–0.384	–0.384
e1	~~	e3	173.272	0.398	0.398	0.503	0.503
Wellbeing	=~	e2	173.256	7.602	6.480	6.480	6.480
P	=~	e2	140.005	2.148	1.921	1.921	1.921
Authorship	=~	e1	135.232	0.800	0.638	0.638	0.638

Note. * ~~ stands for "is correlated with" and reflects a variance or covariance.
** =~ stands for "is measured by" and defines the latent variable.

Exploratory Model A: Rationale

The modification indices of the hypothesized model pointed to issues related to the first-order factors of Control and Interest, primarily, suggesting that the introduction of covariances between these factors would generate a more accurate model. Introducing such a relationship, however, did not seem theoretically sound based on the IAF literature (Weinstein et al., 2012). The recommendation for such a modification also suggested that there may be an issue with the items of these factors as they relate to their first-order factors and the higher-order Autonomy factor. This was plausible considering the parameter estimates; the standardized factor loadings of Control and Interest onto Autonomy were relatively low (.34 and .21, respectively) and much lower than that of Authorship to Autonomy (0.84). Several items of the Control scale, further, had standardized estimated loadings below what I would expect. One potential source for these anomalies and the suggested modifications was the unexpected negative correlation between the Interest and Control scales: $r(465) = –.37$, $p < 0.05$. Introducing

covariances and reassigning items to other factors, however, was not rationally justifiable considering the underlying theory behind these scales.

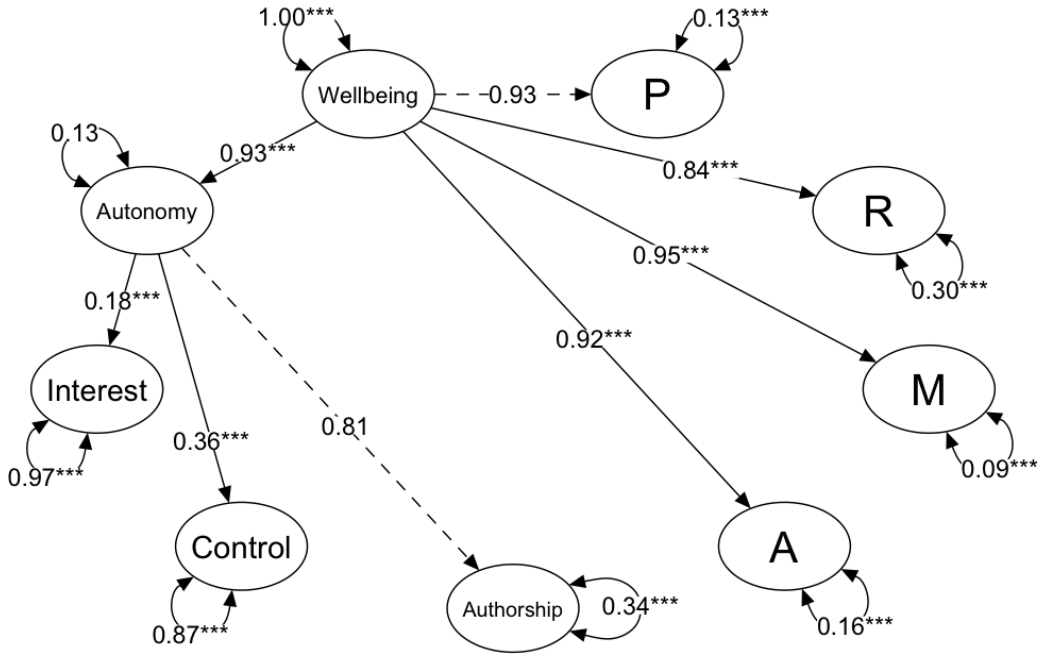
In addition to issues related to the factors of Control and Interest, the modification indices pointed to issues with items from the Engagement scale of the PERMA Profiler. Previous research has demonstrated that items related to Engagement had the lowest factor loadings compared to other items of the PERMA Profiler (Bartholomaeus et al., 2020; Butler & Kern, 2016). Making the suggested modifications of assigning the Engagement items to other factors, however, was counter to the theoretical relationships described in the literature about these scales. Removing the factor of Engagement was perhaps the most logical next step, given its low estimated factor loading and low reliability, especially when compared to the reliability of the other scales (Cronbach's $\alpha = .62$).

Exploratory Model A: Specification, Identification, and Estimation

The resultant Exploratory Model A is displayed in Figure 4.3. This model was overidentified with 316 degrees of freedom. The fit indices for Model A suggested an improved fit over the initial hypothesized model, with some values in the reasonable approximate fit range. This model could nevertheless benefit from some modifications: $\chi^2(316) = 1{,}796.29$, $p = 0.000$; $\chi^2/df = 5.68$; scaled SRMR = .095; robust RMSEA = .08 (90% CI: .075–.085, CFit ≤ .05 = 0.000); robust CFI = 0.905; robust TLI = 0.895. The modification indices (see Table 4.8) for this model pointed to continued issues with the factors of Interest and Control, recommending that introducing covariances would improve model fit. Since my theoretical basis for this exploration prohibited me from introducing covariances between factors, I examined the parameter estimates to determine the salience of individual items and factors to my goal of identifying an overarching Well-Being factor.

Figure 4.5

Exploratory Model A with Standardized Estimates



* $p < .05$, ** $p < .005$, *** $p < .001$.

Table 4.8

Fifteen Largest Modification Indices for Model A

Variable	Operator	Variable	Modification Index	Expected Parameter Change (EPC)	EPC Std. Latent Variables	EPC Std. All Variables	EPC Std. All but Exogenous Variables
Authorship	~~ *	Autonomy	961.912	3.540	32.525	32.525	32.525
Interest	~~	Control	961.851	–0.270	–0.593	–0.593	–0.593
Authorship	~~	Wellbeing	961.513	–33.093	–85.144	–85.144	–85.144
Control	~~	Autonomy	354.931	–0.328	–2.470	–2.470	–2.470
Authorship	~~	Interest	354.930	0.225	0.602	0.602	0.602
Control	~~	Wellbeing	354.919	3.068	6.467	6.467	6.467
Interest	=~ **	c2	264.255	–0.493	–0.400	–0.400	–0.400
Interest	=~	c1	263.908	–0.458	–0.372	–0.372	–0.372
Interest	=~	c5	253.805	–0.456	–0.370	–0.370	–0.370
Control	=~	int2	194.935	–0.603	–0.369	–0.369	–0.369
Control	=~	int1	192.886	–0.618	–0.378	–0.378	–0.378

Variable	Operator	Variable	Modification Index	Expected Parameter Change (EPC)	EPC Std. Latent Variables	EPC Std. All Variables	EPC Std. All but Exogenous Variables
Interest	=~	c3	132.340	–0.350	–0.284	–0.284	–0.284
Interest	=~	au5	107.572	0.310	0.251	0.251	0.251
Control	=~	int4	86.299	–0.419	–0.256	–0.256	–0.256
Control	=~	int3	81.544	–0.407	–0.249	–0.249	–0.249

Note. * ~~ stands for "is correlated with" and reflects a variance or covariance.
** =~ stands for "is measured by" and defines the latent variable.

The parameter estimates of the variables of Model A (see Table 4.9) suggested that the items of the Control scale were problematic. Items c1, c4, and c5 were most problematic as their standardized estimated factor loadings were .61, .22, and .53, respectively, which were much lower than the loadings of c2 and c3 and the item loadings of every other scale. Examining the parameter estimates also revealed that the Interest factor had a very small standardized loading with Autonomy (0.18), much lower than that of Authorship with Autonomy. Similarly, the factor of Control had a small standardized estimated loading to Autonomy (0.36).

Table 4.9

Parameter Estimates of Model A

Latent Variables:	Observed/ Latent Variables:	Estimate	Std. Error	*z*-value	*P(>|z|)*	Std. Latent Variables	Std. All Variables
P	=~ *						
	p1	1.000				0.889	0.889
	p2	1.037	0.015	71.291	0.000	0.922	0.922
	p3	1.019	0.014	71.810	0.000	0.905	0.905
R	=~						
	r1	1.000				0.785	0.785
	r2	1.121	0.030	37.581	0.000	0.881	0.881
	r3	1.172	0.033	35.658	0.000	0.921	0.921
M	=~						
	m1	1.000				0.951	0.951
	m2	0.937	0.012	79.980	0.000	0.890	0.890
	m3	0.948	0.012	78.081	0.000	0.901	0.901
A	=~						

Latent Variables:	Observed/ Latent Variables:	Estimate	Std. Error	*z*-value	*P(>|z|)*	Std. Latent Variables	Std. All Variables
	a1	1.000				0.898	0.898
	a2	0.949	0.019	51.053	0.000	0.852	0.852
	a3	0.822	0.026	31.502	0.000	0.738	0.738
Authorship	=~						
	au1	1.000				0.802	0.802
	au2	0.963	0.041	23.291	0.000	0.772	0.772
	au3	0.959	0.041	23.207	0.000	0.770	0.770
	au4	1.018	0.032	32.036	0.000	0.817	0.817
	au5	0.914	0.036	25.533	0.000	0.734	0.734
Control	=~						
	c1	1.000				0.611	0.611
	c2	1.236	0.121	10.231	0.000	0.756	0.756
	c3	1.330	0.136	9.768	0.000	0.813	0.813
	c4	0.356	0.112	3.184	0.001	0.218	0.218
	c5	0.862	0.106	8.150	0.000	0.527	0.527
Interest	=~						
	int1	1.000				0.812	0.812
	int2	0.841	0.036	23.279	0.000	0.683	0.683
	int3	1.054	0.031	34.217	0.000	0.856	0.856
	int4	1.107	0.028	39.298	0.000	0.899	0.899
	int5	1.079	0.028	38.116	0.000	0.876	0.876
Autonomy	=~						
	Authorship	1.000				0.812	0.812
	Interest	0.229	0.055	4.129	0.000	0.184	0.184
	Control	0.334	0.052	6.380	0.000	0.356	0.356
Wellbeing	=~						
	P	1.000				0.934	0.934
	R	0.791	0.027	29.308	0.000	0.837	0.837
	M	1.093	0.021	53.090	0.000	0.955	0.955
	A	0.990	0.022	45.811	0.000	0.915	0.915
	Autonomy	0.733	0.032	22.938	0.000	0.934	0.934

Note. * =~ stands for "is measured by" and defines the latent variable.

Exploratory Model B: Rationale

Considering this, modifying the model to eliminate both the items and the factors of Interest-Taking and Susceptibility to Control appeared to be a logical next step given these data. Additionally, the literature around freedom and autonomy as described in existentialist and self-determination theories suggested that these constructs are most reflected in the subscale of

Authorship/Self-Congruence. Autonomy "concerns acting from interest and integrated values" and "refers to being the perceived origin or source of one's own behavior" (Ryan & Deci, 2002, p. 8). Items of the Authorship/Self-Congruence scale include "My decisions represent my most important values and feelings" and "My whole self stands behind the important decisions I make." As such, the Authorship/Self-Congruence subscale of the IAF appeared to best reflect the construct of autonomy in self-determination theory and of freedom as described in existentialist thinking. By ascertaining an individual's perception of themselves as the author of their lives, this scale reflects the state that Rollo May described as the *freedom of being* (May, 1999).

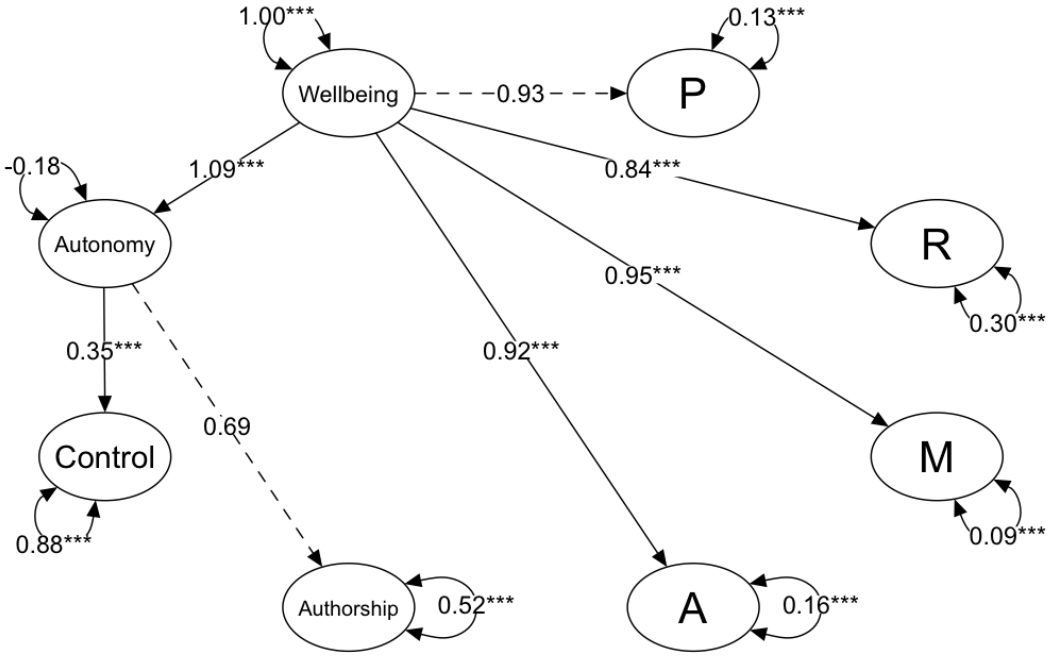
Exploratory Model B: Specification, Identification, and Estimation

The items and factors of Interest-Taking (Interest) and Susceptibility to Control (Control) were removed in a stepwise manner, first eliminating the items and factor of Interest, as it has the lowest factor loading onto the higher-order Autonomy (.18) and the lowest *z*-value (4.13). The resulting Model B is displayed in Figure 4.4. This model was over-identified with 202 degrees of freedom. While the model successfully converged, the resulting matrix resulted in some estimated latent variable terms being negative—namely a standardized estimated error variance of –.18 for the Autonomy factor. In other words, the higher-order factor Well-Being accounted for more than 100% of the variance of this factor. As this is impossible, inspection of the estimated correlations between latent variables revealed that Autonomy has a correlation of greater than 1 with Positive Emotions and Meaning (see Table 4.10). Taken together with the negative error variance, it is possible that the Autonomy factor in this current model configuration is actually identical to the Well-Being factor. Although this was an improper solution, a cautious interpretation of the fit indices suggested a reasonable approximate fit: χ^2 (202) = 748.23, p = 0.000; $\chi 2/df$ = 3.70; SRMR = .055; robust RMSEA = .081 (90% CI =

.075–.087, CFit ≤ .05 = 0.000); robust CFI = .923; robust TLI = .912. These fit measures for Model B suggested a better fit than my previous attempts at modifications. It was also likely that a negative estimated latent variable variance signaled that additional changes to the model were still necessary.

Figure 4.7

Exploratory Model B with Standardized Estimates



* $p < .05$, ** $p < .005$, *** $p < .001$.

Table 4.10

Estimated Correlations between Latent Variables in Model B

	P	R	M	A	Authorship	Control	Autonomy	Well-Being
P	1.000							
R	0.781	1.000						
M	0.891	0.798	1.000					
A	0.855	0.767	0.874	1.000				

	P	R	M	A	Authorship	Control	Autonomy	Well-Being
Authorship	0.702	0.629	0.717	0.688	1.000			
Control	0.359	0.322	0.367	0.352	0.244	1.000		
Autonomy	1.016	0.911	1.038	0.997	0.690	0.353	1.000	
Well-Being	0.934	0.837	0.954	0.916	0.751	0.384	1.088	1.000

The modification indices for model B highlighted continued issues with the items of the Control scale (see Table 4.11). Respecifying these items to other factors, however, remained counter to the theoretical basis underlying the IAF's development. Additionally, the modification indices suggested that introducing covariances between factors may improve model fit. The parameter estimates (see Table 4.12), furthermore, confirmed the continuing issues with the items of the Control scale and the Control factor's low loading onto the Autonomy second-order factor.

Table 4.11

Fifteen Largest Modification Indices for Model B

Variable	Operator	Variable	Modification Index	Expected Parameter Change (EPC)	EPC Std. Latent Variables	EPC Std. All Variables	EPC Std. All but Exogenous Variables
Authorship	=~ *	c3	67.892	0.297	0.239	0.239	0.239
c1	~~ **	c2	60.882	0.318	0.318	0.617	0.617
Wellbeing	=~	c3	57.508	0.259	0.215	0.215	0.215
A	=~	c3	56.894	0.247	0.221	0.221	0.221
P	=~	c3	55.430	0.242	0.215	0.215	0.215
M	=~	c3	54.579	0.224	0.213	0.213	0.213
Autonomy	=~	c3	51.976	0.340	0.188	0.188	0.188
R	=~	c3	51.036	0.272	0.213	0.213	0.213
Authorship	=~	c1	36.253	–0.189	–0.152	–0.152	–0.152
P	~~	R	34.824	0.062	0.455	0.455	0.455
c2	~~	c3	34.318	–0.302	–0.302	–0.768	–0.768
Control	=~	a3	32.165	0.315	0.194	0.194	0.194

Variable	Operator	Variable	Modification Index	Expected Parameter Change (EPC)	EPC Std. Latent Variables	EPC Std. All Variables	EPC Std. All but Exogenous Variables
A	~~	Autonomy	29.787	0.063	0.734	0.734	0.734
Wellbeing	=~	c1	29.464	–0.157	–0.131	–0.131	–0.131
M	=~	c1	29.387	–0.140	–0.133	–0.133	–0.133

Note. * ~~ stands for "is correlated with" and reflects a variance or covariance.
** =~ stands for "is measured by" and defines the latent variable.

Table 4.12

Parameter Estimates for Model B

Latent Variables:	Observed/ Latent Variables:	Estimate	Std. Error	*z*-value	*P(>|z|)*	Std. Latent Variables	Std. All Variables
P	=~ *						
	p1	1.000				0.888	0.888
	p2	1.038	0.015	70.847	0.000	0.921	0.921
	p3	1.022	0.014	71.353	0.000	0.907	0.907
R	=~						
	r1	1.000				0.784	0.784
	r2	1.123	0.030	37.349	0.000	0.880	0.880
	r3	1.177	0.033	35.229	0.000	0.922	0.922
M	=~						
	m1	1.000				0.951	0.951
	m2	0.936	0.012	79.902	0.000	0.890	0.890
	m3	0.949	0.012	79.261	0.000	0.902	0.902
A	=~						
	a1	1.000				0.897	0.897
	a2	0.949	0.019	50.650	0.000	0.851	0.851
	a3	0.827	0.026	31.838	0.000	0.741	0.741
Authorship	=~						
	au1	1.000				0.803	0.803
	au2	0.962	0.042	23.106	0.000	0.772	0.772
	au3	0.962	0.042	23.011	0.000	0.772	0.772
	au4	1.020	0.032	31.567	0.000	0.819	0.819
	au5	0.907	0.036	24.990	0.000	0.728	0.728
Control	=~						
	c1	1.000				0.617	0.617
	c2	1.223	0.117	10.419	0.000	0.755	0.755
	c3	1.296	0.131	9.880	0.000	0.800	0.800
	c4	0.317	0.109	2.909	0.004	0.195	0.195
	c5	0.882	0.106	8.346	0.000	0.545	0.545
Autonomy	=~						
	Authorship	1.000				0.690	0.690
	Control	0.394	0.056	6.979	0.000	0.353	0.353
Wellbeing	=~						
	P	1.000				0.934	0.934
	R	0.791	0.027	29.019	0.000	0.837	0.837
	M	1.093	0.021	53.059	0.000	0.954	0.954
	A	0.990	0.022	45.605	0.000	0.916	0.916
	Autonomy	0.727	0.032	22.759	0.000	1.088	1.088

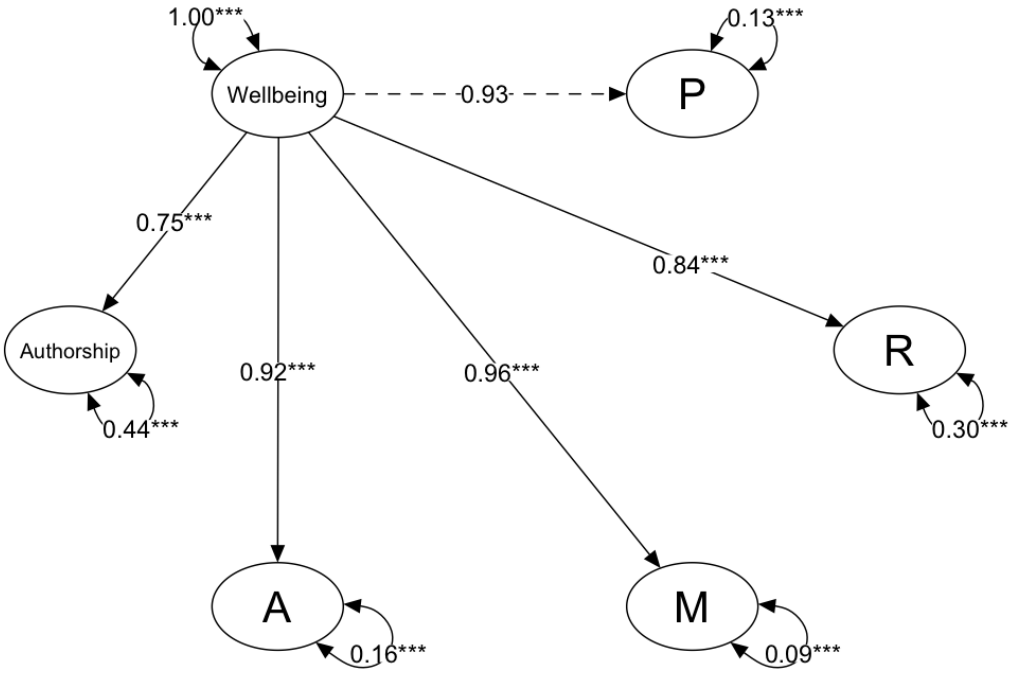
Note. * =~ stands for "is measured by" and defines the latent variable.

Exploratory Model C: Rationale

Model C (see Figure 4.5) addressed the issue presented by the negative latent variance and was in line with the rationale for excluding the Interest-Taking and Susceptibility to Control factors from the model by removing the items and factor of Control. Because of the marker scaling method employed throughout this confirmatory factor analyses, removing Control had the effect of transforming the Authorship and Autonomy latent variables to become identical. Maintaining Autonomy as a latent variable between well-being and Authorship would have yielded the same fit indices as removing Autonomy and including a direct loading between Well-Being and Authorship. For clarity, however, the Autonomy factor was removed from the model, making Authorship directly related to Well-Being graphically in Model C.

Figure 4.9

Exploratory Model C with Standardized Estimates



* $p < .05$, ** $p < .005$, *** $p < .001$.

Exploratory Model C: Specification, Identification, and Estimation

Model C was over-identified with 114 degrees of freedom. Fit measures for Model C indicated that this model was approaching a good fit: $\chi^2(114) = 447.18$, $p = 0.000$; $\chi^2/df = 3.92$; SRMR = .036. The robust RMSEA indicated a reasonable approximate fit: robust RMSEA = .076 (90% CI = .069–.084, CFit < .05 = 0.000). The local fit indices also suggested a good fit: robust CFI = .957 and robust TLI = .949. With the fit indices indicating a reasonable approximate fit and a good global fit, examination of the modification indices, parameter estimates, and residuals would ensure a good local fit.

Having established a reasonable approximate fit through the descriptive, absolute, and comparative fit indices, the next step for evaluating the model was to examine the results for areas of localized misfit. This process includes examination of the modification indices, parameter estimates, and standardized residuals. The modification indices (see Table 4.13) for this model suggested that introducing covariances and respecifying the relationships between items and latent variables would result in a better fitting model. The theories behind the current specification did not permit such modifications, however. Nevertheless, the included items and latent variables fit adequately in line with theory and the results of this confirmatory factor analysis, namely the parameter estimates obtained (see Table 4.14). Furthermore, the modification indices refer to changes in the χ^2 statistic should a given parameter be freed in subsequent analyses. Given the sensitivity of this metric to sample size, however, making the changes suggested by the modification indices may never result in an overall nonsignificant χ^2 value.

Table 4.13

Fifteen Largest Modification Indices of Model C

Variable	Operator	Variable	Modification Index	Expected Parameter Change (EPC)	EPC Std. Latent Variables	EPC Std. All Variables	EPC Std. All but Exogenous Variables
P	~~ *	R	37.089	0.065	0.47	0.47	0.47
Authorship	=~ **	a3	32.541	0.34	0.273	0.273	0.273
A	~~	Authorship	28.794	0.065	0.337	0.337	0.337
P	=~	r3	28.495	0.447	0.398	0.398	0.398
R	~~	A	26.405	–0.062	–0.399	–0.399	–0.399
A	=~	r2	22.839	–0.45	–0.404	–0.404	–0.404
R	=~	p3	21.773	0.317	0.249	0.249	0.249
m3	~~	a1	20.009	0.086	0.086	0.452	0.452
P	~~	Authorship	18.28	–0.05	–0.292	–0.292	–0.292
A	=~	m3	17.343	0.401	0.36	0.36	0.36
p3	~~	r3	16.92	0.091	0.091	0.548	0.548
A	=~	au3	15.793	0.218	0.196	0.196	0.196
R	=~	a2	15.496	–0.335	–0.263	–0.263	–0.263
r2	~~	a2	14.445	–0.117	–0.117	–0.472	–0.472
Authorship	=~	p1	14.059	–0.225	–0.181	–0.181	–0.181

Note. * ~~ stands for "is correlated with" and reflects a variance or covariance.
** =~ stands for "is measured by" and defines the latent variable.

Table 4.14

Parameter Estimates for Model C

Latent Variables:	Observed/ Latent Variables:	Estimate	Std. Error	*z*-value	*P(>|z|)*	Std. Latent Variables	Std. All Variables
P	=~ *						
	p1	1.000				0.890	0.890
	p2	1.035	0.015	71.225	0.000	0.921	0.921
	p3	1.018	0.014	71.962	0.000	0.906	0.906
R	=~						
	r1	1.000				0.785	0.785
	r2	1.121	0.030	37.392	0.000	0.881	0.881
	r3	1.172	0.033	35.432	0.000	0.921	0.921
M	=~						
	m1	1.000				0.951	0.951
	m2	0.936	0.012	79.638	0.000	0.890	0.890
	m3	0.948	0.012	78.551	0.000	0.901	0.901
A	=~						
	a1	1.000				0.898	0.898
	a2	0.950	0.019	50.979	0.000	0.853	0.853
	a3	0.817	0.026	31.143	0.000	0.734	0.734
Authorship	=~						
	au1	1.000				0.805	0.805
	au2	0.964	0.041	23.638	0.000	0.775	0.775
	au3	0.954	0.041	23.135	0.000	0.767	0.767
	au4	1.014	0.032	31.758	0.000	0.816	0.816
	au5	0.909	0.036	25.350	0.000	0.732	0.732
Wellbeing	=~						
	P	1.000				0.933	0.933
	R	0.793	0.027	29.111	0.000	0.837	0.837
	M	1.096	0.021	52.750	0.000	0.956	0.956
	A	0.990	0.022	45.277	0.000	0.915	0.915
	Authorship	0.728	0.032	22.932	0.000	0.751	0.751

Note. * =~ stands for "is measured by" and defines the latent variable.

As noted, the obtained parameter estimates were adequate both theoretically and statistically (see Table 4.14). The standardized estimates for all items, for instance, were greater than .7, suggesting good loading to their assigned factors. These estimates were also in the hypothesized positive direction, indicating direct relationships between the items and the factors. The corresponding *z*-values of all items and factors were also all greater than 1.96, suggesting

that these items are necessary for the solution (T. A. Brown, 2015). Examination of the residuals, however, suggested that these parameter estimates could be improved to achieve a more adequate representation of the population (see Table 4.15). Residuals convey the extent to which a given relationship between indicators is overestimated or underestimated. While positive standardized residuals indicate that the model's parameters "underestimate the zero-order relationship between two indicators to some degree," negative standardized residuals suggest that the parameters overestimate such a relationship (T. A. Brown, 2015, p. 98). For many of the standardized residuals of Model C, the residuals were negative values suggesting an overestimation of the relationship. Furthermore, some residuals were also outside ± 2.58, the statistically significant cutoff at $\alpha = .01$, suggesting that the present model requires additional modifications to reflect the population ($S = \Sigma$) more accurately.

Table 4.15

Standardized Residuals of Model C

	p1	p2	p3	r1	r2	r3	m1	m2	m3	a1	a2	a3	au1	au2	au3	au4	au5
p1	0.00																
p2	**4.99**	0.00															
p3	***–3.26***	***–3.45***	0.00														
r1	0.48	*–0.94*	0.49	0.00													
r2	**4.18**	0.85	2.51	**4.31**	0.00												
r3	**4.18**	0.47	**6.68**	***–4.27***	*–1.31*	0.00											
m1	*–1.46*	0.01	1.30	*–1.05*	*–0.72*	*–1.12*	0.00										
m2	0.34	1.35	0.04	**5.34**	2.39	*–1.36*	1.30	0.00									
m3	***–3.27***	*–0.46*	*–0.46*	***–4.12***	***–3.96***	*–2.56*	*–0.39*	*–1.30*	0.00								
a1	*–1.38*	*–1.60*	*–2.56*	***–3.44***	***–4.05***	*–0.77*	0.02	***–2.60***	**7.52**	0.00							
a2	***–3.21***	*–1.69*	*–0.30*	***–3.68***	***–8.94***	*–0.28*	*–0.78*	*–2.00*	**3.75**	**3.39**	0.00						
a3	*–1.07*	0.43	2.46	*–1.81*	***–2.69***	*–1.18*	*–1.52*	*–2.12*	*–0.46*	***–5.21***	*–0.30*	0.00					
au1	***–4.57***	***–3.14***	*–2.52*	1.07	***–2.62***	*–0.22*	*–0.37*	***–2.76***	0.22	2.50	2.47	**2.76**	0.00				
au2	0.19	0.16	0.03	*–0.11*	0.77	0.61	**3.19**	*–0.05*	0.33	1.34	1.16	1.50	*–0.39*	0.00			
au3	*–0.94*	*–0.04*	1.24	1.38	*–0.97*	1.04	1.84	0.18	0.78	0.84	**2.60**	**3.48**	***–2.80***	***–3.92***	0.00		
au4	***–4.66***	***–2.58***	*–1.15*	0.72	*–0.59*	*–2.03*	***–2.81***	*–1.50*	*–0.95*	*–0.78*	**2.86**	**4.81**	**2.59**	*–2.48*	*–0.62*	0.00	
au5	***–3.34***	*–2.01*	*–1.61*	0.09	*–0.40*	*–1.70*	0.27	*–1.14*	*–0.86*	*–2.24*	*–0.26*	2.02	1.48	0.86	0.32	**2.67**	0.00

Note. Italicized text indicates negative values. Bolded text indicates values that are outside ± 2.58.

Validity and Reliability of Hypothesized and Exploratory Models

Although the standardized residuals and the modification indices indicated the need for further respecification, examining the resultant validity and reliability values for the hypothesized and final exploratory models provide valuable insight into model fit and potential implications for the theoretical underpinnings of the models (Hair & Black et al., 2019). The hypothesized model demonstrated poor fit based on fit indices, modification indices, and standardized residuals of parameter estimates. Nevertheless, the resultant standardized parameter estimates, reported in Table 4.6, suggested good convergent validity for all items to their respective first-order factors with the exceptions of the Engagement scale, the Susceptibility to Control scale, and the Interest-Taking scale. In addition to being statistically significant, standardized loading estimates greater than the absolute value of ± .7 indicated good convergent validity, as this value reflects about 50% communality with the other items in the respective scale item (Hair & Black et al., 2019). The average variance extracted (AVE) values for each scale remained the same as those reported in Table 4.5, as items were not respecified to other factors.

Reliability can also be determined using construct or composite reliability values, notated as omega, where values greater than .7 indicate high internal consistency and therefore that all measures represent the same construct (Ab Hamid et al., 2017; Flora, 2020; Hair & Black et al., 2019). In the case of the hypothesized model, composite reliability values suggested high internal consistency for all factors, excepting the Engagement scale and the Autonomy factor, reported in Table 4.16. The model that emerged from exploratory modifications to the initial hypothesized model also had good internal consistency with omega values ranging from .86 to .93, reported in Table 4.17.

Table 4.16

Internal Consistency of Hypothesized Mode

Scale	P	E	R	M	A	Author-ship	Interest	Control	Auto-nomy	Well-Being
Number of Items or Factors	3	3	3	3	3	5	5	5	3	6
Omega	0.93	0.62	0.89	0.93	0.87	0.86	0.89	0.72	0.42*	0.92*

* Omega-higher-order.

Table 4.17

Internal Consistency of Exploratory Model C

Scale	P	R	M	A	Authorship	Well-Being
Number of Items or Factors	3	3	3	3	5	5
Omega	0.93	0.89	0.93	0.87	0.86	0.91*

* Omega-higher-order.

When examining higher-order factors, the same general interpretation applies. Higher standardized loadings of the first-order factors to the higher-order factor implies convergent validity. Higher omega values similarly suggests that the constituent first-order factors have communality and represent the same construct. In evaluating higher-order models, however, extremely high standardized factor loadings and omega values suggest issues with discriminant validity (Flora, 2020). To mitigate this potential issue, composite reliability values are calculated using omega-higher-order, which is suitable for multidimensional models and accounts for total-score variance of the items due to the higher-order construct, whereas Cronbach's α and omega require unidimensionality (Flora, 2020). In the hypothesized model, the Autonomy higher-order factor displayed low reliability, while the overall Well-Being factor demonstrated good composite reliability (see Table 4.16). In the exploratory model, the high standardized

factor loadings of some of the first-order factors continued to indicate issues with discriminant validity (see Table 4.17). Nevertheless, the omega-high-order of Well-Being in this model suggested good composite reliability.

Role of Demographic Factors on Well-Being and Autonomy

Having identified those factors/constructs that contribute to well-being and developing a measure that effectively captures this relationship, I next considered the potential role played by demographic factors in a person's level of autonomy and well-being. To answer this third research question, I hypothesized that demographic factors would have a statistically significant effect on Well-Being and Autonomy scores, although I did not specify which factors would be most salient. Researchers have identified several demographic categories that are associated with higher subjective well-being, happiness, autonomy, and freedom. In this study, however, my aim is not to reproduce the results of this extant research. Rather, my aim was to identify relationships between demographic factors and well-being or autonomy as a starting point for considering identity and cultural considerations in clinical interventions targeted to increasing a person's sense of autonomy and well-being. Identifying this information also serves as a beginning to future analyses of the measurement models of freedom and well-being as they are impacted by identity and demographic factors.

To ascertain and describe the nature and relationship between these demographic variables, well-being, and freedom, one-way analyses of variance (ANOVA) were performed using IBM SPSS Statistics, version 29. As described earlier, participants' demographic information was aggregated and categorized into independent groups for these analyses. Prior to conducting the analyses, the data of each group were examined and evaluated to ensure they conform to the assumptions necessary to conduct ANOVAs: group score distributions were

evaluated for normality, heterogeneity of variance, and equality of group size. Table 4.18 displays the means, standard deviations, skewness and kurtosis values, and standard errors of skewness and kurtosis for each independent group's distribution of scores on the composite Well-Being score from the PERMA Profiler. Table 4.19 displays these data categories for each independent group's scores on the composite Autonomy score from the IAF.

Table 4.18

Descriptive Statistics of Well-Being Scores by Demographic Group

Identity or Characteristic	*n*	*M*	*SD*	Skewness	SE_{skew}	Z_{skew}	Kurtosis	SE_{kurt}	Z_{kurt}
Gender Identity									
Man, Alone	225	6.2	1.8	–0.35	0.62	–0.56	–0.42	0.32	–1.31
TGNC (All who identified a TGNC identity or more than one gender identity)	27	4.7	1.8	0.59	0.45	1.33	–0.61	0.87	–0.70
Woman, Alone	211	6.6	1.8	–0.55	0.17	–3.28	–0.09	0.33	–0.28
Prefer not to say	2	3.3	4.2	.	.	.	.	.	.
Sexual Orientation									
LGBQ+	90	5.5	1.7	–0.06	0.25	–0.25	–0.64	0.50	–1.28
Straight or Heterosexual, Alone	367	6.4	1.8	–0.50	0.13	–3.94	–0.32	0.25	–1.26
Prefer not to say	8	6.0	2.4	–2.28	0.75	–3.03	6.12	1.48	4.13
Race/Ethnicity									
Another	2	6.7	1.4	.	.	.	.	.	.
Asian or Asian American, alone	31	5.9	1.7	–0.32	0.42	–0.76	–0.88	0.82	–1.07
Black or African American, alone	34	6.0	1.9	–0.18	0.40	–0.44	–0.98	0.79	–1.24
Hispanic or Latino/Latina/Latinx, alone	25	6.5	2.2	–0.61	0.46	–1.31	–0.80	0.90	–0.89

Identity or Characteristic	*n*	*M*	*SD*	Skewness	SE_{skew}	Z_{skew}	Kurtosis	SE_{kurt}	Z_{kurt}
Multiracial (All who selected "Biracial or multiracial" or selected more than one racial/ethnic identity)	37	6.5	1.5	–0.56	0.39	–1.44	0.12	0.76	0.16
White or Caucasian, alone	332	6.3	1.8	–0.39	0.13	–2.93	–0.37	0.27	–1.37
Prefer not to say	4	5.1	3.6	–0.62	1.01	–0.61	0.92	2.62	0.35
Age									
18–24	75	6.0	1.8	–0.23	0.28	–0.82	–0.54	0.55	–0.99
25–34	170	6.2	1.9	–0.35	0.19	–1.89	–0.32	0.37	–0.85
35–44	111	6.5	1.7	–0.47	0.23	–2.06	–0.48	0.46	–1.05
45–54	46	6.1	2.0	–0.32	0.35	–0.91	–0.73	0.69	–1.05
55–64	46	6.5	2.0	–0.47	0.35	–1.35	–0.52	0.69	–0.75
65–74	13	6.8	2.3	–2.07	0.62	–3.36	5.52	1.19	4.64
75 +	4	6.6	1.2	–1.94	1.01	–1.92	3.82	2.62	1.46
Region									
Great Lakes	66	5.8	1.8	–0.20	0.30	–0.66	–0.32	0.58	–0.55
Mid-Atlantic	73	6.4	2.0	–0.56	0.28	–2.01	–0.30	0.56	–0.54
New England	23	6.6	1.6	–0.67	0.48	–1.40	0.19	0.94	0.21
Plains	31	6.4	1.6	–0.69	0.42	–1.63	–0.10	0.82	–0.13
Rocky Mountain	19	6.2	1.8	–0.51	0.52	–0.97	–0.11	1.01	–0.11
Southeast	117	6.3	1.8	–0.26	0.22	–1.15	–0.53	0.44	–1.19
Southwest	57	6.5	1.9	–0.51	0.32	–1.61	–0.63	0.62	–1.02
West	79	6.1	1.8	–0.60	0.27	–2.20	0.21	0.54	0.39
Education									
Associate's degree	51	6.6	1.9	–0.37	0.33	–1.10	–0.75	0.66	–1.14
Bachelor's degree	175	6.4	1.8	–0.52	0.18	–2.85	–0.34	0.37	–0.94
Graduate or professional degree	63	6.4	1.7	–0.69	0.30	–2.29	0.99	0.60	1.66
High school diploma or equivalent	54	6.0	2.1	–0.28	0.32	–0.87	–0.46	0.63	–0.72
Some college	108	6.0	1.8	–0.13	0.23	–0.55	–0.80	0.46	–1.73
Some graduate school	12	6.4	1.5	–0.25	0.64	–0.39	–0.20	1.23	–0.16
Some high school	2	1.9	1.2	.	.	.	.	.	.
Marital Status									

Identity or Characteristic	*n*	*M*	*SD*	Skewness	SE_{skew}	Z_{skew}	Kurtosis	SE_{kurt}	Z_{kurt}
Divorced or separated	25	6.1	1.9	0.05	0.46	0.10	–1.52	0.90	–1.69
Married	170	6.9	1.6	–0.63	0.19	–3.40	0.26	0.37	0.70
Partnered	77	6.4	1.5	–0.28	0.27	–1.00	–0.41	0.54	–0.77
Divorced and re-partnered	4	6.1	1.0	0.76	1.01	0.74	–1.58	2.62	–0.60
Single	183	5.6	1.9	–0.16	0.18	–0.91	–0.58	0.36	–1.62
Widowed	6	7.9	1.0	0.05	0.85	0.06	–0.49	1.74	–0.28
Living Situation									
Alone	77	5.8	1.9	–0.22	0.27	–0.80	–0.36	0.54	–0.67
Dormitory	6	7.1	1.2	–0.10	0.85	–0.12	–1.63	1.74	–0.94
Family (Parents, siblings, or multigenerational)	107	5.5	1.9	–0.06	0.23	–0.25	–0.54	0.46	–1.17
With children	11	6.8	2.0	–0.63	0.66	–0.95	–1.14	1.28	–0.89
Partner and children	100	6.9	1.7	–0.49	0.24	–2.03	–0.04	0.48	–0.08
Partner/Spouse	122	6.8	1.5	–0.65	0.22	–2.97	0.22	0.44	0.50
Roommates	39	6.0	1.7	–0.43	0.38	–1.13	–0.02	0.74	–0.03
Unstable	3	2.9	0.4	1.60	1.23	1.30	.	.	.
Employment									
Disabled	10	5.6	2.0	0.86	0.69	1.25	–0.04	1.33	–0.03
Employed	341	6.4	1.8	–0.44	0.13	–3.32	–0.33	0.26	–1.26
Homemaker	29	6.8	2.1	–0.87	0.43	–2.00	–0.47	0.85	–0.56
Retired	17	6.7	1.2	–0.13	0.55	–0.23	–0.02	1.06	–0.02
Student (Not working)	28	5.7	1.4	–0.22	0.44	–0.51	–0.40	0.86	–0.46
Unemployed	40	5.1	2.1	–0.08	0.37	–0.22	–0.46	0.73	–0.62

Note. Cells with only a period (.) indicate a value cannot be calculated.

Table 4.19

Descriptive Statistics of Autonomy Scores by Demographic Group

Identity or Characteristic	*n*	*M*	*SD*	Skewness	SE_{skew}	Z_{skew}	Kurtosis	SE_{kurt}	Z_{kurt}
Gender Identity									
Man, Alone	225	3.5	0.5	0.21	0.16	1.31	0.33	0.32	1.01
TGNC (All who identified a TGNC identity or more than one gender identity)	27	3.4	0.4	–0.06	0.45	–0.13	–0.21	0.87	–0.24

Identity or Characteristic	*n*	*M*	*SD*	Skewness	SE_{skew}	Z_{skew}	Kurtosis	SE_{kurt}	Z_{kurt}
Woman, Alone	211	3.6	0.5	–0.02	0.17	–0.14	0.22	0.33	0.66
Prefer not to say	2	2.9	0.8	.	.	.	.	.	.
Sexual Orientation									
LGBQ+	90	3.4	0.5	–0.32	0.25	–1.27	–0.40	0.50	–0.80
Straight or Heterosexual, Alone	367	3.6	0.5	0.22	0.13	1.76	0.17	0.25	0.68
Prefer not to say	8	3.4	0.6	–0.86	0.75	–1.14	1.30	1.48	0.88
Race/Ethnicity									
Another	2	3.6	1.2	.	.	.	.	.	.
Asian or Asian American, alone	31	3.3	0.5	0.10	0.42	0.23	–0.26	0.82	–0.31
Black or African American, alone	34	3.6	0.4	0.49	0.40	1.20	–0.09	0.79	–0.12
Hispanic or Latino/Latina/Latinx, alone	25	3.7	0.5	–0.10	0.46	–0.22	–0.68	0.90	–0.76
Multiracial (All who selected “Biracial or multiracial” or selected more than one racial/ethnic identity)	37	3.6	0.4	–0.05	0.39	–0.12	–0.99	0.76	–1.31
White or Caucasian, alone	332	3.6	0.5	0.13	0.13	0.94	0.38	0.27	1.40
Prefer not to say	4	3.5	1.0	0.31	1.01	0.31	1.46	2.62	0.56
Age									
18–24	75	3.4	0.5	0.22	0.23	0.99	0.37	0.55	0.68
25–34	170	3.5	0.5	–0.17	0.19	–0.93	0.25	0.37	0.68
35–44	111	3.6	0.5	0.45	0.23	1.97	0.08	0.46	0.17
45–54	46	3.6	0.5	0.05	0.35	0.13	–0.14	0.69	–0.20
55–64	46	3.6	0.5	0.01	0.35	0.03	0.44	0.69	0.64
65–74	13	3.7	0.6	–0.64	0.62	–1.05	1.84	1.19	1.54
75 +	4	3.8	0.5	1.23	1.01	1.21	2.36	2.62	0.90
Region									
Great Lakes	66	3.4	0.4	0.20	0.30	0.67	0.52	0.58	0.90
Mid-Atlantic	73	3.5	0.5	0.20	0.27	0.74	0.22	0.56	0.39
New England	23	3.4	0.3	–0.05	0.48	–0.11	0.54	0.94	0.57
Plains	31	3.6	0.5	0.90	0.42	2.14	0.29	0.82	0.35

Identity or Characteristic	*n*	*M*	*SD*	Skewness	SE_{skew}	Z_{skew}	Kurtosis	SE_{kurt}	Z_{kurt}
Rocky Mountain	19	3.6	0.4	0.95	0.52	1.81	0.72	1.01	0.71
Southeast	117	3.6	0.5	–0.31	0.22	–1.38	0.25	0.44	0.57
Southwest	57	3.5	0.5	–0.17	0.32	–0.54	0.27	0.62	0.44
West	79	3.7	0.5	–0.01	0.27	–0.05	0.03	0.54	0.05
Education									
Associate's degree	51	3.6	0.5	0.35	0.33	1.05	0.30	0.66	0.46
Bachelor's degree	175	3.5	0.4	–0.18	0.18	–0.98	0.40	0.37	1.09
Graduate or professional degree	63	3.5	0.5	–0.40	0.30	–1.33	0.02	0.60	0.04
High school diploma or equivalent	54	3.6	0.4	0.53	0.32	1.66	1.76	0.63	2.78
Some college	108	3.6	0.5	0.17	0.23	0.74	–0.26	0.46	–0.57
Some graduate school	12	3.8	0.7	–0.44	0.64	–0.68	–0.87	1.23	–0.71
Some high school	2	3.0	0.4	.	.	.	.	.	.
Marital Status									
Divorced or separated	25	3.7	0.4	1.02	0.46	2.19	0.79	0.90	0.88
Married	170	3.6	0.5	–0.20	0.19	–1.05	0.33	0.37	0.89
Partnered	77	3.5	0.5	0.19	0.27	0.69	0.18	0.54	0.34
Divorced and re-partnered	4	3.8	0.5	1.38	1.01	1.36	2.36	2.62	0.90
Single	183	3.5	0.5	0.25	0.18	1.36	0.29	0.36	0.82
Widowed	6	3.9	0.4	–0.40	0.85	–0.47	–1.75	1.74	–1.01
Living Situation									
Alone	77	3.5	0.6	0.35	0.27	1.27	0.01	0.54	0.01
Dormitory	6	3.5	0.4	1.58	0.85	1.87	2.48	1.74	1.43
Family (Parents, siblings, or multigenerational)	107	3.5	0.5	0.28	0.23	1.21	0.42	0.46	0.91
With children	11	3.8	0.3	0.34	0.66	0.52	–1.09	1.28	–0.85
Partner and children	100	3.6	0.5	–0.11	0.24	–0.45	0.05	0.48	0.10
Partner/Spouse	122	3.7	0.4	0.00	0.22	0.00	0.48	0.44	1.09
Roommates	39	3.4	0.4	–0.20	0.38	–0.53	0.61	0.74	0.82
Unstable	3	3.4	0.2	–1.55	1.23	–1.26	.	.	.
Employment									
Disabled	10	3.7	0.6	0.93	0.69	1.35	–0.81	1.33	–0.60
Employed	341	3.6	0.5	0.08	0.13	0.58	0.10	0.26	0.37
Homemaker	29	3.5	0.5	–0.43	0.43	–0.99	0.68	0.85	0.81

Identity or Characteristic	*n*	*M*	*SD*	Skewness	SE_{skew}	Z_{skew}	Kurtosis	SE_{kurt}	Z_{kurt}
Retired	17	3.7	0.3	0.58	0.55	1.06	1.98	1.06	1.86
Student (Not working)	28	3.3	0.4	0.62	0.41	1.51	1.08	0.86	1.26
Unemployed	40	3.5	0.6	–0.22	0.37	–0.58	0.47	0.73	0.64

Note. Cells with only a period (.) indicate a value cannot be calculated.

Gender Identity

To assess the effect of gender identity on Well-Being and Autonomy scores, one-way between groups analyses of variances (ANOVA) were conducted, with $n = 463$. The independent variable represented gender identities, grouped exclusively: (a) those who identify exclusively as men (Man, Alone in Tables 4.18 and 4.19); (b) those who identify exclusively as women (Woman, Alone in Tables 4.18 and 4.19); and (c) those who identify with at least one transgender, gender nonconforming, or nonbinary identity (TGNC in Tables 4.18 and 4.19). Those who declined to answer this demographic question were not included in the analysis of variance, as there is no theoretical basis to assert a similarity among the participants in that group. The dependent variable was the composite score for Well-Being derived according to the instructions provided by the authors of the PERMA Profiler: the average of the Happiness item and the items of the Positive Emotions, Engagement, Positive Relationships, Meaning, and Accomplishment subscales (Butler & Kern, 2016). The means and standard deviations of this dependent variable for the independent variable groups is displayed in Table 4.18. While Levene's F test ($p = .968$) indicated homogeneity of variance among the groups, the Shapiro-Wilks test suggested that distributional normality within the group of men ($p = .007$) and the group of women ($p < .001$) cannot be assumed. Inspection of the Q–Q plots and histogram also suggested that the distribution of the scores of the group of men and those of the group of women were nonnormal. Values of skewness and kurtosis also indicated somewhat skewed

distributions of scores among the groups of those who identify exclusively as women and those who identify with at least one transgender, gender nonconforming, or nonbinary identity, as reported in Table 4.18.

The one-way ANOVA revealed a statistically significant main effect, $F_{Welch}(2, 72.72) = 13.39$, $p < .001$. The omega squared value ($\omega^2 = .051$) indicates that 5.1% of the total variation in Well-Being scores is attributable to differences in gender identity. Post hoc comparisons were conducted using the Games-Howell procedure to identify statistically significant differences in the average scores of the groups. As a result of this analysis, the results demonstrate that the group of participants who identified exclusively as men had higher scores of Well-Being than the group of participants who identified with at least one transgender, gender nonconforming, or nonbinary identity (TGNC) (mean difference = 1.46, $p < .001$, 95% CI [0.57, 2.35]). The group of individuals who identified exclusively as women also had higher overall Well-Being scores than those who identified with at least one transgender, gender nonconforming, or nonbinary identity (mean difference = 1.85, $p < .001$, 95% CI [0.96, 2.74]). No significant difference was detected between the group of participants who identified exclusively as men or the group of participants who identified exclusively as women ($p < .053$).

A Kruskal-Wallis test was performed due to the violations to the assumption of normality. This test also identified a significant difference between means: $H(2) = 23.55$, $p < .001$, $\eta^2_H = 0.047$. The significance values of pairwise comparisons were adjusted using the Bonferroni correction. Because of the nature of the Bonferroni correction, the effect of the family-wise error rate is significantly reduced, requiring a higher level of significance for pairwise comparisons to be statistically significant (Field, 2018). Significant differences in means were identified between the group of individuals who identify with at least one

transgender, gender nonconforming, or nonbinary identity and those who identify exclusively as men (p_{adj} = .001) and between this group and those who identify exclusively as women (p_{adj} = .000). Pairwise comparisons suggested no significant differences between those who identify exclusively as men and those who identify exclusively as women (p_{adj} = .063). Results from the ANOVA and Kruskal-Wallis test identified that the group of people who identified with at least one transgender, nonbinary, or gender nonconforming identity (TGNC) had significantly lower scores of Well-Being than the groups of exclusively men and exclusively women.

Regarding Autonomy, the independent variable and groups remained the same as described above. The dependent variable was the average score of all items of the Index of Autonomous Functioning. Means and standard deviations are displayed in Table 4.19. Inspecting the data revealed roughly normal distributions among groups and homogeneity of variance. The Shapiro-Wilk test identified no issues with normality. Inspection of the Q–Q plots and histograms also suggested no issues with meeting the assumption of normality. Skewness and kurtosis values were within acceptable limits, indicating relatively normal distributions among the group of participants that identified exclusively as men, those who identified exclusively as women, and those who identified with at least one transgender, gender nonconforming, or nonbinary identity. Levene's test indicated homogeneity of variance among groups was present (p = .568).

A one-way analysis of variance using Welch's F was computed to determine the effect of gender identity on autonomy. Results indicated a significant main effect: $F_{Welch}(2, 74.87) = 5.09$, p = .008, with gender identity accounting for 1.7% of the total variance in participant's Autonomy scores (ω^2 = .017). Based on the results of post hoc comparisons using the Games-Howell procedure, the results showed that those participants who identify as transgender,

gender nonconforming, or nonbinary (TGNC) had lower overall Autonomy scores than those who identify exclusively as women (mean difference = –0.23, p = .028, 95% CI [–0.45, –0.02]). Those who identified exclusively as women also had higher overall Autonomy scores than those who identified exclusively as men (mean difference = 0.11, p = .048, 95% CI [.00, 0.22]). The mean scores for the group of participants who identified exclusively as men and the group of individuals who identified with at least one transgender, gender nonconforming, or nonbinary identity were not significantly different (p = .327).

To account for the large discrepancy in group sample sizes, a Kruskal-Wallis test was performed for comparison. The results of the Kruskal-Wallis test identified a significant main effect, as well: $H(2) = 9.93$, p = .007, $\eta^2_H = 0.017$. Pairwise comparisons among the groups using the Bonferroni correction indicated statistically significant differences between the means of the group of participants who identified with at least one transgender, gender nonconforming, or nonbinary identity and the group of individuals who identified exclusively as women (p_{adj} = .039). The means of the groups of those who identified exclusively as men and those who identified exclusively as women was also significantly different (p_{adj} = .039). In other words, the results of the ANOVA and the nonparametric test demonstrate that women had significantly higher scores on the Autonomy measure than both those who identify with at least one transgender, nonbinary, or gender nonconforming identity and those who identify exclusively as men. However, the means of the group of exclusively men and the group of those who identify with one TGNC identity were not significantly different.

Sexual Orientation

The independent variable for this analysis compares: (a) All participants who identified with at least one nonheterosexual identity (LGBQ+ in Tables 4.18 and 4.19) and (b) participants

who exclusively identified as straight or heterosexual (Straight or Heterosexual, Alone in Tables 4.18 and 4.19). Participants who declined to answer this demographic question were excluded from analysis, resulting in $n = 457$. Issues meeting the assumption of distributional normality emerged from the Shapiro-Wilk test among the group of those participants who identified exclusively as straight or heterosexual ($p < .001$). Examination of the Q–Q plots and histograms suggested that the distribution of scores for the group of participants who identified as exclusively straight or heterosexual was negatively skewed. Additionally, skewness and kurtosis values also suggested some skew in the distribution of those who identified exclusively as straight or heterosexual. Homogeneity of variance was demonstrated through Levene's test ($p = .189$).

A one-way analysis of variance was subsequently conducted: $F_{Welch}(1, 148.55) = 20.41$, $p < .001$. This main effect of sexual orientation/identity on Well-Being accounts for 4% of the total variance ($\omega^2 = .041$). As this ANOVA contained only two groups, the initial analysis serves as a de facto pairwise comparison. Given the significant violation of the assumption of normality, a Kruskal-Wallis test was also performed. Results of this test indicated a statistically significant difference between groups: $H(1) = 19.723$, $p < .001$, $\eta^2_H = .041$. In both tests, the data showed that people who identify with at least one LGBQ+ identity scored significantly lower on this measure of overall Well-Being than those who identify exclusively as straight or heterosexual.

Regarding Autonomy, homogeneity of variance was demonstrated through Levene's test ($p = .441$). Shapiro-Wilk tests suggested a nonnormal distribution for the group of participants who identified exclusively as straight or heterosexual. Visual inspection of each group's Q–Q plot and histogram confirmed a slight negative skew in the distribution for the group of

participants who identified exclusively as straight or heterosexual. Skewness and kurtosis values suggested no serious issues with normality, however.

A one-way analysis of variance using Welch's ANOVA was computed with results indicating a significant main effect of sexual orientation/identity on Autonomy: $F_{Welch}(1, 135.15) = 15.43$, $p < .001$, $\omega^2 = .031$), accounting for 3.1% of the total variance. Although there were no violations of assumptions detected in performing this analysis, a Kruskal-Wallis test was also conducted for comparison. Results of this nonparametric test confirmed a significant difference between groups: $H(1) = 11.13$, $p < .001$, $\eta^2_H = .022$. These results, like those regarding Well-Being, demonstrated that people who identify with at least one LGBQ+ identity had significantly lower scores of Autonomy than those who identify exclusively as straight or heterosexual.

Race and Ethnicity

A one-way analysis of variance was conducted to evaluating the potential main effect of race on Well-Being scores. The groups of the independent variable of racial or ethnic identity were exclusive to generate independent groups for analysis, where participants who selected only one racial or ethnic identity were grouped into their respective racial or ethnic identity group and those who selected more than one, or who self-identified as biracial or multiracial, were included in the group "Multiracial." The participant who identified as exclusively "Caribbean," the participant who exclusively identified as "Native American or Alaskan Native," and the participants who preferred not to answer this question were not included in the following analyses, as some of these groups had sample sizes of one, which does not permit proper post hoc or pairwise comparisons to be made. Additionally, grouping these individuals together or with those who preferred not to answer was not theoretically supported, as there is no basis to

assume similarities between these individuals and each other, or between these individuals and another racial or ethnic group, or those who preferred not to answer this question. As a result, n = 459 for this analysis.

Prior to conducting the ANOVA, the data were evaluated to ensure they met the assumptions required. Levene's test of homogeneity of variance identified no issues (p = .167). Shapiro-Wilk results identified potential issues with distributional normality among the group of individuals who identified exclusively as White (p < .001). Inspection of Q–Q plots and histograms for all groups identified some issues with normality, namely platykurtic distributions for the group of people who identified exclusively as Asian or Asian American, for the group of participants who identified exclusively as Black or African American, and the group of participants who identified exclusively as White or Caucasian. Additionally, the distribution for the group of participants who identified exclusively as White is negatively skewed.

The results of a one-way ANOVA using the Welch statistic revealed that racial or ethnic identity did not have a significant effect on Well-Being: $F_{\text{Welch}}(4, 69.42) = 0.84$, p = .508, accounting for none of the variance ($\omega^2 = -.001$). A Kruskal-Wallis test confirmed this result: $H(4) = 3.50$, p = .480 $\eta^2_H = -.001$. Post hoc pairwise comparisons were not completed given the nonsignificant results of these omnibus tests. In other words, racial and ethnic identity were not found to have a significant effect on Well-Being scores.

Scores of Autonomy were similarly evaluated for normality and homogeneity of variance. The result of Levene's test identified no issue with homogeneity of variance (p = .434). The results of Shapiro-Wilk tests and inspection of the Q–Q plots similarly indicated no substantive issues with normality, although some groups demonstrated platykurtic distributions. Skewness and Kurtosis were nevertheless within acceptable limits for each group.

A one-way ANOVA was performed to ascertain the effect of race and ethnicity on Autonomy. The results suggest that race and ethnicity had no significant effect on Autonomy: $F_{Welch}(4, 69.93) = 1.47$ $p = .222$, $\omega^2 = 0.004$. Although not indicated given the results of initial data inspection, the nonparametric Kruskal-Wallis test was also performed for comparison. Results of this test confirmed the nonsignificance of the relationship captured in the results of the ANOVA: $H(4) = 6.19$ $p = .185$, $\eta^2_H = .004$. As with the results from the analysis of Well-Being, data analysis revealed no significant differences between racial or ethnic groups on the measure of Autonomy, suggesting that racial or ethnic identity was not an independently strong factor affecting a person's sense of autonomy.

Age

Participant age was also considered for its significant relationship to Well-Being and Autonomy scores. Data were evaluated to ensure they met the assumptions required for performing an analysis of variance. Regarding the Well-Being measure, Shapiro-Wilk tests revealed issues with nonnormal distributions for the group of participants aged 35–44 ($p = 0.006$), aged 65–74 ($p = .007$), and aged 75 and older ($p = .019$). Inspection of the histograms and Q–Q plots and evaluation of the skewness and kurtosis values corroborated nonnormality of distributions for these age groups. Levene's test indicated homogeneity of variance across groups ($p = .778$).

A Welch's ANOVA was conducted due to the nonnormal distributions of some groups. Results of this analysis identified no significant difference among means: $F_{Welch}(6, 35.26) = .78$, $p = .592$, $\omega^2 = –0.003$. A Kruskal-Wallis test was also conducted due to violations of the normality assumption. Results from this nonparametric test yielded similar results to the ANOVA: $H(6) = 6.68$, $p = .352$, $\eta^2_H = 0.001$. Nonsignificant results suggest that the null

hypothesis be retained, asserting no main effect of age on Well-Being. That is to say that age did not have a strong independent influence on a person's sense of well-being.

Evaluation of the Autonomy distribution identified no significant issues with normality. All Shapiro-Wilk tests were nonsignificant, suggesting normal distributions of scores for all groups. Inspection of Q–Q plots and histograms revealed a slightly positive skew for the group aged 35–44. Skewness and kurtosis values for each group were within the acceptable range. Furthermore, the results of Levene's test suggested homogeneity of variance ($p = .914$).

A one-way ANOVA revealed no significant difference of means between groups on the Autonomy measure: $F_{Welch}(6, 34.54) = 1.31$, $p = .281$, $\omega^2 = .281$). A Kruskal-Wallis test confirmed this result: $H(6) = 9.46$, $p = .149$, $\eta^2_H = .008$. Like the results obtained from examining Well-Being, age was not found to be a relevant predictor of Autonomy scores. In other words, one's age did not appear to have a significant effect on one's sense of autonomy.

Geographic Region

Shapiro-Wilk tests identified potential nonnormal distributions of Well-Being scores for the groups from the Mid-Atlantic states ($p = .022$) and the Southwest states ($p = .024$). Inspection of the Q–Q plots and histograms revealed negatively skewed distributions for these groups. Additionally, skewness values for the group comprised of the Western states suggested a skewed distribution for this group as well. Regarding testing for homogeneity of variance, results of Levene's test were not significant ($p = .532$).

A one-way ANOVA using the Welch statistic was computed to assess the role of geographic region on Well-Being scores. The results identified no significant differences between the means of these groups: $F_{Welch}(7, 125.1) = 1.04$, $p = .408$, $\omega^2 = 0.001$. A Kruskal-Wallis test confirmed this result: $H(7) = 7.87$, $p = .344$, $\eta^2_H = .002$. No post-hoc

comparisons were completed due to the nonsignificant omnibus tests. These results demonstrated that a person's geographic region had no significant effect on their sense of well-being.

Regarding the scores on the Autonomy measure, Shapiro-Wilk tests suggested potential nonnormality in the distribution of Autonomy scores for the group from the Plains states (p = .040). The skewness value for this group also suggested a nonnormal distribution. The Q–Q plots and histograms suggested skewed distributions for the groups from the Plains states and from the Rocky Mountains states, although the skewness and kurtosis values only indicated a significantly skewed distribution for the Plains states group.

A one-way ANOVA revealed a significant effect of geographic region on Autonomy: $F_{\text{Welch}}(7, 127.41) = 2.20$, $p = .039$, accounting for 1.8% of the total variance ($\omega^2 = 0.018$). However, post hoc comparisons using the Games-Howell procedure identified no significant differences between groups. These contradictory results may be attributable to the post hoc tests' control of the familywise error rate (Field, 2018). To further explore the relationship of geographic region and Autonomy, a Kruskal-Wallis test was completed. The results of this test contradicted the results of the Welch's ANOVA: $H(7) = 13.94$, $p = .052$, $\eta^2_{\text{H}} = .015$. Pairwise comparison of groups based on the nonparametric test also failed to identify any significant differences in means on the Autonomy measure between any groups when using the Bonferroni adjusted significance values. The contradictory results between the ANOVA and the Kruskal-Wallis may be due to issues stemming from nonnormality affecting the ANOVA. However, the pairwise comparison yielded no significant differences, suggesting that, in fact, a person's geographic region had no statistically discernable effect on their sense of autonomy.

Education Level

Highest level of educational achievement was also investigated for having a significant effect on Well-Being and Autonomy scores. Using educational level as the independent variable, the data were inspected to ensure they conform to the assumptions for performing an ANOVA. The data demonstrated homogeneity of variance, as the Levene statistic was not significant (p = .565). Regarding normality of distribution for each group, Shapiro-Wilk tests suggested that the group composed of those whose highest level of education is attainment of a bachelor's degree ($p < .001$) and the group of those who earned a graduate or professional degree (p = .033) had nonnormal distributions of Well-Being scores. Analysis of skewness and kurtosis suggested that these two groups have nonnormal distributions. Inspection of the Q–Q plots and histograms also indicated that these two groups have negatively skewed distributions and that the group of those participants who completed some college had a mildly platykurtic distribution.

A one-way ANOVA using the Welch statistic revealed a significant effect of education level on Well-Being: $F_{Welch}(6, 14.34) = 4.50$, p = .009, accounting for 4.3% of the total variance (ω^2 = .043). Post hoc comparisons using the Games-Howell procedure revealed no significant differences in group means, perhaps due to this procedure's conservative nature in controlling the familywise error rate. Post hoc comparisons using the Hochberg GT2 procedure, however, identified significant differences between those with some high school education (no high school diploma or equivalent) and all other education levels: between those with some high school education (no high school diploma or equivalent) and those with an Associate's degree (mean difference = –4.69, p = .009, 95% CI [–8.70, –0.68]); and those with a Bachelor degree (mean difference = –4.49, p = .012, 95% CI [–8.45, –0.53]; and those with a graduate/professional degree (mean difference = –4.54, p = .012, 95% CI [–8.54, –0.54]); and those with a high school

diploma or equivalent (mean difference = –4.13, p = .037, 95% CI [–8.14, –0.12]); and those with some college (mean difference = –4.13, p = .034, 95% CI [–8.11, –0.16]); and those with have completed some graduate coursework (mean difference = –4.51, p = .027, 95% CI [–8.77, –0.26]). A Kruskal-Wallis test was completed for comparison with the results of the ANOVA and the post hoc pairwise comparisons. Results of this test identified no significant difference in the means between groups: $H(6) = 11.23$, p = .082, η^2_H = .011. The adjusted significance levels using the Bonferroni correction were all nonsignificant, indicating no statistically significant difference in the means between groups based on education. In other words, it may be the case that education had a significant effect on Well-Being, namely that completing high school or obtaining an equivalent level of education was important for a person's well-being. At the same time, caution in interpreting these results is warranted given the small sample size of the group without a high school diploma or equivalent (n = 2) and the contradictory results of the post-hoc comparison procedures.

The distributions of Autonomy scores for each group were evaluated prior to conduction an analysis of variance. Shapiro-Wilk tests indicated a potentially nonnormal distribution for the group of participants whose highest level of education is a high school diploma or equivalent (p = .039). Evaluation of the Q–Q plots and histograms of each group suggested that the distribution of scores for the group of participants whose highest education level is an Associate degree and those whose highest educational level is high school diploma or equivalent had mild positive skews. The group of people whose highest education level is a high school diploma or equivalent also appeared leptokurtic. Review of skewness and kurtosis values confirmed a nonnormal distribution for the group of participants whose highest educational level is a high

school diploma or equivalent. The skewness and kurtosis values for the other groups' distributions of scores were within acceptable limits for assuming normality.

A one-way ANOVA comparing the highest educational level and Autonomy scores revealed no significant differences in means between groups: $F_{Welch}(6, 14.21) = 1.18$, $p = .370$, $\omega^2 = .002$). A Kruskal-Wallis nonparametric test was conducted for comparison and confirmed the results of the Welch's F test: $H(6) = 7.91$, $p = .245$, $\eta^2_H = .004$. Pairwise comparisons using the Bonferroni correction following the Kruskal-Wallis test suggested no statistically significant differences in means between groups. In this analysis, the results suggested that education did not have a statistically meaningful relationship with a person's sense of autonomy.

Relationship Status

Current relationship status was also examined for a possible effect on well-being and autonomy. Participants were permitted to select more than one relationship status. Nevertheless, participants were subsequently grouped into independent groups. Assessment of participants' selection of mutually exclusive options (i.e., "single, never married" and "with a significant other or domestic partner") led to categorizing participants into the group characterized by being in a relationship. Using relationship status as the independent variable, the data were inspected to ensure they met required assumptions of ANOVA. The results of Shapiro-Wilk tests identified nonnormal distributions in the group of participants who are divorced or separated ($p = .044$) and in the group of participants who are married ($p = .001$). Inspection of the skewness and kurtosis values suggested a negative skew in the distribution of scores for the group of participants who are married and a platykurtic distribution in the scores of those who are divorced or separated. The Q–Q plots and histograms also suggested nonnormal distributions for these groups and for

the group of participants who are partnered. Levene's test for homogeneity indicated that the variances of the groups are heterogenous ($p = .004$).

A one-way ANOVA using Welch's F test revealed a significant effect of relationship status on Well-Being scores: $F_{Welch}(5, 21.11) = 12.24$, $p < .001$, $\omega^2 = .108$. The estimated effect size indicated that this characteristic accounts for 10.8% of the total variance. Post hoc comparisons using the Games-Howell procedure identified that those who identified as divorced or separated had significantly lower scores those who are widowed (mean difference = –1.81, $p = .049$, 95% CI [–4.08, .46]). Post hoc comparisons also identified that the group of people who are single have significantly lower Well-Being scores than: those who are married (mean difference = –1.39, $p < 0001$, 95% CI [–1.93, –0.86]); those who partnered (mean difference = –0.85, $p = .003$, 95% CI [–1.50, –0.19]; and people who are widowed (mean difference = –2.35, $p = .011$, 95% CI, [–4.05, –0.65]. In other words, these results indicated that single people had lower levels of well-being than those who are married, partnered, or widowed. Additionally, widowers had significantly higher well-being than people who have experienced a divorce.

Due to the issues with nonnormal distributions among groups, heterogeneity of variance, and unequal sample sizes, a nonparametric test was conducted for comparison. The results of the Kruskal-Wallis test confirmed the significance found in Welch's ANOVA: $H(5) = 54.11$, $p < .001$, $\eta_H^2 = .107$. Pairwise comparisons using the Bonferroni corrected adjusted significance values identified significant differences in means between the group of people who are single and those who are partnered ($p_{adj} = .040$), between the people who are single and those who are married ($p_{adj} < .001$), and between the people who are single and people who are widowed ($p_{adj} = .025$). All other pairwise comparison significance values adjusted using the Bonferroni correction were not significant. In this analysis, some of the results from the ANOVA were

confirmed: single people had significantly lower Well-Being scores than those who are married, partnered, or widowed. However, no difference was detected between people who are widowed and those who experienced divorce in this analysis. In other words, single people evinced less well-being than those in a committed relationship.

Autonomy scores for each group were inspected for normality and homogeneity of variance. Results from Shapiro-Wilk tests suggested that the group of people who are divorced or separated had a nonnormal distribution of Autonomy scores ($p = .047$). Inspection of the histograms and Q–Q plots indicated skewed distributions for those who are divorced or separated, and those who are partnered. A review of the skewness and kurtosis values suggested that the group of people who are divorced or separated have a positively skewed distribution. They also highlighted mild positively skewed distributions for the group of people who are partnered, those who are single, and those who are partnered after a divorce. Homogeneity of variance was established through Levene's test ($p = .872$)

A one-way ANOVA revealed no significant effect of relationship status on Autonomy: $F_{Welch}(5, 20.41) = 2.37$, $p = .075$, $\omega^2 = .015$. A Kruskal-Wallis test was performed for comparative purposes. Results from this test identified a significant effect of relationship status on Autonomy: $H(5) = 12.63$, $p = .027$, $\eta^2_H = .017$. Adjusted significance values of the pairwise comparisons following this test identified no significant differences in means between groups. In other words, relationship status did not have a significant effect on a person's sense of autonomy, although the significant nonparametric test result suggests further study is warranted.

Living Situation

A person's living situation was also examined for its potential effect on Well-Being scores. Although participants were able to select more than one option in response to this

demographic question, participants who selected more than one option were grouped into exclusive categories. The method of grouping involved categorizing participants into the group that, by definition, involves more people in their immediate environment. For instance, a participant who indicated that they both live with their partner or spouse and their parents, siblings, or in a multigenerational household would be grouped with other participants who indicated that they live with their parents, siblings, or in a multigenerational household. Participants who selected mutually exclusive options were categorized into the more encompassing group (e.g., a person who indicated they both live alone and in a dormitory would be categorized as living in a dormitory). The only exception to these general categorization rules involved those participants who identified as being "unhoused, not currently living in stable housing" and another living situation option. These participants were grouped with other participants who selected "unhoused, not currently living in stable housing" to ensure proper accounting of the instability in their living situation, as this likely affects their well-being and sense of autonomy.

Evaluation of the data revealed that some groups displayed nonnormal distributions of Well-Being scores. Shapiro-Wilk tests suggested nonnormal distributions for the group of people who live with their partner or spouse and their children ($p = .045$) and for the group of people who live with their partner or spouse ($p = .005$). Inspection of the histograms and Q–Q plots confirmed a negative skew for these groups, as do their respective skewness values. Evaluation of kurtosis also suggested that the distribution for the group of participants who live with their parents, siblings, or in a multigenerational household is platykurtic. The results of a Levene's test indicated heterogeneity of variance was also present among these groups ($p = .028$).

A one-way ANOVA revealed that a participant's living situation had a significant effect on Well-Being: $F_{Welch}(7, 28.22) = 29.86$, $p < .001$, $\omega^2 = .301$. This effect accounted for 30.1% of the variance. Using the Games-Howell procedure, post hoc comparisons identified several statistically significant differences between group means. Those who reported being homeless, unhoused, or lacking stable housing had significantly different means compared to all other groups: those who live alone (mean difference = –2.94, $p < .001$, 95% CI [–4.32, –1.56]); those who live in a dormitory (mean difference = –4.19, $p = .002$, 95% CI [–6.39. –1.98]); those who live with their parents, siblings, or in a multigenerational household (mean difference = –2.56, $p = .004$, 95% CI [–3.98, –1.13]); those who live with their children (mean difference = –3.90, $p < .001$, 95% CI [–6.20, –1.59]); those who live with their partner or spouse and their children (mean difference = –3.99, $p < .001$, 95% CI [–5.40, –2.52]); those who live with their partner or spouse (mean difference = –3.88, $p = .002$, 95% CI [–5.45, –2.31]); and those who live with roommates (mean difference = –3.12, $p < .001$, 95% CI [–4.51, –1.73]). Significant differences in means between groups were also detected with those who live alone having lower Well-Being scores than those who live with their partner or spouse and their children (mean difference = –1.05, $p = .004$ C. I. = [–1.89, –.21]) and those who live with their partner or spouse (mean difference = –.94, $p = .009$ C. I. = [–1.74, –0.15]). Those who live with their parents, siblings, or in a multigenerational home also had a significantly lower Well-Being scores than those who live with their partner or spouse (mean difference = –1.33, $p < .001$, 95% CI [–2.04, –0.62]) and those who live with their partner or spouse and their children (mean difference = –1.43, $p < .001$, 95% CI [–2.20, –0.67]). These results suggested that people who reported being unhoused or lacking in stable housing had significantly lower levels of well-being than all other groups. The results also demonstrated that those who live alone also have significantly lower levels of

well-being than those who live with a partner or spouse or who live with a partner or spouse and their children. Similarly, those who live with their parents, siblings, or in a multigenerational household had lower levels of well-being than those who live with their partner or spouse and those who live with their partner or spouse and children. In effect, being unhoused or lacking in stable housing resulted in the lowest well-being scores, while living with one's partner or with one's partner and children was associated with higher well-being.

A Kruskal-Wallis test was performed for comparative purposes given the violation of assumptions required for ANOVA. Results from this test corroborated those from the ANOVA: $H(7) = 54.18$, $p < .001$, $\eta^2_H = .103$. Pairwise comparisons also corroborated the results obtained through the Games-Howell procedure. The mean of the Well-Being scores for the group of participants who are homeless, unhoused, or lacking in stable housing were significantly different from the group of participants who live with their partner or spouse ($p_{adj} = .046$) and the group of people who live with their partner or spouse and their children ($p_{adj} = .036$). Those who live with their parents, siblings, or in a multigenerational household had significantly different means of Well-Being scores from those who live with their partner or spouse ($p_{adj} < .001$) and from those who live with their partner or spouse and their children ($p_{adj} < .001$). Those who live alone have significantly different means of Well-Being scores from those who live with their partner or spouse ($p_{adj} = .012$) and from those who live with their partner or spouse and their children ($p_{adj} = .006$). These results indicate that stable housing is related to well-being, although not to the same extent as suggested by the ANOVA. Like the results of the ANOVA, however, these results highlighted that those who live with their partner or with their partner and children have higher levels of well-being than those who live with their parents, siblings, or in a multigenerational household and those who live alone. In both cases, it may also be the case that

living situation is an artifact of a person's relationship status, that is, people who are partnered tend to live with their partners. As a result, the significance of living situations, in some cases, may not be due to the living situation itself, but rather the confluence of other factors, particularly relationship status.

Regarding autonomy, the distributions of Autonomy scores were evaluated for the assumptions necessary for ANOVA. Shapiro-Wilk test results suggested that each group's distribution was roughly normal. Inspection of the histograms and Q–Q plots confirmed that the groups all have roughly normal distributions of scores. Homogeneity of variance for all groups was also confirmed using Levene's test (p = .139).

A one-way ANOVA revealed a significant effect of living situation on Autonomy scores: $F_{\text{Welch}}(7, 26.23) = 3.16$, p = .015, $\omega^2 = 0.031$, accounting for 3.1% of the total variance. Post hoc comparisons using the Games-Howell procedure identified significant differences between groups. The group of those who live with their children had significantly higher Autonomy scores than the group of participants who live with roommates (mean difference = 0.37, p =.029, 95% CI [0.03, 0.71]). The group of those who live with their partner or spouse also had higher Autonomy scores than those who live with roommates (mean difference = 0.25, p = .040, 95% CI [0.01, 0.49]). All other comparisons were nonsignificant. From these results, it appears that those who live with roommates had lower levels of autonomy than those who live with their children (without a partner or spouse) and those who live with their partner.

A Kruskal-Wallis test was performed for the purpose of comparison with the results of the ANOVA. Results from the Kruskal-Wallis test indicated a significant effect of living situation on Autonomy: $H(7) = 19.97$, p = .006, $\eta^2_{\text{H}} = .028$, accounting for 2.8% of the total variance. Pairwise comparisons using the Bonferroni correction, however, identified no

statistically significant difference in means between groups. In this case, the results suggested that living situation influences autonomy although further exploration is necessary to assess which living situation is most advantageous or deleterious to one's autonomy. Furthermore, the caveat attached to the results of Well-Being scores applies to these results as well—living situation may in fact be a stand-in for relationship status and so is not necessarily a predictor of autonomy.

Employment Status

I also explored the impact of employment status on well-being and autonomy. Participants were permitted to select more than one option in response to this demographic item. In preparing the data, participants were organized into exclusive categories with some categories serving as categories of last refuge. For instance, the unemployed category contains only those participants who only selected "unemployed." If a participant, for example, identified as a homemaker or stay-at-home parent and unemployed, they were grouped with others who selected homemaker or stay-at-home parent. On the other hand, the employed category includes all participants who indicated they work part-time or full-time, regardless of other selections they made (e.g., participants who indicated they are a student and work part-time were grouped in the "employed" category).

Prior to analysis, the data were inspected to ensure normality and homogeneity of variance. Regarding the group distributions of Well-Being scores, Shapiro-Wilk tests indicated nonnormal distributions for the group of participants who are employed ($p < .001$) and those who are homemakers ($p = .003$). Inspection of the histograms and Q–Q plots revealed negatively skewed distributions for the group of participants who are employed group and the group of participants who identified as homemakers or stay-at-home parents. Skewness values indicated

that the distributions of these groups were negatively skewed. The distribution of the group of people who are employed was also mildly platykurtic. Levene's test of homogeneity of variance suggested that the variances of the groups' scores are heterogenous (p = .043).

A one-way ANOVA indicated that employment status had a significant effect on Well-Being scores: $F_{Welch}(5, 47.18) = 4.50$, p = .002, accounting for 3.6% of the total variance (ω^2 = .036). Post hoc comparisons using the Games-Howell procedure identified that those participants who are employed had higher Well-Being scores those who are unemployed (mean difference = 1.34, p = .005, 95% CI [0.31, 2.38]). The results identified that the group who are homemakers or stay-at-home parents also had higher scores of Well-Being than the group of those who are unemployed (mean difference = 1.74, p = .017, 95% CI [.21, 3.27]). The group of participants who are retired also had higher Well-Being scores than the group of people who are unemployed (mean difference = 1.63, p = .009, 95% CI [.29, 2.97]).

A Kruskal-Wallis test was performed for comparison. Results of this nonparametric test suggested that there was a statistically significant effect of employment status on Well-Being scores: $H(5) = 24.09$, $p < .001$, η^2_H = .042. According to effect size calculations based on this result, employment status accounted for about 4.2% of the total variance in Well-Being scores. Pairwise comparisons identified significant differences in means between those who are employed and those who are unemployed (p_{adj} = .002) and between those who are homemakers or stay-at-home parents and those who are unemployed (p_{adj} = .002). In both the AVOVA and the Kruskal-Wallis tests, the results identified that those who are unemployed had significantly lower levels of well-being than those who are employed at least part-time and those who identified as homemakers or stay-at-home parents. The ANOVA also suggested that those who are unemployed also had lower levels of well-being than those who are retired.

Regarding participants' sense of autonomy, the distributions of Autonomy scores was evaluated to ensure they met the assumptions necessary for ANOVA. Shapiro-Wilk test results identified a potentially nonnormal distribution for the group of people who identified as disabled (p = .021). Inspection of the histograms and Q–Q plots confirmed that the group of people who identified as disabled was a nonnormal distribution. These inspections also suggested that the distributions of Autonomy scores for the group of people who are retired and for the group of students were leptokurtic, although their respective z-scores were within acceptable limits. Homogeneity of variance for all groups was confirmed using Levene's test (p = .073).

A one-way ANOVA revealed that employment status had a statistically significant effect on Autonomy scores: $F_{\text{Welch}}(5, 47.26) = 2.76$, p = .026, ω^2 = .019. This effect accounted for 1.9% of the total variance of Autonomy scores. Using the Games-Howell procedure, post hoc comparisons were performed. The results of these tests identified that the group of students had lower Autonomy scores than the group of people who are employed (mean difference = –0.22, p = .041, 95% CI [–0.44, –0.01]) and the group of people who are retired (mean difference = –0.37, p = .016, 95% CI [–0.69, –0.05]). A Kruskal-Wallis test, however, suggested that the null hypothesis be retained: $H(5) = 10.22$, p = .069, η^2_H = .011. In other words, a significant effect of employment on Autonomy was not detected using this nonparametric test. These results suggested that students had lower levels of autonomy than both those who are employed and retired. However, the discrepancy between the results of ANOVA and those of the Kruskal-Wallis test urge caution in interpreting these results.

Income

Participants' annual income was also considered for its potential effects on well-being and autonomy. Participants were asked to provide their income in increments of $1,000, resulting

in an interval scale. The relationship between Well-Being scores, Autonomy scores, and income was assessed using Pearson's product-moment correlation and nonparametric correlation measures (see Table 4.20).

Table 4.20

Correlations between Income, Well-Being, and Autonomy

		Well-Being	Autonomy
Income	Pearson Correlation	.21**	0.03
	Sig. (2-tailed)	< .001	0.474
	Kendall's Tau	.18**	0.05
	Sig. (2-tailed)	< .001	0.094
	Spearman's Rho	.26**	0.08
	Sig. (2-tailed)	< .001	0.084
	N	465	465

** Correlation is significant at the 0.01 level (2-tailed).

Income had a positive correlation with Well-Being scores: $r(465) = .21$, $p < .001$, 95% CI [.12, .29]. Income accounted for 4.3% of the variance in Well-Being scores ($r^2 = .043$). On the other hand, income and scores on the measure of Autonomy were not significantly related: $r(465) = .033$, $p = .474$, 95% CI [–.058, .124]. While these data suggested that those who had higher income experience higher levels of well-being, the identified association may be reflective of the well-being a person experiences because of being employed or another closely linked factor.

CHAPTER V: DISCUSSION

Positive psychology, as a discipline within psychological research and practice, endeavors to better understand human flourishing and well-being and to shift clinical discussions away from symptom reduction to conversations about more meaningful living (Boniwell & Tunariu, 2019). Within this conversation, theorists and researchers have revisited long-asked questions about human happiness with lenses of psychological theory and rigorous research. One such theory of well-being is Seligman's well-being theory that posits at least five factors that contribute to and constitute well-being: positive emotions (P), engagement (E), positive relationships (R), meaning (M), and accomplishment (A; Seligman, 2011). Together, these constitute PERMA and provide guideposts for clinicians and the public to concretize the ingredients of well-being and to enact changes in life to promote flourishing. While researchers have identified other factors that, like PERMA, are sought "for their own sake" and contribute to well-being, positive psychology research has not fully explored the role of freedom, or an individual's sense of being free, as one of these contributing factors (Seligman, 2011, p. 19).

Freedom, however, is difficult to define and operationalize (May, 1999). Existentialist thinkers, such as Rollo May, have conceptualized the construct in light of Western philosophical developments in the 19th and 20th centuries and their own clinical encounters. According to May, essential freedom is "an inner state" that gives a person "the experience of autonomy, identity, the capacity to use the pronoun 'I' with its full range of meaning" (May, 1999, p. 57). Hanna's model of freedom and its potential as a transtheoretical clinical model, furthermore, suggests freedom's salience in clinical encounters and for further empirical elaboration to better understand its importance and role in life and well-being (Hanna, 2011). In light of freedom's importance as a clinical construct, self-determination theory provides a useful conceptualization

of freedom, termed “autonomy,” that has been both operationalized and explored as a basic psychological need in motivation theory and research (Ryan & Deci, 2002). In the milieu of self-determination theory, autonomy involves an “integrated sense of self through choice, agency, and volition,” paralleling essential freedom as described by May (Wehmeyer et al., 2021, p. 474).

In this project, I aimed to clarify the relationship between freedom and well-being, as conceptualized by the existentialist thinkers and within positive psychology. In doing so, I hoped to suggest that freedom is, in fact, a facet of eudaimonic well-being and therefore stands alongside those factors of overall well-being delineated by Seligman and expanded upon by others. I also hoped to show that measures of overall well-being, such as the PERMA Profiler, that seek to capture both hedonistic and eudaimonic elements should include freedom. A final goal of this project was to identify any potential differences in Autonomy and Well-Being scores due to demographic factors or socioeconomic characteristics. Through these analyses, I sought to illuminate the role of identity and sociocultural contexts as a starting point for further discussions around flourishing, promoting well-being, and developing increased autonomy in clinical contexts. While the results of this project broadly supported my initial hypotheses, I encountered some significant surprises and discoveries along the way.

Research Question One: Making Connections

My initial research question and hypothesis concerned the existence of a relationship between well-being and freedom. Based on previous literature, especially the theories and studies related to eudaimonic well-being, I hypothesized that the data I collected would suggest a significant correlation between well-being and freedom. Through use of the PERMA Profiler and the Index of Autonomous Functioning, the results of this project indeed suggested that the

PERMA factors of interest and the factors of Autonomy captured by the IAF are correlated, although some correlations are not statistically significant. Of the IAF factors, the Authorship/Self-Congruence factor had the highest average shared variance with the PERMA factors, with Pearson correlation coefficients ranging from .54 to .63. The Interest-Taking factor, on the other hand, had the lowest average shared variance with the PERMA factors; Pearson correlation coefficients for this item ranged from .09 to .25. Moreover, the results demonstrated that overall Well-Being, as captured by the average of the PERMA items and the single happiness item of the PERMA Profiler, and Autonomy, as a proxy for essential freedom and measured by the average of all items of the IAF, are moderately correlated with about 33% shared variance: $r(465) = .57$, $p < .001$. This moderate correlation suggests that these measures capture a common factor, which I hypothesized to be well-being in line with the theories describes in the literature review. For example, Ryff hypothesized and demonstrated in their work on eudaimonic well-being that autonomy, or the sense of self-determination and having an internal locus of control, was a salient factor of psychological well-being (Ryff, 1989a, 2014). Similarly, other eudaimonic or objective-list theories of well-being emphasize the role of autonomy in a person's sense of well-being (e.g., Huta & Waterman, 2014).

Research Question Two: Developing a Measurement Model

To build upon this identified relationship, research question two concerned whether freedom should be considered a constituent factor of well-being; I explored whether freedom should be included in measures of overall well-being. In addressing this question, I hypothesized that the data would demonstrate communality between freedom and the elements Seligman identified as reflective of well-being. In demonstrating such communality, I would then be able to posit a hypothetical measure of well-being composed of the PERMA elements from

Seligman's well-being theory and the Autonomy measure developed within self-determination theory. To explore this relationship and to test such a measurement model, I conducted confirmatory factor analysis of a hypothesized higher-order factor model. In analyzing this relationship, however, the results suggested that a measure of well-being that includes freedom (operationalized as Autonomy from SDT) requires additional development beyond the scope of this project. The hypothesized model produced fit values reflective of a poor fit between the model-implied polychoric correlation matrix and the population correlation matrix, displayed in Table 5.1. In other words, the data did not fully support the hypothesized model as specified.

Table 5.1

Fit Indices of the Hypothesized and Exploratory Models

Model	χ^2	*df*	χ^2 / *df*	SRMR	RMSEA	CFI	TFI
Hypothesized Model	2347.84***	396	5.929	0.096	0.086	0.877	0.864
Model A	1796.29***	316	5.684	0.095	0.080*	0.905*	0.895
Model B	748.23***	202	3.704*	0.055**	0.081	0.923*	0.912*
Model C	447.18***	114	3.923*	0.036**	0.076*	0.957**	0.949*

Note. SRMR = standardized root mean square residual; RMSEA = root mean square error of approximation; CFI = comparative fit index; TFI = Tucker-Lewis index.
*Acceptable Fit.
**Good Fit.
***$p < .001$. For CFA, nonsignificant p values indicate good fit as they suggest $S = \Sigma$.

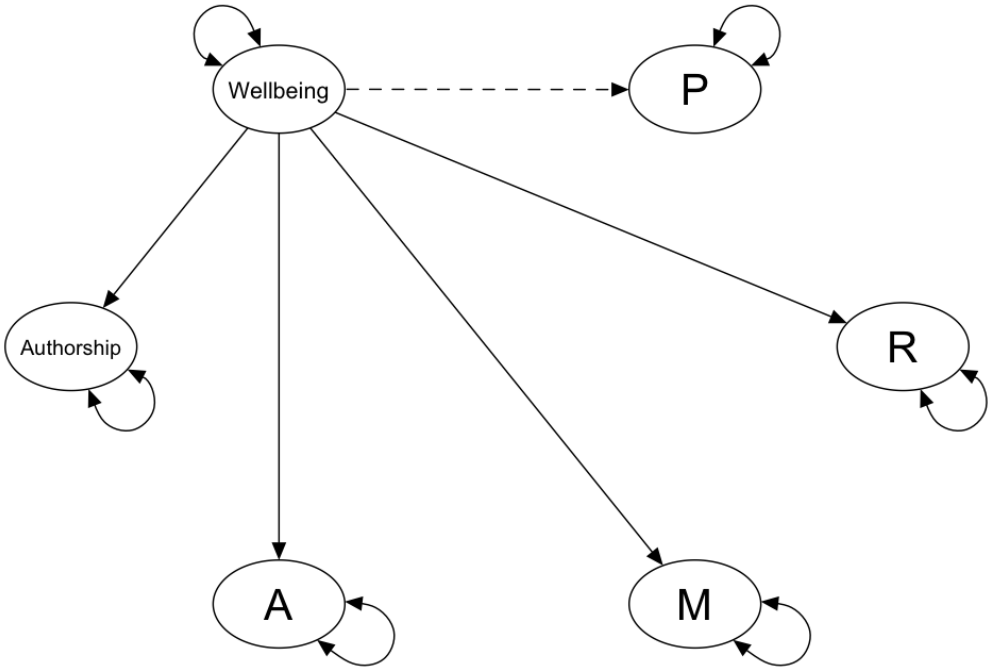
Nevertheless, the results of this confirmatory factor analysis provided a valuable starting point for modifying the hypothesized model structure in search of an acceptable measurement model that reflects the relationship hypothesized between freedom and well-being. Through inspection of modification indices, parameter estimates, and standardized residuals, a final exploratory model emerged that achieved an acceptable, or reasonable approximate, fit to the population correlation matrix based on the fit indices (see Table 5.1). The modification indices

and standardizes residuals of this model, however, indicated that further respecification of the model remains necessary to better reflect the population more parsimoniously and accurately. This resultant model also requires cross-validation in future studies, since substantive modifications to the original hypothesized model can result in a final model that is overfitted to the data (Hair & Black et al., 2019; Whittaker & Schumacker, 2022).

This final model, displayed in Figure 5.1, excludes the Engagement scale of the PERMA Profiler and two of the identified factors of Autonomy in the IAF, namely the scales of Susceptibility to Control and Interest-Taking. As described in Chapter IV, omission of these factors and reliance on Authorship/Self-Congruence as the sole reflection of autonomy are theoretically justified based on the extant literature about the quality of the Engagement scale and the existentialist definition of essential freedom. Nevertheless, such dramatic modifications to the model and revisions to the underlying conceptualization of well-being and freedom adopted by this project were a surprising development.

Figure 5.1

Exploratory Model C Path Diagram



Problems with the Engagement Factor

The elimination of Engagement as a factor was the result of the data demonstrating relatively low factor loadings of its constituent items and its low internal reliability (Cronbach's $\alpha = .62$). While previous research has also demonstrated that Engagement is the least robust factor of the PERMA Profiler and well-being theory, these studies did not go so far as to suggest that Engagement be omitted from measure of well-being (Bartholomaeus et al., 2020; Butler & Kern, 2016). Theoretically, it is possible that this factor's relative lack of robustness is tied to the vagueness of the construct itself. In including it as one of the factors of well-being, Seligman emphasized how engagement is sought for its own sake by individuals and lends itself to feelings of positivity, use of one's strengths, and also a sense of mastery (Seligman, 2011).

Czikszentmihalyi's work on engagement found in positive states of flow, offers additional evidence (Csikszentmihalyi et al., 2014).

Nevertheless, the definition of flow and engagement do not lend themselves to clear operationalization. For example, Czikszentmihalyi characterized flow as a state of attention in which "we experience it as a unified flowing from one moment to the next … and in which there is little distinction between self and environment; between stimulus and response; or between past, present, and future" (Csikszentmihalyi, 2014, p. 137). Measuring such a subjective experience is inherently difficult.

In attempting to operationalize engagement and to capture this flow experience, the authors of the PERMA Profiler used the items: "How often do you become absorbed in what you are doing?"; "How often do you lose track of time while doing something you enjoy?"; and "In general, to what extent do you feel excited and interested in things?" (Butler & Kern, 2016, p. 14). These items appear to have some face validity for the construct of Engagement or flow, but just as easily could in fact be tapping into constructs such as interest or interest-taking, pleasurable emotions, or even experiences of dissociation. Furthermore, the data from this project suggest that the Engagement items of the PERMA Profiler, while somewhat cohesive, do not demonstrate strong communality, with the average variance extracted (AVE) of just .46. Considering the data and extant issues in capturing the construct, omitting the items and factor of Engagement appeared to be a logical conclusion in developing a measurement model for well-being.

Troubles with the IAF

Additional surprising developments involved the Index of Autonomous Functioning. The factors of Interest-Taking and Susceptibility to Control from the IAF did not reflect the

relationship described by previous research (Weinstein et al., 2012). In this project, these factors were inversely correlated when Susceptibility to Control scores were reverse scored: $r(465) = -.37$, $p < .001$. These data suggested that as an individual's level of self-reflection increases, so too does their self-consciousness and concern about others' perceptions of them.

Such a relationship encountered in this project's data diverges from the findings reported by the authors of the IAF (Weinstein et al., 2012). There are several possible reasons for this surprise result. In the first place, the authors of the IAF acknowledged that the items of Interest-Taking factor require additional testing and validation to improve its cohesiveness (Weinstein et al., 2012). This is one reason why they recommended calculating an average score of all items of the IAF when considering Autonomy overall. Another possible explanation of this inverted relationship has to do with the way the items of these factors are worded in the IAF. The items of the Susceptibility to Control factor, for example, are worded to be reverse scored. As such, bias or error may be introduced by the measurement itself. Research has demonstrated that measures that include reverse scored or negatively phrased items along with positively worded items can introduce method effects where the covariation among items is not reflective of latent dimensions but is an "an artifact of response styles associated with the wording of the items" (T. A. Brown, 2015, p. 141).

Further, the inverse relationship between these factors may implicate a relationship in which *too much* interest-taking and reflection on one's actions lead to rumination, social anxiety, or hypervigilance regarding social conformity and the need to belong. In this case, people may be too invested in understanding their actions and why they behave as they do as a form of self-consciousness, leading to greater efforts to conform to others' expectations or to avoid feelings of embarrassment or shame as much as possible. Conversely, those individuals who do

not reflect on their actions as much may not experience the same levels of social pressures to conform or to avoid embarrassment. This implicates an additional hypothesis for a future exploration. It is possible, for example, that those who invest effort in understanding themselves and their actions may be more aware of their motivations for their behaviors. In turn, these individuals have a higher level of awareness of how avoiding shame or embarrassment affects and influences their behavior. For some, it is possible that fulfilling the need to belong influences them adversely and results in more conforming behaviors.

The Susceptibility to Control and Interest-Taking subscales also did not load to the higher-order Autonomy factor as expected though the third subscale, Authorship/Self-Congruence, did. The Susceptibility to Control subscale had a factor loading of .34, while the Interest-Taking subscale had a factor loading of .21 in the initial CFA. These data suggested that these factors had a very low shared variance and in fact captured unique causes of variance distinct from the hypothesized Autonomy construct. The low AVE of a composite Autonomy scale (.34) constructed from all the items further suggested that the items of the IAF capture a greater amount of variance related to the first-order factors than they do to a higher-order Autonomy factor. Together with the low internal consistency of the composite Autonomy scale (Cronbach's $\alpha = .70$), these results suggested further refinement of this scale is necessary to accurately operationalize autonomy and its constituent factors as described by self-determination theory.

Autonomy is Authorship

As described by the authors, the IAF was developed to present a theoretically and empirically based measure that captures the facets of autonomy and autonomous behavior described in self-determination theory (Weinstein et al., 2012). To this end, the authors of the

IAF selected and developed the measure as a global assessment of autonomy based on the facets of Authorship/Self-Congruence, Interest-Taking, and Susceptibility to Control. The authors also developed this measure to assess those factors of individual difference that contribute to a person's sense of autonomy and self-directed action across circumstances and environments.

The results of this present project, however, suggested that Interest-Taking and Susceptibility to Control were not reflective of higher-order Autonomy or Well-Being constructs to the same degree as Authorship/Self-Congruence. In other words, these constructs had a very low common variance with each other, with the Authorship/Self-Congruence factor, and with the factors of PERMA. In fact, confirmatory factor analysis of the IAF as delineated by its authors (see Appendix D) resulted in a failure to converge, which may indicate the model is seriously misspecified (T. A. Brown, 2015).

As a result, the ultimate omission of the Interest-Taking and Susceptibility to Control scales of the IAF resulted in the higher-order factor of Autonomy being defined solely by the construct of Authorship/Self-Congruence. As such, the factor of Authorship/Self-Congruence emerged as the sole salient factor from the IAF related to a higher-order Well-Being construct. The factor of Authorship/Self-Congruence was developed to reflect a person's sense of being the "author of behavior," in which they "fully assent to the actions he or she [sic] undertakes" and mirrors authenticity in existential literature (Weinstein et al., 2012, p. 398). This construct is quite closely aligned with Rollo May's conceptualization of the *freedom of being* in which a person is able to reflect and take actions congruent with their full self (May, 1999). Although emerging from different disciplines within psychology and related to different areas of focus, May's essential freedom, the *freedom of being*, and self-determination theory's conceptualizations of autonomy and authorship essentially reflect the same set of attitudes and

dispositions that lead to the experience of authenticity in one's behaviors, relationships, and life (Ryan & Deci, 2004).

While theoretically justified by the aims of this project, redefining autonomy as authorship and self-congruence was nevertheless a surprising development and has some ramifications moving forward. In the first place, the results of confirmatory factor analyses implicated authorship and self-congruence, rather than interest-taking and susceptibility to control, as a manifestation of well-being. A person's well-being was related to their sense of authenticity and acting from their values to a greater extent than being free from internal or external coercion. In other words, a person's sense of well-being is derived less by *freedom from* and their existential *freedom of doing* and more by *freedom to* and a person's essential *freedom of being*, as described by Weiss (1958), Hanna (2011), and May (1999).

The Final Model: PARMA

Due to the issues discovered during analysis with the Engagement, Susceptibility to Control, and Interest-Taking subscales, the final model that emerged from confirmatory factor analysis consisted of the factors of Positive Emotions, Positive Relationships, Meaning, and Accomplishment from the PERMA Profiler and the factor of Authorship/Self-Congruence from the IAF as displayed in Figure 5.1. While the resultant revised model deviated from the initial conceptualization and operationalization of well-being and freedom as described in the literature review, it is a better reflection of the data and broadly supports the original hypotheses about the existence of a relationship between freedom, the factors of PERMA, and well-being as a higher-order factor. This revised model suggests that a measure of overall well-being is perhaps more accurately encapsulated by a PARMA model consisting of Positive Emotions,

Accomplishment, Positive Relationships, Meaning, and Authorship rather than the PERMA model described by Seligman (2011).

At the same time, the modification indices and standardized residuals of this final exploratory model suggested respecification remains necessary to arrive at a satisfactory measurement model for practical purposes and further research into these topics, a task well beyond the scope of this project. Throughout the data analysis process, the items and factors of the PERMA Profiler and the IAF demonstrated less cohesiveness and robustness than the previous literature suggests (Bartholomaeus et al., 2020; Butler & Kern, 2016; Weinstein et al., 2012). Additionally, the high factor loadings of the PERMA Profiler to a higher-order Well-Being factor suggested that these subscales lack discriminant validity (Ab Hamid et al., 2017; Whittaker & Schumacker, 2022). In other words, these subscales reflected more of a common factor, such as well-being, than the constituent constructs the authors of the PERMA Profiler intended for these scales to capture. If each of the PERMA Profiler scales captured the higher-order Well-Being construct and a distinct construct (i.e., positive emotions, engagement, etc.), the estimated error terms should be greater than those derived in this analysis, as higher estimated error terms would reflect the distinctiveness of each constituent construct (Hair & Hult et al., 2021; Whittaker & Schumacker, 2022). While previous research by Bartholomaeus et al. (2020) has demonstrated that the PERMA factors fit both a single higher-order and five-factor models, the results of this study suggested that further refinement of the measure is necessary to increase discriminant validity if the constituent scales are to be used separately.

Research Question Three: Who We Are Affects How We Are

Flowing from the identification of factors that contribute to well-being, research question three concerned other variables or demographic factors that might contribute to well-being or a

person's sense of freedom. The well-being literature has demonstrated the relationship between various demographic factors and well-being (Diener & Ryan, 2009; Ryff et al., 2021). In the context of this project, I hypothesized that relationships between demographic factors and well-being would emerge, given the PERMA Profiler's inclusion of hedonistic and eudaimonic facets of well-being (Butler & Kern, 2016). I also hypothesized that analysis of the data would demonstrate links between demographic factors and freedom. In making these hypotheses, however, I did not intend to confirm or disconfirm any specific findings in the extant literature. Rather, I hoped that exploring such connections would serve as a starting point for further inquiry into the role of identity, socioeconomic status, and sociocultural factors on well-being and freedom or, at the very least, on how we measure these constructs. Due to this motivation, I elected to conduct independent analyses of variance (ANOVA) for each demographic and identity factor rather than a factorial ANOVA or an analysis of covariance or to treat the overall Well-Being and Autonomy scores as interrelated and use a multivariate analysis of variance (MANOVA) or a multivariate analysis of covariance (MANCOVA) procedures. While repeated statistical procedures affect statistical power and increase the likelihood of finding significant results, use of ANOVAs in this exploratory way provides a useful starting point for consideration of these demographic factors and identities on well-being and autonomy (Field, 2018).

The results of these analyses broadly support my hypothesis—*some* demographic factors were significant predictors of Well-Being and Autonomy, accounting for between 1.7% and 30.3% of the variance in scores. Examining the role of demographic factors provides an opportunity to explore the ways in which a person's identity and characteristics interact with their environment to affect their sense of well-being and autonomy. Discussion of those results that were statistically significant also implicate socioeconomic factors and systemic oppression

as possible influences on a person's well-being and sense of freedom, as has been demonstrated in other studies (e.g., Pedrotti et al., 2019). Nevertheless, factors not explored in this project may also affect a person's sense of well-being and autonomy. Physical health status, having an acute or chronic condition or disability, and experiences of trauma or mental health concerns, for instance, may affect a person's sense of well-being and autonomy depending on their experiences and their perceptions of or relationship to these factors and experiences. Further investigation into the relationships between these factors, well-being, and autonomy is warranted.

Who We Are and Who We Love

Results of this study suggested that who we are and who we love contribute to a person's overall sense of well-being. Previous studies have had mixed results regarding the relationship between gender and well-being (Ryff, Boylon, & Kirsch, 2021). This study affirms, to a degree, this result: individuals who identified exclusively as men and those who identified exclusively as women had no significant difference in well-being. In other words, people who identify with the gender binary experience statistically equivalent levels of well-being. On the other hand, the results of this study also clearly align with previous research that suggests that people who identify as transgender, gender nonconforming, or nonbinary have lower levels of well-being than those who identify exclusively with the gender binary (e.g., Tebbe et al., 2019). Regarding overall autonomy, the results also suggested that gender identity is a predictor of Autonomy scores. Individuals who identified exclusively as women had higher levels of autonomy than those who identified exclusively as men or who identified as transgender, gender nonconforming, or nonbinary. Interestingly, members of the TGNC community did not have significantly different levels of autonomy than those who identified as exclusively men.

Remarkably, people who identified exclusively as men had lower scores than women on the Autonomy measure. One hypothesis for this difference implicates the Interest-Taking facet of the IAF. Previous research has suggested that women engage in more behaviors of emotional reliance—the willingness to engage in relationships and interactions where emotional support is given and received (Ryan et al., 2005). As a prerequisite to engaging in such relationships, individuals who identified as women may be more inclined to engage in higher levels self-reflection as captured in higher scores on the Interest-Taking scale of the IAF. People who identified as men may also act in less congruent ways than people who identified as women, thus scoring lower on the facet of Authorship/Self-Congruence and higher on the Susceptibility to Control scale, due to sociocultural pressures on men to behave in traditionally masculine ways. For example, men who engage in careers that have traditionally been populated by women often fear or experience stigma and must engage in various strategies to overcome a sense of mismatch in order to maintain a sense of masculinity (Lupton, 2000). Because of these sociocultural pressures, some men may not behave in self-congruent ways, resulting in lower senses of autonomy as reflected in the IAF.

Who we love also plays a significant role in one's level of well-being. Individuals who identified with at least one nonheterosexual identity had lower levels of well-being than their exclusively straight or heterosexual counterparts. This result aligns with previous research into well-being and nonheterosexual identities (e.g., Riggle et al., 2009). Similarly, people with nonheterosexual identities had lower scores of Autonomy than those who identified exclusively as straight or heterosexual.

Although further analysis into which facets of well-being or autonomy result in the overall lower scores for these populations is beyond the scope of this project, I can make some

hypotheses to explain these results. In the first place, lower Well-Being scores for members of the LGBTQ+ community directly relate to the sociocultural environment of the United States and the marginalization of these identities by the dominant culture. Regarding the facets of PERMA, members of this community may experience microaggressions and heterosexism that affect the number and frequency of positive emotions they experience or that take a toll on one's mental health and relationships, resulting in a sense of isolation. In this way, scores on the Positive Emotions and Positive Relationships scales of the PERMA Profiler may be impacted by their lived experience of heterosexism and even outright assault and violence because of who they are.

Similarly, relative lower scores on the Autonomy measure for people who identify as LGBTQ+ may stem from self-consciousness or hypervigilance in their lives and limits to their potential to live authentically. Personal experiences of homophobia and transphobia and the current debates on gender affirming care and LGBTQ+ rights in United States politics may, for example, intimidate people who identify as LGBTQ+ to remain closeted and to not live authentically. Consequently, I would expect that LGBTQ+ people to generally score lower on the scales of Authorship/Self-Congruence and higher on the Susceptibility to Control scale, which would result in lower overall Autonomy scores. Members of the LGBTQ+ community may be unable to live authentically and demonstrate self-congruence because of the implications that doing so would have on their physical and emotional safety.

These findings and possible explanations for the lower scores of Well-Being and Autonomy among those who identified as LGBTQ+ also speak to the initial hypothesis of this study. Lower Autonomy scores parallel lower Well-Being scores, which may be suggestive of autonomy's broader role on well-being. People who are less able to express themselves

authentically experience lower levels of well-being. An interesting and surprising finding from a previous study may also partially explain this relationship. In that study, researchers discovered that, although authenticity is broadly related to increased well-being, increased self-awareness (such as might be reflected in the Interest-Taking scale of the IAF) in a stigmatizing society leads to lower levels of well-being (Rostosky et al., 2018). As this finding relates to this study, I can hypothesize that members of the LGBTQ+ community experience increased self-awareness but are generally less likely to express this awareness or identity, resulting in lower Authorship/Self-Congruence scores and lower well-being overall.

Better Together (Most of the Time)

Consistent with previous researchers (e.g., Diener & Ryan, 2009), people who are partnered or married had higher levels of well-being than those who are single. Even those who loved and lost, such as in the case of being widowed, experienced higher levels of well-being than people who are single. This finding implicates the importance of positive and trusting relationships in well-being, despite the inevitable ups and downs of partnership. Feeling loved by others and able to turn to them for support contributes to well-being. Such sentiments are generally implicit in a significant relationship such as marriage or partnership. Partnership or marriage may also provide a person with more opportunities for experiencing positive emotions such as joy and gratitude. A further hypothesis for explaining the relationship identified by these data might concern married or partnered peoples sense of meaning. People who are partnered or married may have an increased sense of direction to their lives or that they have an increased sense of purpose because of their sense of responsibility for maintaining significant relationships.

Those who live with their partners or with their partners and their children also had higher levels of well-being than those who lived alone, suggesting that proximity to loved ones

conveys added benefit and bolsters well-being. For example, proximity to loved ones implies increased opportunities for connection, support, and opportunities to experience positive emotions. Interestingly, those who lived with their family of origin or in multigenerational households had lower levels of well-being than those who lived with their partners and those who lived with their partners and children. Such a finding may be due to the stressful circumstances in which adults often find themselves that result in residing with their parents, even if they are also living with their partner. Perhaps people who live with their family of origin experience additional challenges due to caregiving for parents, increased tensions arising from living under someone else's rules, or the reasons why a person might be living with their family of origin as an adult (e.g., financial troubles, job loss, housing instability, mental health challenges, ending of a significant relationship).

Interestingly, the group of people living with their family of origin did not express lower levels of autonomy compared to other groups. People who live with roommates, on the other hand, have lower scores of Autonomy than those who live with their partners or their partners and children. They may face the increased challenge of navigate complex and impermanent living situations and feel less stable. It is notable that people who live with their families of origin, despite having relatively lower well-being, are nevertheless able to express themselves and behave in authentic ways and engage in the same level of self-reflection as other groups.

It is also likely that living situation may in fact be serving as a proxy for other identity or demographic factors that are more directly related to level of well-being. Several demographic factors, in fact, could potentially overlap, complicating efforts to understand how or why certain demographic factors are related to well-being. For example, higher well-being among those who live with their partner may, in fact, be more attributable to their being in a partnership in the first

place. Similarly, lower Well-Being or Autonomy scores among those who live with their families of origin may be due to the circumstances surrounding why they are living with their families.

Another significant finding from this analysis implicates the importance of stable housing on well-being. Perhaps not surprisingly, people who are experiencing homelessness or lack stable housing (such as relying on couch-surfing) had lower Well-Being scores than every other group. Explanations for this relationship readily come to mind. In the first place, experiencing homelessness reduces a person to the bottom of Maslow's hierarchy of needs as expounded upon by Ryff (1989a, 2017) in their studies into psychological well-being. Without a foundation of safety and stability in maintaining one's physical needs, one's ability to move toward self-actualization is hampered. Experiencing homelessness or unstable housing may also be quite traumatic; at the very least, becoming unhoused and surviving the experience of homelessness surely compromises one's sense of well-being. People experiencing homelessness may become distrustful of others, resulting in lower levels of positive relationships and diminished feelings of being loved and valued. Unhoused individuals may also be confronted with the difficulty of living outside, navigating complex social service systems, and attending to their physical survival, all of which contribute to fewer opportunities to experience positive emotions. Experiencing homelessness may also bring with it a sense of meaninglessness, in which a person may not feel that their life has a sense of direction. These are simply some initial hypotheses for understanding the relationship between shelter and well-being. Future exploration of the facets of the PERMA Profiler for people experiencing homelessness would provide additional support to these hypotheses and insight into the extremely challenging lived experience of unhoused individuals.

Working 9 to 5

Employment, or more precisely, unemployment, also emerged as a significant factor that affects well-being. People who reported being unemployed and not engaged in another work-like activity, such as being a student or stay-at-home parent, or who also identified as disabled or retired had lower well-being than others including those who are employed at least part-time, those who are retired, and those who are stay-at-home parents. Lost employment can compromise one's experience of positive relationships, meaning making, and sense of accomplishment. People who lose their jobs experience loss beyond lost income. They lose many of the social connections and perhaps the feeling of purpose or direction they once had (Papa & Maitoza, 2013). Because of these numerous losses, their overall well-being may also suffer. As they grieve these losses, furthermore, they may also experience increased negative emotions and decreased positive emotions, further resulting in the experience of lower well-being.

At the same time, this relationship between unemployment and diminished well-being suggests the corollary: employment and meaningful activities convey a kind of benefit to one's overall well-being. People who are employed, for example, may have larger social spheres and feel valued because of the work they do. They may also experience a sense of accomplishment more regularly because of the tasks they perform and the rewards or accolades they receive as acknowledgment of a job well done. Being economically self-sufficient and having an adequate income likely also contribute to one's well-being. Employment also conveys to many people a sense of meaning and importance. Peoples' senses of self, for example, may often be tied to their employment and the idea that they are contributing to something larger than themselves (Papa & Maitoza, 2013). In these ways, employment and work-like, meaningful activities (such as being a student or a stay-at-home parent) provide individuals with more opportunities to connect with

others and develop a sense of purpose in their life, resulting in higher levels of overall well-being.

Money Might Buy Happiness, But Not Freedom

Notably, the results of this project demonstrated a positive relationship between income and well-being but not autonomy. It is likely that increased income bolsters the capacity to attend to one's physical needs and the opportunity to attend to positive relationships and accomplishment of tasks. Higher income also buffers a person from the consequences of negative life events and the stress that accompanies them (Diener, Lucas, & Oishi, 2018). It may also be the case that higher income provides people with the means to engage in activities that elicit positive emotions, build supportive connections to others, and to direct their energy and attention to meaningful activities outside their work and family lives. Increased income may also reflect a person's sense of accomplishment in their life. Additionally, the relationship demonstrated between income and well-being may also be another positive element of stable employment. Though well-being appears to be increased by economic resources, the nature and causes of the relationship between income and well-being are not yet fully understood by researchers (Diener, Oishi, & Tay, 2018).

And, interestingly, while income and Well-Being scores were positively correlated, the results of this study identified that the relationship between Autonomy and income was not statistically meaningful or significant. In other words, people with more money are not necessarily freer or more autonomous. It is possible that the IAF, focusing on a person's sense of acting authentically with self-reflection and without concern for other's opinions, does not align with the benefits associated with increased income. Additionally, it is also possible that income and Autonomy scores are significantly correlated up to a certain income level—at which point

the relationship stops being statistically significant. At such a point, the law of diminishing returns becomes a reality where more income does not mean more autonomy. Though beyond the scope of this project, the diminishing-returns hypothesis would be straightforward to test.

The Takeaway: Essential Freedom, Authorship, and the Pursuit of Happiness

In beginning this project, I sought to understand the relationship between a person's sense of freedom and well-being using the lenses of existential and positive psychology. The results of this project identified several important takeaways for consideration and future research. In the first place, the PERMA Profiler and the Index of Autonomous Functioning require revisiting and modification to capture their intended constructs more accurately and explicitly. Secondly, the relationship between autonomy and well-being is clear: people who are freer in an existential sense—*freedom of being*—experience higher levels of well-being. Thirdly, a person's identity and positionality, their embeddedness in a particular time, place, and culture, affect their sense of well-being and freedom. And lastly, though perhaps most importantly, clinicians have a responsibility to attend to essential freedom, well-being and flourishing, and a person's identity, culture, and embeddedness in systems in how they conduct treatment planning, case conceptualization, and intervention. These facets provide clinicians with an alternative perspective that seeks to engage in a fundamentally liberatory psychological practice—one that strives to empower individuals and communities in their quest to fulfil their human potential in meaningful ways.

I expected that this project would support the hypothesis that freedom as conceptualized in the existentialist literature is a facet of well-being and worthy of inclusion in well-being measures. The results of this project broadly support this hypothesized relationship. Through statistical analysis, and trial and error, a model of well-being emerged based on the PERMA

model espoused by Seligman yet changed in significant ways. The resultant PARMA model excludes Engagement as a factor and introduces Authorship and Self-Congruence as a factor of Well-Being. This model is sounder based on the factor analyses performed. It is not, however, perfect. Rather, it points a direction for further exploration and increased study.

The PARMA model of well-being, consisting of Positive Emotions, Accomplishment, Positive Relationships, Meaning, and Authorship, nevertheless serves as a useful operationalization of well-being in line with positive and existential psychology as it reflects both hedonistic and eudaimonic understandings of well-being. In fact, the introduction of Authorship/Self-Congruence into the model of overall well-being highlights the importance of eudaimonic elements—the sense of growth toward self-actualization—for a person's level of happiness. While the twists and turns of data analyses rendered an unexpected model, the resultant model and the association between Well-Being and Authorship and Self-Congruence point to the importance of freedom in well-being as I initially hypothesized.

As described by the authors of the Index of Autonomous Functioning, authorship and self-congruence as a facet of autonomy as defined in the SDT literature speaks to the sense that a person is the author of their life and acts in accord with their abiding values and goals (Weinstein et al., 2012). In SDT literature, furthermore, this is fundamental to autonomy and closely aligns with the existentialist understanding of authenticity (Ryan & Deci, 2004). Existentialist thinkers, of course, have different definitions of authenticity. In broad strokes, authenticity refers to operating in one's life in accord with one's values and identity, to continually engage in the process of self-reflection and self-creation (Cleary, 2022). Freedom is a prerequisite for the conditions that foster striving and creating. As Fromm (1941) and May (1999) elaborate, the *freedom to* and *essential freedom*—the *freedom of being*—are intrinsically required for a person

to develop, grow, and become. As May reflects, “To the extent that we are able to live out our destiny, we experience … a conviction that we are becoming what we are meant to become. It is an experience of authenticity … a conviction of genuine freedom” (May, 1999, pp. 167–168). Authenticity and *essential freedom*, in other words, are inseparable. Considering this inextricable connection, it is fair to say that *essential freedom* is a constitutive element of well-being. It serves as the necessary soil for authenticity, authorship, and self-congruence that, in turn, contribute to well-being.

While the results of this project suggest that *essential freedom*, manifesting as authenticity or Authorship/Self-Congruence, is a contributing factor of well-being, they also highlight differences in freedom and well-being based on identity and demographic characteristics. As described above, identities that the dominant group or culture has or continues to marginalize generally experience lower levels of well-being and autonomy than those who identify with the dominant group. Those with an LGBTQ+ identity, for instance, experience lower levels of well-being and autonomy than those whose identities align with the dominant hetero- and cis-normative culture. Nevertheless, cultural expectations associated with gender also affect those who identify as cisgender and straight. Cisgender men, for example, display lower levels of autonomy than ciswomen, despite the dominant culture’s emphasis on men’s independence. These results may suggest that the dominant culture’s narrow definitions of masculinity and masculine behavior limits cismen’s capacity for authenticity, resulting in lower Autonomy scores. In other words, dominant cultural narratives affect *everyone*.

Those who lack stability in their lives, whether related to work, housing, or financial security, and those who seemingly lack a sense of connection to others have lower levels of well-being. Although this project is unable to ascertain causality, two key themes emerge from

these patterns: the importance of love and work on well-being and autonomy. Being in a committed relationship and working results in higher Well-Being scores. In other words, being in relationship and having a sense of purpose and accomplishment—whether provided by those relationships or by work—affects one's appraisal of life and sense of well-being. This thematic appraisal appears, on its face, to echo previous well-being studies that have associated higher well-being with factors such as marriage, employment, and financial stability.

In considering these themes and the disparities in well-being and autonomy highlighted by the results of this project, I am reminded of the four freedoms described by Weiss (1958) and Hanna (2011). Being members of the dominant group, being in relationship, and being employed and financially secure may result in higher well-being and, in some cases, higher levels of autonomy. These factors contribute to their experience of *freedom from* and *freedom to*. Yet the ultimate aim is to arrive at *freedom with* and *freedom for*, freedoms characterized by and imbued with solidary, interconnectedness, and liberatory focus, with the recognition that one's freedom is only meaningful in the context of others' freedom. In this regard, the results of this project show that our society is far from arriving and thriving.

Limitations

The results obtained from this analysis have limitations worth noting. In the first place, the sampling size and method limit the generalizability and validity of these results. A priori sample size estimates determined that 450 participants were necessary to achieve significance and appropriate power in performing a confirmatory factor analysis. Nevertheless, some researchers suggest that a sample size of at least 20 participants per observation is necessary for conducing confirmatory factor analysis (e.g., T. A. Brown, 2015; Hair & Black et al., 2019; Whittaker & Schumacker, 2022). The initial studies behind the PERMA Profiler and IAF, for

example, utilized sample sizes larger than 30,000 and 1,000 participants, respectively (Butler & Kern, 2016; Weinstein et al., 2012). Additionally, examination of demographic factors using one-way analysis of variances were conducted using the gathered 465 observations, resulting in power levels for some of the analyses falling below the recommended .80 threshold as a consequence of inequal group sizes and different effect sizes (Field, 2018).

The sampling method, too, may affect the interpretability and generalizability of the results of this study. Participants were recruited through convenience sampling using an online crowdsourcing platform. While participants represented diverse identities and demographic categories, convenience sampling inevitably means that some bias is present. For instance, certain prerequisites existed for participants to engage in this study like having a computing device with internet access. As a result, the sample population may not faithfully represent the population at large. Additionally, this study relied on self-report measures. Self-report bias, because of social desirability or other reasons, can greatly affect data quality (Althubaiti, 2016). Participants on Prolific make money by moving quickly through questionnaires; it is possible that some lack of honesty or attention to detail when completing the items also affected data quality.

An unforeseen limitation to the interpretability of the results of this study is the quality of the measures used. While previous studies support the structure, validity, and reliability of the measures, my results did not replicate the results from either the PERMA Profiler or the Index of Autonomous Functioning. Indeed, I discovered instead that these scales may require some additional modification to capture the intended constructs more accurately. My interpretation of data needed to proceed more cautiously considering these unexpected developments at the basic level of factor loading. At the very least, however, the results of this study suggest that further

elaboration and investigation, theoretically and empirically, are necessary as positive psychology continues to expand upon the goals of fostering well-being and flourishing as targets of psychological inquiry and intervention.

A final, related, limitation to the interpretability and generalizability of this study resides in the framework of positive psychology that undergirds this project. As described in the literature review, positive psychology has been critiqued for a number of reasons, notably its focus on Western and democratic cultural norms and values (Cabanas, 2018; Qureshi & Evangelidou, 2017). Criticisms also extend to its perceived lack of an underlying metatheory, its overreliance on positivism and empiricism, and the proliferation of poor research methodologies within the discipline (van Zyl et al., 2023).

Indeed, this study suggests that the theories and methodologies behind the PERMA Profiler and the IAF require additional development, considering the issues encountered during the confirmatory factor analyses. Beyond methodological concerns, however, positive psychology's reliance on Western values and its tendency to promote neoliberal ideas about human flourishing and individualism are also important critiques (van Zyl et al., 2023). Meritorious concerns about positive psychology's decontextualization of human happiness and flourishing from socioeconomic and systemic factors remain despite research efforts demonstrating that certain constructs and scales of positive psychology have been shown to be valid and reliable in different cultural contexts. For example, the PERMA Profiler appears to assume that one's basic needs are met—it holds the assumption that we all are higher up on Maslow's pyramid than is so. Seligman's well-being theory and the IAF, furthermore, appear to assume a culture that focuses on the individual as the locus of importance and on happiness and freedom as virtuous goals, failing to account for the ways cultures with different values and loci

of importance understand or value well-being. These measures and findings are imperfect and may not be as applicable to understanding freedom and well-being in collectivist or non-capitalistic cultures. Notably, however, some progress has been made in addressing these critiques and to promote a more culturally competent positive psychology (e.g., Qureshi & Evangelidou, 2017). Indeed, the third wave of positive psychology promises to incorporate greater complexity into the field through increased focus on systems and groups, incorporation of alternative research methodologies, and greater attention to the role of culture (Lomas et al., 2021).

Future Directions for Study

Emerging from the results and limitations of this study, and the critiques of positive psychology generally, several directions for future study emerge. Firstly, the construct of well-being as described in Seligman's well-being theory merits revisiting considering the results of the confirmatory factor analyses performed in this project. Secondly, demographic factors and diverse identities need to be considered and further explored in relation to well-being and autonomy, considering positionality, socioeconomic contests, and embeddedness in systems in both the conceptualization and measurement of well-being and autonomy. And finally, further operationalization of existential freedom—*the freedom of being*—is a worthy focus on inquiry.

As mentioned, one future direction for theoretical and empirical examination involves revisiting the construct of well-being as delineated in Seligman's well-being theory. While Seligman (2018) acknowledges that the PERMA factors themselves do not, in a strict sense, equate with well-being, positive psychology as a discipline has used these factors as proxies for well-being. Indeed the PERMA Profiler contends that the average scores of its constituent scales yield an overall measure of well-being (Butler & Kern, 2016). The present research, however,

invites a revisiting of the PERMA Profiler and its constituent scales to clarify the factor loadings of the individual items and to develop a more accurate measurement model better aligned with its theoretical underpinnings. Exploratory factor analysis or exploratory structural equation modeling (ESEM) of the PERMA Profiler and the IAF, allowing the data to speak before theory, will provide improved models for future research and theoretical insights (Marsh et al., 2014; Schmitt, 2011). Cross-validation of the exploratory measurement model derived from this study, too, will provide important insights by identifying areas of improvement both in theory and in practice.

In line with such revisitation and revision, exploration of demographic factors and cultural contexts in well-being theory and in practice will help to mitigate the neoliberal and Western-centric bias of positive psychology. Such exploration will also provide new insights into well-being and freedom as both motivating factors and ends in themselves. Exploration of the role of demographic factors and cultural contexts in measurement models of well-being through multiple indicators multiple causes (MIMIC) modeling, for example, will also advance well-being theory and produce more robust and sensitive measurement models for assessing well-being in an individual's life (T. A. Brown, 2015). Development of alternative measures and research methods, beyond self-report, will also help elucidate well-being and freedom as topics of psychological inquiry. Incorporation of phenomenological research methods, for example, will assist researchers in understanding well-being and freedom and provide valuable insights for future exploration (van Zyl et al., 2023).

Expansion of the study of freedom, as defined by the existentialists, is also worthwhile. As freedom is notoriously difficult to operationalize, further research and theorizing of freedom and the development of operationalized constructs will advance understanding of this important

topic and its role in people's lived experiences. Development of more robust and cohesive measures is a necessary step. In particular, the results of this project suggest that *essential freedom*, as operationalized by Authorship/Self-Congruence, is a key element of well-being worthy of continued focus.

Clinical Implications

The results of this study also have several implications for clinical practice. In the first place, the results of this confirmatory factor analysis demonstrate the need for ongoing consideration of the psychometrics of testing materials used in the assessment process broadly. Regarding the measures used in this study, the modified measures that emerged during this study provide a basis to use quantitative measurement models to better understand and concretize a client's sense of well-being and their *freedom of being* in clinical contexts. A related clinical implication of this study concerns the salience of essential freedom—*freedom of being*—as a worthwhile focus of intervention in therapy and, as an extension, in community psychology. An additional implication of this project is the clinician's need to emphasize and incorporate the importance of demographic, socioeconomic, and cultural contexts in clinical assessment and intervention, while engaging in the ongoing process of cultivating cultural humility and in the personal and professional development necessary to engage in liberatory psychological practice.

As described in the Future Directions for Study section, the issues with convergence of both measures used in this project suggest that further study is necessary to better operationalize the target constructs. These issues in convergence and operationalization are not limited to these two measures, of course. Clinicians need to be continually abreast of research into the psychometric properties of the measures they use in the assessment process and their applicability to different groups.

Nevertheless, the results of this project suggest that freedom—as defined by authorship and self-congruence—should become a focus of clinical intervention for assisting clients in ameliorating their distress and promoting increased flourishing. Use of a measure of essential freedom, such as that proposed in this project, can assist clinicians in assessing client's status regarding freedom in their lives and provide valuable information about their sense of self-efficacy for change—the inherent goal of all clinical intervention. Focusing on freedom as a salient consideration of all clinical work dovetails with Hanna's (2011) nascent metatheoretical framework. This framework permits clinicians to both conceptualize their work in relation to freedom and to develop interventions to increase clients' sense of autonomy, authenticity and authorship, and essential freedom throughout the therapy process. Developing interventions to bolster these constructs in client's lives across different theoretical models is a valuable pursuit. Therapeutic conversations focusing on freedom, authenticity, and existential concerns—with an eye to cultural, sociopolitical, and socioeconomic contexts—may also provide additional avenues of exploration and shift perspectives from pathology to fuller living. Such conversations may also promote positive psychology and therapy as liberatory and social justice activities (Comas-Díaz, 2020; Hanna et al., 2000).

Practically speaking, assessment of a person's sense of essential freedom may be a worthwhile effort in better understanding a person's motivation to change when conceptualizing a clinical case or designing interventions (O'Connor et al., 1997). Such assessment may also reveal ways in which a person feels a lack of congruence between themselves, their values, and their behaviors that may be contributing to or manifesting as psychopathology. Attention to a person's sense of essential freedom and well-being using a validated measurement model can

also serve as outcome measures to evaluate the effectiveness of treatment and to identify areas for further intervention.

In sessions, positive psychology interventions broadly aim to increase a person's sense of well-being as a method for addressing psychopathology (Parks & Titova, 2016). Indeed, some manualized treatment protocols have been developed with this aim (e.g., positive psychotherapy and well being therapy; see Fava, 2016; Rashid & Howes, 2016). While these protocols' focus is to increase well-being, some of the activities and principles of these approaches align with increasing autonomy and essential freedom. For instance, clinicians can explore personal strengths with clients in the therapy and assessment processes. This exploration serves to challenge negative self-concepts related to different psychopathology profiles and can assist them in developing a vision of themselves as capable and self-efficacious. Such a shift in self-concept bolsters their capacity for acting with a sense of authorship over their lives. Conversations exploring client values, too, serve to assist clients to understand themselves, what is important to them, and to act in greater accordance with their values. In this way, clinicians can assist clients in increasing their sense of self-congruence between their values, identities, and actions. Focusing on strengths and values in clinical settings are just two examples of ways for a clinician to help a client bolster their sense of self-congruence and authorship, the element implicated by this study as necessary for well-being and the *freedom of being.*

Engaging in conversations about strengths and values, necessarily, involves attunement to the individual's positionality and identity. This project emphasizes the role of these factors in well-being and autonomy. It also emphasizes the importance of self-congruence and authorship in a person's sense of essential freedom. As such, clinicians have a responsibility to engage in self-reflection and growth, personally and professionally, to ensure that their work with clients is

not a further manifestation of a colonizing psychology (Comas-Díaz, 2020). If the work of clinical psychologists is to be liberatory, which this project identifies as a potentially valuable pursuit to bolster well-being and flourishing, they must strive to embody cultural humility, to work for the decolonization of psychology, and to work alongside others toward social justice (Comas-Díaz, 2020). Without such attention, intention, and effort, clinicians may inadvertently perpetuate the Western cultural values and biases underlying positive psychology and, indeed, existential psychology.

Conclusion

This project represents a small step toward further integration of existential psychology and positive psychology. In affirming a relationship between essential freedom, characterized by authenticity and authorship, and well-being, and by identifying a potential measurement model that incorporates these elements, this project serves as a starting point for further research into these important topics and for development of clinical interventions to foster authenticity and *essential freedom* in service of increased well-being and improved outcomes. This study also provides a steppingstone for further theoretical and empirical development based on the role demographic factors and diverse identities play in a person's sense of overall well-being and *essential freedom*. In the end, the results of this study highlight the importance of *essential freedom* as a salient psychological construct and as an element of well-being worthy of inclusion in theory and therapy spaces.

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APPENDIX A: RECRUITMENT NOTICE

Hello,

My name is Kevin McKenzie, and I am a student in the Clinical Psychology program at Antioch University New England. I am seeking participants for my dissertation study about freedom and well-being. You will be asked to provide demographic information about yourself and to complete a survey that will ask you about different aspects of your life and your feelings about them.

Completing this survey will likely take less than 10 minutes. For your participation, you will receive $2.00 through the Prolific platform. The survey is anonymous and voluntary.
I appreciate your time and consideration.

Sincerely,
Kevin McKenzie

APPENDIX B: INFORMED CONSENT

You are invited to participate in an online survey about happiness, well-being, and freedom. If you are an adult (age 18 or older) living in the United States, you are eligible to participate in this survey.

This survey will give you an opportunity to add to our knowledge about the link between well-being and freedom. This information may help mental health professionals create treatments and programs for individuals and communities.

There is no personal benefit to you from participating in this survey. You will receive $2.00 for successful completion of the surveys through the Prolific platform.

There are minimal, if any, risks from participating. You may experience some emotional or psychological discomfort when answering the survey questions, as they ask about your life and your satisfaction with it.

Your identity will be anonymous. You will not be asked to share your name. Demographic data will be reported as aggregated information. Your Prolific ID will be associated with your responses for a short time to allow for validation and payment. After approximately 10 days, your Prolific ID will be deleted from the data. No information that can be used to identify you will be associated with your responses.

The survey will take approximately 10 minutes to complete.

This survey is part of my dissertation research at Antioch University New England in the Doctor of Psychology in Clinical Psychology program.

The information you provide may be used for future research, presentations, or publications without additional consent.

Your participation is voluntary, and you may choose to end your participation at any time by exiting the survey. If you have any questions about the survey or the research study, please contact Kevin McKenzie at XXXXX@antioch.edu

This project has been approved by the Institutional Review Board at Antioch University. If you have any questions about your rights as a research participant, please contact: Kevin Lyness, chair of the Antioch University New England Institutional Review Board, at XXX-XXX-XXXX or XXXXX@antioch.edu or Dr. Shawn Fitzgerald, Antioch University New England provost and campus CEO, at XXXXX@antioch.edu.

Please print a copy of this page for your records. Thank you for your participation!

By clicking "I agree" below, I am showing that I am at least 18 years of age and living in the United States, that I have read and understood this consent form, and that I agree to participate in this research study.

APPENDIX C: DEMOGRAPHIC QUESTIONNAIRE

I describe my gender identify as: _____. (Select all that apply.)

- Man or Male
- Woman or Female
- Demigender
- Nonbinary
- Trans
- Two-Spirit
- Genderqueer
- Genderfluid
- Pangender
- Prefer not to say
- Other:

I describe my sexual identity or sexual orientation as: _____. (Select all that apply.)

- Heterosexual or Straight
- Lesbian
- Gay
- Bisexual
- Pansexual
- Asexual
- Same Gender Loving
- Prefer not to say
- Other:

I describe my race or ethnicity as: _____. (Select all that apply.)

- White or Caucasian
- Black or African American
- Hispanic or Latino/Latina/Latinx
- Asian or Asian American or Pacific Islander
- Native American or Alaskan Native
- Biracial or Multiracial
- Prefer not to say
- Other:

What is your age?

- 18–24
- 25–34
- 45–54
- 55–64
- 65–74
- 75 +

Where do you live?

- Alabama
- Alaska
- Arizona
- Arkansas
- California
- Colorado
- Connecticut
- Delaware
- District of Columbia (DC)
- Florida
- Georgia
- Hawaii
- Idaho
- Illinois
- Indiana
- Iowa
- Kansas
- Kentucky
- Louisiana
- Maine
- Maryland
- Massachusetts
- Michigan
- Minnesota
- Mississippi
- Missouri
- Montana
- Nebraska
- Nevada
- New Hampshire
- New Jersey
- New Mexico
- New York
- North Carolina
- North Dakota
- Ohio
- Oklahoma
- Oregon
- Pennsylvania
- Rhode Island
- South Carolina
- South Dakota
- Tennessee
- Texas

- Utah
- Vermont
- Virginia
- Washington
- West Virginia
- Wisconsin
- Wyoming

What is the highest level of education you have achieved?

- Some High School
- High School Diploma or Equivalent (e.g., GED)
- Some College
- Associate Degree (e.g., AA, AS, etc.)
- Bachelor Degree (e.g., BA, BS, etc.)
- Some Graduate School
- Graduate or Professional Degree (e.g., MA, MS, MBA, JD, MD, PhD, etc.)
- Other:

What is your relationship status? Select all that apply.

- Single, never married
- Married
- Divorced or Separated
- Widowed
- wed
- With a significant other or in a domestic partnership
- Other:

What is your living situation? Select all that apply.

- Live alone
- With roommates
- With my significant other(s), partner(s), or spouse
- With my child(ren)
- With my parent(s), sibling(s), or in a multigenerational household
- In a dormitory or boarding situations (for example: students, military members, etc.)
- Unhoused or not currently living in stable housing (for example: staying in a shelter, couch surfing, etc.)
- Other:

What is your current employment? Select all that apply.

- Full-time (including self-employment)
- Part-time (including self-employment)
- Unemployed
- Stay-at-home/homemaker
- Student

- Retired
- Other:

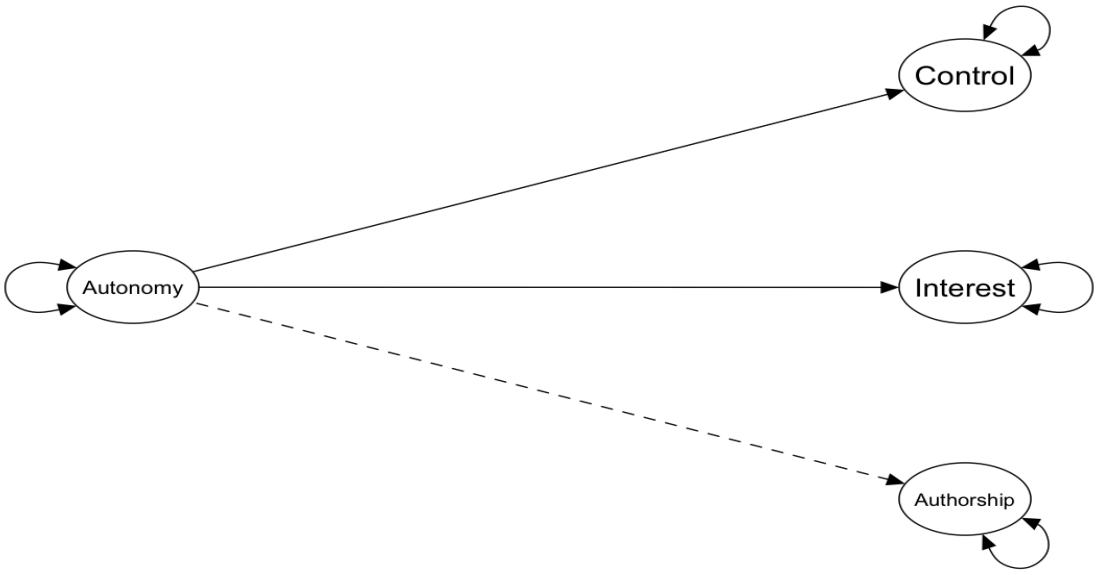
What is your annual income rounded to the nearest thousand? For example, $28,300 would round down to $28,000 and $28,5000 would round up to $29,000. _____.

APPENDIX D: SUPPLEMENTAL ANALYSIS

Given the issues encountered in conducting the confirmatory factor analyses, a supplemental analysis of the Index of Autonomous Functioning was performed to identify the origins of the identified issues. In the first place, a confirmatory factor analysis was conducted on the IAF using the path diagram described by its authors, displayed in Figure D.1 (Weinstein et al., 2012). This confirmatory factor analysis relied on the same procedures and estimation method (WLSMV) described in the Methods section above. Results of this analysis were not returned, as the solution failed to converge. As described by Brown (2015), failure to converge can implicate a number of issues with model specification.

Figure D.1

Path Diagram of the IAF

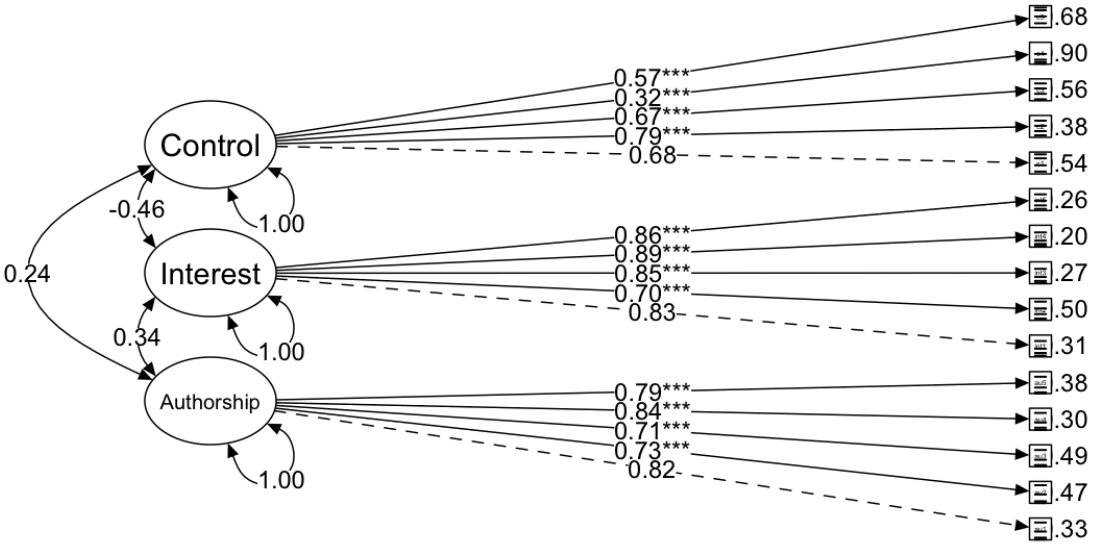


As the maximum likelihood estimator is inappropriate when the observable measures are ordinal in nature, a first-order confirmatory factor analysis of the IAF's constituent subscales was completed using the mean and variance adjusted weighted least squares (WLSMV) estimator after confirming that the model was overidentified with 87 degrees of freedom. The results of

this analysis are displayed in Figure D.2. The goodness of fit indices suggest that this model obtains an acceptable fit: $\chi^2(87) = 309.4$, $p = 0.000$; $\chi^2/df = 3.55$; scaled SRMR = .064; robust RMSEA = .077 (90% CI: .066–.087, CFit ≤ .05 = 0.000); robust CFI = 0.936; robust TLI = 0.922.

Figure D.2

First-Order CFA of the IAF with Standardized Estimates



* $p < .05$, ** $p < .005$, *** $p < .001$.