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Pathways for Integration and Growth: Exploring Love, Passion, and Peak Experience

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Abstract

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Love, passion and peak experiences are connected to flourishing as generally positive, energizing and intense experiences that make life worth living. Although they share theoretical overlaps as potent sources of integration and growth (Mouton & Montijo, 2017), love, passion, and peak experience have rarely been examined together or across cultures. The purpose of this study was to (a) explore how, if at all, subjective accounts of love, passion, and peak experience increase organization of the self through *integration* and *differentiation* by satisfying basic psychological needs (Deci & Ryan, 2000) and helping to develop psychological complexity (Csikszentmihalyi & Rathunde, 1998), and (b) understand how the emic experiences of love, passion, and peak experience are similar and different within individuals and across culture and context. This is an online survey study, which combines Quantitative Content Analysis, statistical analysis, and qualitative thematic analysis to explore love, passion, and peak experience in a cross-cultural, demographically diverse sample. The value of such a study is threefold. First, there is a need in psychology to balance quantitative investigations with qualitative approaches, which put the human back into the science (Hefferon et al., 2017; Rich, 2017). Second, the study tests the findings from in-context qualitative interviews of 150 people across six continents (Mouton & Montijo, 2017), and thirdly, there is a need to move beyond unidimensional constructs towards meta-constructs and theories that attempt to describe

complex, contextual, and interrelated aspects of development (Tolan & Deutsch, 2015), integrate disciplinary approaches, and portray a universal human architecture (Dweck, 2017).

The broad pattern of results provides preliminary evidence to support the notion that experiences of love, passion, and peak experience satisfy basic psychological needs, enable optimal developmental outcomes, and facilitate the integration and differentiation of the individual to and from their environment through social relationships and experiences of learning and growing. In addition, there was evidence that the satisfaction of autonomy when engaging in love, passion, and as a result of a peak experience was greater than the satisfaction of autonomy in life generally, suggesting an underlying common factor across the three. Thus, from a positive developmental perspective, love, passion, and peak experiences share a potential for enabling enhanced organization of the self throughout adulthood. Results were similar across continents, cultures, and regions providing evidence for the universality of basic psychological need satisfaction in life generally as well as in love, passion, and peak experiences. There were minor differences between the three, which provide theoretical refinement.

Dedication

To all of the participants from around the world who generously shared their stories about love, passion, and peak experience.

To my sisters.

To my daughters.

To my wife.

To all of the women who came before me.

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Chapter 1: Introduction and Literature Review

The shift in developmental science and Positive Psychology from a reductionist to a multidisciplinary approach (Kern et al., 2019; Overton, 2015) has opened up new avenues to explore longstanding constructs in psychology. Love, passion, and peak experience are mostly positive, energizing, generally intense experiences that occur across the lifespan and often represent exemplary or high points in a person's life. Each has a connection to flourishing and the promotion of well-being (e.g., Kim & Hatfield, 2004; Vallerand, 2012b; Whitehead & Bates, 2016), yet love, passion, and peak experience have rarely been examined together despite theoretical overlaps and definitional similarities suggesting they can enhance positive development. A cross-cultural qualitative study of love, passion, and peak experience by Mouton and Montijo (2017) found thematic similarities across gender, age, and culture and suggested they may have emerged as part of a universal human architecture to meet basic psychological needs and develop psychological complexity through differentiation and integration of the self from and with the environment. Specifically, they found the themes of Other People and Learning and Growing were ubiquitous across cultures in love, passion, and peak experience responses. Put another way, Mouton and Montijo (2017) suggested that underlying love, passion, and peak experiences is the potential for these experiences to increase the organization or synthesis of the self by meeting the basic psychological needs of autonomy, relatedness and competence and by developing cognitive and affective flexibility through differentiation and integration. A main purpose of this study is to test the findings of Mouton and Montijo (2017) using a larger online cross-cultural sample.

Basic Psychological Needs Theory is a fundamental tenet of Self Determination Theory,

a comprehensive model of personality and motivation that is concerned with understanding and promoting flourishing (Ryan & Deci, 2008). Basic psychological needs are understood as essential nutrients for all humans to grow, develop, and have healthy, thriving lives. Self Determination Theory presents an organismic interpretation of human nature that asserts all organisms are predisposed to cultivate and maintain their structure as an integrated whole (Deci & Ryan, 1985). Further, what is implied by development is a not simply growth or change, but reflects an assumption of changes that make the structure of the organism more organized through greater integration and differentiation (Bertalanffy, 1968; Loevinger & Blasi, 1976; Deci & Ryan, 1985; as cited in Ryan & Deci, 2016). Thus, all humans beginning from their earliest developmental periods are engaged in integrating with their environment by forming secure social bonds and differentiating from their environment by growing self-regulative capabilities (Ryan & Deci, 2016).

The reason for investigating love, passion, and peak experience together was to examine central aspects of flourishing that might be universal or ubiquitous across cultures yet also vary by cultural values or contextual circumstances and had not been examined simultaneously with an experiential lens. These three were selected because they can represent seminal experiences in a person's life, have relevancy across the lifespan, and are generally positively valenced, energizing and emotionally intense. Also, they have a strong theoretical foundation of promoting positive developmental outcomes including well-being. For example, researchers in developmental, positive, personality, and social psychology have independently described love, passion, and peak experience as mostly positive, intrinsically motivated experiences (e.g., Aron & Aron, 1996; Csikszentmihalyi, 2014; Ho et al., 2011; Kaufman, 2018; Vallerand, 2012a, 2015) that are frequently associated with positive outcomes including a greater synthesis between the

self and the environment. As such, lines of research such as self-expansion in romantic love (Aron & Aron, 1996), harmonious passion for activities (Vallerand, 2015), and peak and plateau experiences (Maslow, 1971) provide a sort of prescription for how best one can relate to others while also optimizing individual growth. Each is briefly introduced in turn.

Love has generally been described as a relational phenomenon occurring between two human beings (Berscheid, 2010) with profound developmental consequences throughout the lifespan including health and well-being (Algoe, 2019). For example, love has been described as an essential aspect of a healthy mother-infant dyad (Harlow, 1958) that when framed as secure attachment with a caregiver is associated with increased exploration during infancy and childhood as well as adolescence and adulthood (see Cassidy & Shaver, 2016 for a review). Healthy early caregiver relationships during the first three years of life marked by responsiveness and attunement are crucial influences for optimal brain development and behavioral functioning including one's lifelong capacity for resilience (Osher et al., 2017). In addition, passionate and romantic love in adulthood is linked to both physiological and psychological markers of health and well-being such as greater levels of energy, positive affect, and blood glucose levels, a marker of eustress (Stanton et al., 2014), and longitudinal research highlighted how the maintenance of warm, stable, loving relationships was predictive of a happy, thriving life (Vaillant, 2015). Recent advances in the science of love have built connections between investigating love as an emotion and as a relationship, thereby connecting the fields of affective and relationship science (Algoe, 2019). These advances allow for a greater precision when investigating how love in an interpersonal context provides a secure, caring, and supportive foundation, which enables a resilient, open, healthy, and happy individual. However, it is less

known whether lay conceptions of love outside of an interpersonal context follows the same pattern or has similar effects on health and well-being.

The scope of research investigating passion was expanded beyond passionate love in an interpersonal context by Vallerand and colleagues (2003). Their research into passion for activities focused on the motivational elements for engaging frequently in an activity that one likes and even loves, and becomes part of one's identity. Today, more than 30 years of evidence supports the Dualistic Model of Passion. This model delineates Harmonious Passion, marked by autonomous motivation and synchrony with other important aspects of life including interpersonal relationships from Obsessive Passion, which is driven by controlled motivation and an inability to detach from the activity even when it is detrimental to other important aspects of life such as health and social relationships (Vallerand et al., 2003). Thus, when it comes to feeling passionate about activities such as sport, work, or helping others there is evidence that Harmonious Passion contributes to positive emotions, health and well-being while Obsessive Passion is associated with negative emotions, ill-health, and conflict with other important things in one's life (Vallerand, 2012b). One of the crucial differences between the two is the degree to which one's passion enhances or infringes upon other important aspects of one's life including social relationships (Vallerand 2015). Furthermore, while passionate love is widely accepted as universal (Hatfield et al., 2011), the cross-cultural significance of passion for activities is less clear.

Finally, peak experiences, which can include flow, mystical, or transcendent experiences were originally conceived by Maslow (1959; 1961) as an experience of self-actualization, defined as a state of optimal human functioning marked by perceptions of integration, wholeness, and self-sufficiency. According to Maslow, self-actualization including peak

experiences are motivated by a desire to grow and reach one's full potential (1959; 1970), a claim supported by results from a recent online cross sectional survey (Kaufman, 2018). The study also found that self-actualization was linked to greater well-being including positive relations (Kaufman, 2018). Peak experiences were conceptualized as "acute identity experiences" (Maslow, 1961) that momentarily revealed an enhanced sense of synthesis and self-organization. There is evidence from adolescents (e.g., Hoffman, 1998) as well as adults (e.g., Mathes et al., 1982; Mouton & Montijo, 2017) to support the widespread existence of peak experiences across cultures and throughout the lifespan. Results from cross-cultural research investigating peak experiences during adolescence hint that peak experiences can integrate the self with the environment through the theme of interpersonal joy, the most prevalent type of peak experience in samples from Portugal, China, Brazil and Hong Kong, and differentiate the self from the environment via the second most popular themes of external achievement (e.g., winning a contest) and developmental landmark (e.g., travel away from home; Ho et al., 2011; Ho et al., 2012). In addition, Mouton and Montijo (2017) identified the themes of Other People and Learning and Growing in peak experience narratives by diverse adults on six continents. As such, peak experiences are linked to enhanced social relationships and self-defining events, and there is evidence to support their existence across cultures.

Taken together, these examples illustrate an established theoretical and empirical base supporting love, passion, and peak experience as key life experiences affecting how one relates to others as well as the realization of unique capabilities in development. In all three, there is evidence highlighting a role in building healthy relationships with others as well as developing a thriving self. The purpose of this study is to explore love, passion, and peak experience in a cross-cultural sample and (a) investigate how, if at all, subjective accounts exemplify an increase

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in organization or complexity of the self by satisfying basic psychological needs and through

differentiation and integration, and (b) to understand how these emic experiences are similar and

different across the three and between continents, cultures, and contexts.

Introducing the Process-Relational Paradigm

There is growing acceptance in the developmental science community that the quality of

relationship between an individual and context is vital to optimal developmental outcomes at the

individual, community, and societal levels (Overton, 2015). This represents a major shift in the

ontological and epistemological assumptions made by developmental psychologists over the last

six decades. The new Process-Relational paradigm revises ideas that human development occurs

according to binaries of nature and nurture, stability and instability, and continuity and

discontinuity. In contrast to the previously dominant paradigm, the Relational-Developmental-

Systems (RDS) metamodel "embeds development at all levels of the ecology of human

development within a mutually influential relationship system" (Lerner et al., 2015, p. 166). As

such, the human being is reconceptualized as an

> inherently active, self-creating (autopoetic, enactive), self-organizing, and self-regulating,
>
> relatively plastic, nonlinear complex adaptive system. The system's development takes
>
> place through its own embodied activities and actions operating coactively in a lived
>
> world of physical and sociocultural objects, according to the principle of probabilistic
>
> epigenesis. This development leads, through positive and negative feedback loops created
>
> by the system's organized action, to increasing system differentiation, integration, and
>
> complexity, directed towards adaptive ends. (Overton, 2015, p. 12)

The RDS metamodel sets up new prospects in developmental science to describe,

explain, and optimize trajectories across the lifespan. This paradigm shift signals a new valuing

of relational interaction across ecological levels of development, which invites a reexamination

of existing theory and related constructs to optimal human functioning. In particular, the

phenomenology of the individual matters because as active, autopoietic agents of development, it

is possible that the perception or meaning making of reality has as much of an impact on optimal

human functioning as the objective contents of that reality. Furthermore, there is a need to more

deeply understand the unique intricacies and properties of active, integrative organization of the

self and between the self and the environment (Ryan & Deci, 2017).

Self Determination and Basic Psychological Needs Theory

Self-determination theory (SDT) originates from an organismic paradigm, which assumes

that the most fundamental property of any living organism, including a human being, is an innate

predisposition to stabilize and enrich their complexity (Ryan & Deci, 2017). SDT adopts an

evolutionary perspective, which acknowledges a phenomenological sense of self serving as a

regulatory center for the integration and overall synthesis of the organism with their environment

(Ryan & Deci, 2017). Broadly speaking, SDT is a comprehensive theory of human behavior,

motivation and psychological development that emerged in the 1980's as a rival to the

behaviorist paradigm that assumed behavior was motivated by reward and punishment. Over the

years, SDT has evolved into six mini-theories, which together provide a theoretical framework

for optimal psychological development, well-being, and performance within many domains

across cultural contexts (Ryan & Deci, 2008). SDT asserts that the key driver of human behavior

is to satisfy basic psychological needs (BPN), which is necessary for optimal functioning,

performance, and well-being (Deci & Ryan, 1985; Ryan et al., 2019).

Basic Psychological Needs Theory (BPNT), one of the six mini-theories of SDT,

identifies three basic psychological needs, namely autonomy, relatedness, and competence that

drive motivational processes and whose fulfillment are required elements of well-being and thriving (Deci & Ryan, 2000; Ryan & Deci, 2017). Satisfaction of *autonomy*, defined as exercising choice that leads to a more organized experience and/or integrated sense of self (Deci & Ryan, 2000), *relatedness*, caring, meaningful connections to others (Deci & Ryan, 2000) and *competence*, developing capabilities for engaging in the world (Dweck, 2017) have been linked to positive developmental outcomes (see Ryan & Deci, 2017 for a review) such as higher levels of subjective vitality at work (Baard et al., 2004) and in close friendships (Deci et al., 2006), optimal relationship functioning (Patrick et al., 2007), and greater attachment security (La Guardia et al., 2000). BPNT provides a framework for researchers to evaluate the potential of different motivations, goals, and desires, such as those inherent to experiences of love, passion, and peak experience, to meet needs for autonomy, relatedness, and competence (Ryan & Deci, 2008).

BPNT posits that autonomy, relatedness, and competence are necessary "cross-developmental and cross-cultural nutriments for wellness and optimal functioning," (Deci & Ryan, 2008, p. 666), and there is a substantial body of evidence to support their universality (Church et al., 2013; Fischer & Schwartz, 2011; Tay & Diener, 2011; see Ryan & Deci, 2017 for a review). For example, there is evidence that the positive relationship between basic psychological needs and wellness does not differ as a result of demographic factors such as gender (e.g., Chirkov et al., 2003), sociocultural context (e.g., Church et al., 2013), or the importance of the need to the individual (e.g., Chen, Vansteenkiste, et al., 2015). Nevertheless, BPNT and SDT more generally have been criticized as a Western-centric theory that privileges certain socio-cultural constructions over others (e.g., Buttle, 1989), and cultural relativists maintain that there are no universal basic psychological needs (e.g. Markus & Kitayama, 2003).

However, as Ryan and Deci (2016) point out, there is scholarly acceptance on the universal importance of relatedness and competence satisfaction, and the evidence used to discredit the universality of autonomy is flawed because it mischaracterizes autonomy as independence rather than volition. Research by Chen and Vansteenkiste et al. (2015) has illustrated the validity and importance of the relationship between basic need satisfaction and wellness in US, Peruvian, Belgian, and Chinese contexts regardless of how the participants valued having autonomy, relatedness, and competence satisfaction in their lives, and these findings support the universality of BPN. The present study seeks to expand knowledge about BPN in the novel domains of love, which includes love for things outside of an interpersonal context, passion, and peak experiences across cultures.

Scholars have measured Basic Psychological Need Satisfaction (BPNS) using a number of validated scales (e.g., Chen, Vansteenkiste et al., 2015; Gagné, 2003; Sheldon & Hilpert, 2012). When autonomy, relatedness, and competence are assessed independently, they tend to positively relate to one another (Ryan & Deci, 2017), and each need is uniquely related to optimal functioning (e.g., Chen, Vansteenkiste et al., 2015; Sheldon et al., 2001). Other studies using a single factor measure of BPNS have also linked basic need satisfaction to well-being (e.g., Deci et al., 2001; Wray-Lake et al., 2017), and some scholars have found a balance (versus variability) in the satisfaction of the three to be most predictive of well-being (e.g., Sheldon & Niemiec, 2006). Studies investigating BPNS at a *within-person* level have revealed variations in the satisfaction of autonomy, relatedness and competence over time, within social relationships, and by contexts, which is theorized to proportionately affect fluctuations in wellness indicators (Ryan and Deci, 2016). Thus, the varying degree of basic need satisfaction in one's life is predictive of corresponding changes to wellness and degree of functioning at one's full potential.

While BPNS has been investigated in domains such as social relationships, work, and academic contexts, the relationships between the satisfaction of autonomy, relatedness, and competence in experiences of love, passion, and peak experience has yet to be studied. In sum, SDT and BPNT recognize autonomy, competence, and relatedness as universal human needs, the satisfaction of which is necessary for optimal functioning, and there is evidence that these constructs are valid across cultures.

Applications of Complexity Theory

Complexity theory originated in the field of evolutionary biology and has been applied broadly to human systems (e.g., Friedenberg, 2009). The complexity of a system depends on the *differentiation* of interior parts and the *integration* of those parts to function effectively in the environment. In other cases, complexity of a system is also noted by integration with and differentiation from the environment. The key point is that a system grows more diverse while also becoming increasingly interconnected. The term "psychological complexity" grew from the experiential perspective of human development posited by Csikszentmihalyi and Rathunde (1998) and is deeply rooted in the idea that, "the person develops as an integrated, purposeful, and dynamic component of an individual-environmental system," (p. 639), which is also a proposition put forth in the Process-Relational paradigm. Csikszentmihalyi and his team (1996) distilled the criteria for a psychologically complex person from their study of 100 eminent creatives, purposively selected as exemplars in optimal aging and functioning. A person with the characteristic of psychological complexity was thus theorized to both differentiate the self through skill development and integrate with the environment through social and cultural relationships (Csikszentmihalyi & Rathunde, 1998). Psychological complexity is theoretically related to foundational developmental psychology concepts such as assimilation and

accommodation (Piaget, 1952), basic needs research such as self-determination motivation (Deci & Ryan, 2000), and Dweck's (2017) recent model integrating motivation, personality, and development, which derived a set of universal basic needs including self-coherence, acceptance, and competence from the infant developmental literature. The common denominator of each theory is the evolutionary logic that humans, like all living organisms, are designed to integrate with and differentiate from their surrounding environment to become more complex beings.

Flow theory describes an optimal balance or fit between a person's perceived skill level and the opportunities for challenge in the environment (Csikszentmihalyi, 1990). As such, it is a prototypical experience for navigating differentiation and integration of the self from and with the environment. Flow is an optimal state characterized by complete absorption in the task at hand that is associated with greater well-being (Carpentier et al., 2012; Csikszentmihalyi, 2014). Since flow requires an ongoing dialectical relationship between an individual's abilities and the opportunities for challenge in the environment, it represents an ideal context for the development of increased complexity. Skills improve as a result of being in flow, which then requires increasing levels of challenge to reach a similar level of optimal engagement in the task at hand. There are some empirical links between flow, well-being, and love (Montijo & Mouton, 2016), passion (Carpentier et al., 2012), and peak experience (Yeagle et al., 1989), which suggests there may be an underlying connection between the flow state, experiences of love, passion, and peak experience, and well-being outcomes. Flow has been found across cultures (Csikszentmihalyi & Csikszentmihalyi, 1992; Delle Fave et al., 2011) in a variety of activities including the creative arts (e.g., Bakker, 2005), sports (e.g., Jackson & Csikszentmihalyi, 1999), work and interpersonal relations (Salanova et al., 2014.)

A scientifically valid measure of psychological complexity has yet to be developed.

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However, the psychology literature contains a variety of approaches to operationalizing complexity at the individual and institutional levels. For example, complexity has been measured in adolescent sporting environments as a measure of interpersonal and activity-based perceptions (Bengoechea et al., 2017), and in 29 European countries by defining differentiation as the amount of freedom people have and integration as the level of trust people have in their institutions (Gruner & Csikszentmihalyi, 2017). Complexity has also been measured in interviews with eminent professionals (Gute et al., 2008), and families of talented teenagers using the Complex Family Questionnaire (Csikszentmihalyi et al., 1997). Although the measures used to define complexity differ across these studies, each has generated links between increased complexity and better developmental outcomes as outlined below. For adolescents, complex sporting environments were linked to perceived competence, increased enjoyment, and a commitment to the sport (Bengoechea et al., 2017), and the complexity of a learning environment, defined as providing both challenge and interpersonal support, predicted student engagement and self-esteem in the classroom (Shernoff et al., 2016). Studies investigating complexity in families have found those that provide a balance between encouraging exploration and the achievement of personally valued goals (*differentiation*) and providing a secure, supportive environment with clear boundaries and expectations (*integration*) are more frequently associated with highly creative, healthy, and talented individuals (Csikszentmihalyi et al., 1997; Gute et al., 2008). At the institutional level, people living in nations with more sociocultural complexity – i.e., having freedom and trust -- have more frequent positive moods, fewer negative moods, and greater satisfaction with life (Gruner & Csikszentmihalyi, 2017). In sum, studies of complexity have investigated individuals, families, and contexts using a variety of measures, each of which has associated increased complexity with better developmental outcomes.

Next, we turn to a review of the evidence regarding love, passion, and peak experience.

Love Theories and Empirical Research

Over the last 10 years, love has become a popular topic of investigation in scientific disciplines ranging from neuroscience to psychology to marketing and consumer sciences. More recent investigations have blurred disciplinary lines to develop a more nuanced and comprehensive understanding of love in a variety of interpersonal relationships (Algoe, 2019; see Sternberg & Sternberg, 2019 for a review). In the psychological literature, love as a relational phenomenon has been widely examined, and new approaches between affective and relationship science have illustrated how good relationships lead to health and well-being through positive interpersonal processes marked by frequent experiences of positive emotions such as kindness and gratitude (Algoe, 2019). The study of love, which has defined love as an emotion (Fisher, 2016) as well as in a relational sense via attachment, romantic love, sexual attraction, dating, friendship and marital relations (Berscheid, 2010; Sternberg & Sternberg, 2019) has produced a bounty of evidence supporting the important role that positive social relationships have for health and well-being (e.g. Fredrickson, 2013). However, until recently much of this evidence had yet to be integrated and some scholars argue a widely accepted theoretical understanding of love has yet to emerge (Karandashev, 2019). The following review will illustrate how love research progressed from a variety of perspectives and highlight next steps in the evolution of our understanding of this wide ranging, important phenomenon in life.

By the 1980's three important theories of love had emerged in psychology to explain romantic relationships, namely passionate love, Lee's taxonomy of love, and Sternberg's triangular theory of love. They remain three of the most widely cited theories that identify love as a relational phenomenon occurring between two human beings. Scholars investigating

passionate love suggest it is a universal experience among people across cultures and historical periods (Hatfield et al., 2011) while Lee's taxonomy of love (1988) posits that love between humans can be ludic (game-playing love), erotic (passionate love), storgic (companionate love), pragmatic (practical love), manic (dependent or possessive love), or agapic (altruistic love). Finally, Sternberg's triangular theory of love proposes that eight forms of love arise from combinations of intimacy, commitment, and passion (Sternberg, 1986). More recent investigations using these approaches to understand interpersonal relationships have made important contributions to the study of love. For example, fMRI evidence of brain activation patterns of people passionately in love across cultures supports its universality (Ortigue et al., 2010) and a literature review of 50 years of cross cultural evidence suggested that large differences due to culture and context are disappearing as young people from non-Western societies place a higher value on falling in love (Feybesse & Hatfield, 2019). Researchers have used Lee's taxonomy of love styles to identify useful risk and protective factors related to stable and high quality marital and couple relationships (see Raffagnino & Puddu, 2018 for a review). Finally, Sternberg's triangular framework for love has been used to understand how creativity and love interact, and one study found everyday creative behaviors were linked to greater passion, commitment, and intimacy in romantic relationships while the opposite was found for those who engage in more artistic creativity (Campbell & Kaufman, (2017). These examples highlight exciting avenues for exploration in love, namely how changes in culture and context can affect love related desires and behaviors and the development of interventions for cultivating and sustaining high quality romantic relationships.

An evolutionary approach to romantic love offers a different understanding of interpersonal relations. Some of these scholars explain the existence and function of love in

terms of adaptation for survival and reproduction (Buss, 2006; Fisher, 2016; Mikulincer & Shaver, 2007) while others try and explain self-transcendent forms of love such as altruism (see Marsh, 2016 for a review). Decades of research into mating and reproductive behavior supports the notion that sexual drive, romantic attraction, and attachment are hard wired in the brain and communicated through the timely neurotransmission of for example, testosterone, dopamine, and oxytocin (Fisher, 2016). Researchers have also linked care based altruism to oxytocinergic limbic activity and reciprocity-based altruism with dopaminergic striatal reward systems (Marsh, 2016). These perspectives offer a vital piece of the full spectrum of love, and more researchers are striving to integrate biological data and evolutionary perspectives to understand how positive interpersonal processes function. In fact, a new dataverse of love studies has been created and made available to inspire the next generation of researchers striving to bring greater precision and integration to the science of love (Algoe et al., 2019).

In the developmental science literature, conceptualizations of love are relevant at multiple stages of the lifespan and in many contexts of development. For example, secure attachment between an adolescent and their mother was related to increased empathy and stronger vagal tone (Diamond et al., 2011), and secure attachment in adult samples have been related to increased feelings of energy (Luke et al., 2012), more confidence and better performance at work (Hazan & Shaver, 1990), and a more flexible coping style (Mikulincer, 1997). There is also emerging evidence from fMRI studies to suggest that secure attachment in important relationships may alleviate distress in day to day life (e.g., Norman et al., 2014). In addition, there is compelling longitudinal research that illustrates the importance of warm, caring relationships to a happy, thriving life (Vaillant, 2015). Finally, a review of nine research studies investigating unlimited love in adolescents operationalized love as prosocial behavior, empathy, and civic engagement.

These projects found love-related constructs predicted outcomes such as increased purpose in life, increased positive social relations, and deceased delinquency and risk behaviors (see Oman & Meyer, 2013 for a review). Although the developmental literature investigating love has a wide range of applications across the lifespan and through multiple layers of the developmental ecology, scholars have rarely considered how love for non-interpersonal things may impact developmental trajectories and even less is known about the subjective experience of love outside of human relationships across the lifespan.

Literature examining love outside of an interpersonal context is rare in developmental science, but there is some research from other disciplines. For example, social psychologists examining prototypes of love, defined by asking participants to explain love in terms of its most distinctive features have found that although interpersonal descriptions of love are most common, people also frequently described loving activities, objects, and ideas (Fehr, 2013; Fehr & Russell, 1991). In terms of love for non-human things, research from marketing and consumer science also found that people love activities, objects, and brands (Ahuvia et al., 2014; Albert et al., 2008). A recent study of non-interpersonal love by Lucas et al. (2019) in Positive Psychology found evidence for love of social experiences, physical activity, spiritual ideology, material objects, and hedonic experiences, of which only the first two were linked to happiness and presence of meaning. A possible connection between interpersonal and non-interpersonal theories of love is the theory that love satisfies a basic motivation to expand the self by integrating with an "other," which then becomes an important aspect of the lover's identity (Ahuvia et al., 2014; Aron & Aron, 1996; Hendrick & Hendrick, 2009). While there is an emerging evidence base that love is important in non-interpersonal contexts, it remains unclear why the concept of love is invoked in relation to such diverse types of relationships, attitudes,

behaviors, beliefs, rituals and artifacts as sex, romance, marriage, attachment, friendship, God, obsession, unrequited love, addiction, altruism, passion, compassion and consumption (Greenberg, 2008; Karandashev, 2019; Paludi, 2012). One possible explanation comes from the philosophy of care put forth by Noddings (1995), which argues care is at the core of human existence, specifically in terms of life's ultimate questions and concerns. According to Noddings, care for self, intimate others, strangers and global others, the natural world and nonhuman creatures, the human made world, and ideas is more than a feeling, it is a "continuous search for competence," (Noddings, 1995, p. 676). In other words, investing attention and resources in others including the natural world, is a pathway to becoming a fully competent, confident person. As it stands today, much remains unknown how interpersonal and non-interpersonal love may be related or distinct, and how love in non-interpersonal contexts is related to positive developmental outcomes.

Cross-cultural investigations of love also support the notion that it is multifaceted with both interpersonal and non-interpersonal relevance (for a review see Fehr, 2013). While some studies support universal aspects of love and have found no differences between cultures, such as those regarding a love of consumer objects (Albert et al., 2008), prototypes of love and perceptions of romantic love (Jankowiak et al., 2015), and the character virtues of love of learning and love of humanity (McGrath, 2015), others have yielded mixed results when assessing differences in love attitudes (Neto et al., 2000), the emotional expression of love (Wilkins & Gareis, 2006), and untranslatable words from various languages referring to love (Lomas, 2018). Thus, the cross-cultural love literature has multiple interpretations and measures of interpersonal and non-interpersonal love and would benefit from greater integration within as well as across disciplines.

Overall, the study of love has inspired many theories, definitions, scales, and taxonomies from a wide array of disciplines including at the biological, psychological, sociological and cultural levels (for a review see Oord, 2010; Sternberg & Sternberg, 2019). Broadly speaking, love is a multifaceted phenomenon with a myriad of meanings – scientifically, linguistically, culturally, and historically (Berscheid, 2010). Psychological research investigating love has been characterized as disjointed due to the absence of a unified definition (Oord, 2010), but scholars (e.g. Algoe et al., 2019) and funders such as the Templeton Foundation have made significant efforts over the last ten years to integrate methods, approaches, data sources, and evidence bases. In addition, love is a crucial developmental regulation when it is broadly understood as attachment, caring relationships, prosocial behavior, or altruism. However, studies looking to understand the subjective experience of love outside of an interpersonal context are rare. The present study contributes to the literature by examining the subjective experience of love from a cross-cultural perspective that is not limited to an interpersonal context, and investigating how love may be related to BPN and optimal developmental outcomes related to differentiation and integration and the growth of psychological complexity.

Passion Theories and Empirical Research

In the past, passion was commonly examined as an aspect of interpersonal love (Karandashev, 2019), and studies of other passion related topics were rare (Vallerand, 2015). However, in recent years passion outside of an interpersonal context has become a popular topic for academic and self-help authors aiming to help readers improve the quality of their lives. For example, Angela Duckworth, a psychology researcher popularized the concept of grit in her New York Times bestseller *Grit, The Power of Passion and Perseverance* (2016), and popular motivational speaker and scholar Sir Ken Robinson co-wrote a New York Times bestseller *The*

Element: How Finding Your Passion Changes Everything (Robinson & Aronica, 2009).

Duckworth's work has linked academic achievement to a combination of passion and

perseverance to reach long-term goals (Duckworth et al., 2007), and Robinson combines

anecdotes with academic research (e.g., Csikszentmihalyi, 1990) to highlight the crucial role of

doing what you love in finding fulfilment and success in life.

In the psychology literature, passion outside of an interpersonal context is generally

accepted as a motivational construct linked to superior performance at work (Curran et al., 2015)

and in sport (Vallerand et al., 2007), and in academic settings that leads to self-growth

(Vallerand 2015). The Dualistic Model of Passion (DMP) defines passion as an intense liking or

even love for an activity that becomes part of one's identity (Vallerand et al., 2003), and over the

years, it has been used to study passion for leisure activities, work (Curran et al., 2015), and sport

(Vallerand et al., 2007). Vallerand's DMP differentiates positive and negative aspects of passion

in terms of Harmonious Passion (HP), where a person chooses to flexibly participate in an

activity (or not), leaving room for other valued aspects of life, and Obsessive Passion (OP),

where an activity is pursued meticulously with an uncontrolled need to participate leading to

detrimental effects on other parts of life. In the initial study of passion, Vallerand and colleagues

(2003) found that college participants were passionate about a wide range of activities,

particularly sports, passive leisure (e.g., watching television), and active music (e.g., playing the

guitar), while other activities such as reading, working, studying, or being with friends and

family were reported by less than 5% of participants in each case.

Most often, research has shown that HP is related to positive outcomes and OP to sub-

optimal outcomes, although both have been linked to performance (e.g., Vallerand et al., 2007).

HP (e.g., for work, sports, music, dramatic arts, and education) predicts positive relationships,

physical health, and psychological well-being, whereas OP is related to negative emotion, rumination, and ill-being (Curran et al., 2015; for a review see Vallerand, 2015). Furthermore, psychological benefits from HP including positive affect tend to be long lasting and impact other parts of life whereas there does not seem to be lasting benefit for OP and some studies have found negative impacts on well-being (e.g., Carpentier et al., 2012).

The uptick in studies examining passion for activities coincides with a continued interest in developing scientific understanding about passionate love between two people including in cross-cultural samples. One literature review reported 33 scales to measure passionate love, which has been applied in a variety of theoretical disciplines since the 1940s, and is widely accepted as a universal phenomenon (Hatfield et al., 2011). In line with the DMP, which has also been used in the context of romantic relationships (e.g., Ratelle et al., 2013), recent cross-cultural scholarship found positive and negative elements of passionate love. For example, a series of cross-cultural studies from the United States, Russia, Lithuania, China, and South Korea found similar core features of passionate love, namely altruism, idealization, emotional fulfillment, sexual attraction, and intrusive thinking (De Munck et al., 2010; Jankowiak et al., 2015; Nelson & Yon, 2019), and a lexical analysis of untranslatable words from around the world related to love found five distinct aspects of romantic love, namely passionate love, playful love, possessive love, rational love, and star-crossed love.

Taken together, the research suggests the construct of passion is relevant in a variety of interpersonal and non-personal contexts, is valid across cultures, and has positive and negative elements that impact the development of the self (Curran et al., 2015; Vallerand, 2015) as well as physical and psychological well-being (e.g., Schellenberg et al., 2019). Finally, while a significant body of research on passion for non-interpersonal things has now been amassed,

much of it has taken place in a Western context, utilizing North American or Western European samples (Vallerand, 2012a). As a result, there is an opportunity to deepen understanding of passion for activities and other subjects across cultures, and to investigate how subjective accounts of passion in life relate to BPN and the development of psychological complexity through differentiation and integration.

Peak Experience Theories and Empirical Research

The notion of peak experience emerged from Maslow's humanistic vision of motivation and personality. At the heart of that vision was his hierarchy of needs, which outlined the basic human needs of physical health, safety, love and belonging, self-esteem, and self-actualization (Maslow, 1943). Maslow (1959) introduced the concept of peak experience to describe how subjective experience was transformed towards a greater mastery of one's inner and outer worlds, which was a key characteristic of self-actualization. In his view, self-actualized people represented optimal developmental trajectories, and peak experiences were conceptualized as brief, fleeting moments that gave the individual insight into what they could feel, think, and do if their potential was fully realized (Maslow, 1961, 1970). He asserted that self-actualized individuals were content, peaceful, creative, fully expressed, free of psychopathology, had healthy interpersonal relationships, and had recurrent peak experiences (Maslow, 1959). The peak experiences enabled the person, "to become more whole and unified, more unique and idiosyncratic…more ego-transcending and self-forgetful" (Maslow, 1971, p. 60).

Central to Maslow's theory of peak experiences and self-actualization is the idea of deficiency versus growth motivation and deficiency versus being needs (Kaufman, 2020). The key difference between deficiency and growth or being is that people motivated by deficiency are driven by their *lack* of satisfaction of their basic needs, whereas those motivated by growth or

being are energized by a love of humanity and a deep consideration of the needs of others (Maslow, 1962, 1971; Kaufman, 2020). This distinction has been lost in many critiques of self-actualization specifically and Maslow's theory of motivation broadly, which mischaracterize these ideas as overly individualistic (Neher, 1991; Pearson & Podeschi, 1999) and self-absorbed (Brooks, 2017). In fact, as Kaufman (2020) notes, Maslow was hyper aware of the "paradox of transcendence" (p. *xv*), whereby self-actualized individuals were simultaneously steadfast in their sense of self and identity and the realization of their highest potential as well as egoless and altruistic.

The path to credibility for Maslow's theories of peak experience, self-actualization, and deficiency versus growth motivation has been long and winding (Kaufman, 2020) as critics took issue with the absence of scientific rigor in theory development and a lack of cultural sensitivity (Neher, 1991). Theory development consisted of his personal observations, readings, and conversations with mentors whom he believed were paragons of self-actualization (1971; Kaufman, 2020). Then, he collected data from his students asked to recall, "the most wonderful experience or experiences of your life: happiest moments, ecstatic moments, moments of rapture" (Maslow, 1961, p. 67). Unfortunately, due to health constraints, Maslow was forced to rely on others in the field to scientifically test these ideas and validate precise measures for peak experience and self-actualization (e.g. Mathes et al., 1982; Wuthnow, 1978). As such, it was primarily personal experience, case study, and anecdotal data that informed his idea of a plateau experience, a more frequent type of peak experience that could be learned and cultivated through hard work, but was less emotionally intense or overwhelming. Maslow noticed that plateau experiences tended to be more common in older adults and in self-actualized individuals (Maslow, 1970), but studies investigating them are rare, especially in cross-cultural contexts

(Gruel, 2015). Fittingly, there is debate in the literature about whether peak experiences are rare in the general population (Delle Fave et al., 2011; Yaden et al., 2017), or occur widely across cultures in a multitude of contexts (Ho et al., 2011; Ho et al., 2012). This frequency debate is likely driven by variation in the measures and analytic techniques used, which resulted in the inclusion or exclusion of less intense plateau experiences.

Over the years, scholars have pointed out that striving for self-actualization was contrary to collectivist values, which define one's fullest potential in terms of the family, community, or culture rather than an individual self (Gambrel & Cianci, 2003). These critiques of ethnocentrism have found support from tests of self-actualization in individualistic versus collectivist countries, which have revealed significant differences between the groups suggesting that self-actualization may occur through different pathways (Gambrel & Cianci, 2003; Ivtzan, 2008). However, a closer reading of Maslow's unpublished, later work reveals he was coming to the conclusion that recognized the limits of self-actualization as an individualistic pursuit.

> Self-actualization is not enough...The good of other people must be invoked, as well as
> the good for oneself...It is quite clear that a purely intrapsychic, individualistic
> psychology, without reference to other people and social conditions, is not adequate.
> (Maslow, 1966; as cited in Kauffman, 2020, p. xiv)

Scholars investigating peak experience across individualistic and collectivist cultures highlight how cultural differences may play a role in the types of peak experiences people report and how they feel about them. Ho et al. (2012) found that female university students in Portugal recounted more peak experiences coded as a developmental landmark than female mainland Chinese university students, whereas Chinese students mentioned serenity experiences such as having a carefree childhood more frequently. These differences were attributed by the authors to

a greater valuing of independence in Portugal and of calm emotions in China. Furthermore, they found significant differences between the two cultures in memory emotionality, i.e., how frequently high versus low arousal positive emotions were present such that participants from China were more likely to report low versus high arousal positive emotions.

There is also evidence to suggest people may be more or less likely to report different types of peak experiences depending on individual differences. For example, people with little adherence to traditional religion were more likely to experience peak moments compared to those with moderate to high adherence (Breed & Fagan, 1972), and amongst a sample composed of realtors, students, and artists there were significantly different trigger events initiating a peak experience such as education/work for artists and relationships for students (Lanier et al., 1996). These results signal the important role culture and context may play in the self-reported expression and/or experience of emotions in peak experience narratives.

Another important aspect of peak experience theory to consider are the variations in how peak experience is conceptualized including as flow, or optimal experience, defined as the psychological state of absolute absorption in a task that is founded on immediate and unambiguous feedback, clear and proximate goals, and a perceived balance of challenge and skill (Csikszentmihalyi, 1990). Although there are similarities between Maslow's notion of peak experience and flow leading some researchers to use the terms flow and peak experience synonymously (e.g., Bakker, 2005; Jackson & Csikszentmihalyi, 1999), there are also key differences leading other researchers to see them as separate constructs (e.g., Delle Fave et al., 2011; Privette, 1983). The differences between flow and peak experience are the preconditions to the experience – peak experiences are randomly occurring whereas flow necessarily involves engagement in an activity, frequency – peak experiences are less common than flow experiences,

and the emotional aspect – peak experiences are theorized to be joyful as they occur whereas flow requires total concentration on the present moment and is pleasurable only after the experience has ended (Delle Fave et al., 2011). Privette (1983) distinguished peak experience from flow by noting the transpersonal or mystic qualities of the former versus the intrinsically rewarding, playful nature of the latter. Few studies have examined flow and peak experience simultaneously, and there is a need for novel research to further tease out the similarities and differences of the constructs.

The evidence for peak experiences research lacks longitudinal and experimental studies. Longitudinal studies would strengthen the claim that peak experiences precipitate positive and lasting changes in one's life while experimental studies could test whether or not certain conditions are able to induce peak or plateau experiences in participants. Additionally, most studies have restricted participants to recalling positively valenced experiences. Scholarly critiques of peak experience research point out that many studies, including Maslow's exclude "overwhelming moments," and embed the assumption of peak experience as a positive or happy moment in their measures thereby biasing the data toward positive, desired experiences (Lowry, 1973, pp. 61-62). Mouton and Montijo (2017) found evidence that peak experiences span a wide variety of desirable and undesirable experiences, from graduating college and meeting a spouse to experiences of overcoming adversity such as the death of a loved one and divorce. Thus, additional research is required to gain greater insight into the nature of peak experiences.

Peak experience has rarely been examined in the developmental science literature, however there is evidence to support that people have peak experiences from adolescence (e.g., Hoffman & Ortiz, 2009) to the fourth age (Mouton & Montijo, 2017), and that these experiences have relevant developmental implications such as identity development (e.g., Ho et al., 2012;

Krohn, 2000) and overcoming adverse life events (Krohn, 2000; Mouton & Montijo, 2017). The

present study refines as well as contributes to the peak experience literature by using a cross-

cultural sample that does not restrict the response to positive emotions or ecstatic moments to

investigate the link between subjective accounts of the phenomenon and the satisfaction of BPN

and the development of psychological complexity via differentiation and integration of the self

and the environment.

Why These Three? Exploring Subjective Experiences That Meet Basic Psychological Needs

The fields of developmental science and Positive Psychology have shifted towards a

relational developmental systems approach and opened up new opportunities to explore topics

using a variety of methodological and cross-cultural approaches (Lerner et al., 2014). In

particular, there is an urgent call to understand the lived experience of flourishing and optimal

functioning from the perspective of individuals in their environments (Hefferon et al., 2017).

Furthermore, there is a need for research in psychology to be more representative of people

living outside of the Western hemisphere (Hendriks et al., 2019). The goal of Mouton and

Montijo's (2017) original study of love, passion, and peak experience (described in detail below)

was to travel to six continents and explore three aspects of flourishing from an emic perspective.

The authors chose three experiences that are (a) generally positively valenced, energizing, and

intense, (b) might be universally understood yet demonstrate differences according to culture and

context, (c) are associated with positive outcomes, and (d) had not been examined together. Note

that peak experience was selected instead of flow because the authors wanted to avoid defining *a*

priori any terms as much as possible, given that the purpose of qualitative research is to privilege

the voices and interpretation of participants (not researchers). The idea to ask what (not who)

people loved originated from the author's class project, which discovered links between well-

being and love of flow (Montijo & Mouton, 2016) and physical activities (Lucas et al., 2019) in a cross-cultural sample.

The present study follows the general logic of scientific inquiry, a process that generates theory from observation and insights, from which hypotheses may be tested using the scientific method (Crano et al., 2014). This study tests hypotheses generated from the interviews, observations and insights of Mouton and Montijo's (2017) research trip around the world. The interviews were intended to bring unique, non-Western voices into the literature as well as to describe the phenomenology of love, passion, and peak experience. Questions included "What do you love/is a great passion in your life/has been a peak experience in your life? How does what you love/your great passion/your peak experience make you feel? Of those three things, what would you say has contributed most to you living your best life? How often do you engage in this thing? What keeps you from doing this thing more often or more deeply? What would your life be like if you engaged in the thing more often or more deeply?"

It was surprising to discover that diverse people, interviewed in very different places (e.g. at work, in nature, at home, in developing and developed countries) responded with similar answers. The analysis revealed a common thematic pattern in participant's responses suggesting that experiences of love, passion, and peak experience helped participants connect deeply with other people and define their identity through learning, achievement, and challenge (Mouton & Montijo, 2017). Thus, it was the data i.e., the words of the participants and the experience of being in context with them, that germinated the hypothesized connection of love, passion, and peak experience to BPNS and psychological complexity. Additionally, although a number of theories and empirical studies link two of the three experiences (e.g., Hatfield & Rapson, 1993; Maslow, 1959; Sternberg, 2006; Yaden et al., 2017), this was the first time a potentially common

foundation for love, passion, and peak experience had been found (Mouton & Montijo, 2017). This is significant because it addresses a need in psychology to understand interrelated aspects of development (Tolan & Deutsch, 2015). In particular, the authors noted that "underlying the commonalities…is the motivation to develop a complex self...this explanation is in line with self-determination theory, which suggests that human beings are motivated to satisfy the complementary needs of autonomy and competence (differentiation), and relatedness (integration)," (Mouton & Montijo, 2017, p. 273). The authors argued that love, passion, and peak experience may function as part of a universal human architecture for optimal functioning by providing pathways to psychological complexity.

Next, a summary of Mouton and Montijo (2017) is provided to link the in context, qualitative research to the research questions and hypotheses of the present study.

Summary of Mouton and Montijo (2017)

In 2013, the author and Dr. Mouton, as graduate students and a married couple, travelled to 22 countries on six continents with the goal of better understanding love, passion, and peak experience from the personal perspective of participants and in the context and culture in which they lived. The research was mostly self-funded, but also included funds generated from a Kickstarter crowdfunding campaign as well as a small grant from Claremont Graduate University. Convenience and snowball sampling techniques were used to interview 150 people (70 men, 79 women, and one participant who identified as transgender). Interviews were conducted in English and ranged from four to 48 minutes in length, with an approximate average of 15 minutes. The majority of participants were unknown to the researchers and represented a wide range of ages, nationalities, ethnicities, education levels and occupations. No compensation was offered for participating in the study, but all of the participants received

a copy of the published article and documentary, *North of Normal,* which presented the results of the research. Participants were asked a series of open ended questions (see page 27 for the full list). The interviews were audio recorded (some were video recorded with consent), transcribed, and thematically analyzed in matrix tables, comparing responses by construct (i.e. love, passion, and peak experience), and geographic region (i.e., continent of residence). A pragmatic, inductive, thematic methodology (Yin, 2011) was used to analyze the data and eleven key themes surfaced across love, passion, and peak experience, illustrated in Figure 1.

Figure 1. Pattern of themes for the constructs of love, passion, and peak experience for all participants. Units describe the number of participants coded within each theme.

Primary Themes

As indicated, there was substantial overlap of themes across the three constructs. Other People, Learning and Growing, Work, Nature, Creative Arts, Overcoming Adversity, and Spirituality emerged as key themes for love, passion, and peak experience, and the relative prevalence of themes was similar (but not identical) across the three constructs.

The authors found that participants most often described love, passion, and peak experiences involving Other People, which the authors suggested may be an avenue for integration, and Learning and Growing, a possible means for differentiation. Within the theme of Other People, participants reported important relationships with family, friends, and even strangers, and within the theme of Learning and Growing they described learning new skills and subjects, striving for goals, and expanding their horizons through travel and leaving home. Additionally, the authors found that within some individual responses to love, passion, and peak experience there was data to suggest these experiences both integrated and differentiated the individual with and from others and their environment. Examples of each are provided in turn.

In terms of the overall themes, Learning and Growing, Creative Arts, Work, and Overcoming Adversity often represented defining experiences including building new skills and gaining competence i.e., differentiation, while the themes of Other People, Spirituality, and Nature frequently stood for experiences of connection and relatedness i.e., integration. For example, experiences of Overcoming Adversity included beating alcoholism and transcending limits and restrictions set by parents and culture, while on the other side, the theme of Spirituality represented deeply held connections to God, religion, and the universe. There were also examples where participants described experiences of both integration and differentiation in what they loved, were passionate about, and in their peak experience. In terms of Nature, some

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were delighted by running, surfing, fishing or hunting in the great outdoors (differentiation – via competence and/or autonomy) but also appreciated feeling connected to the outdoors, facilitating an understanding or contemplation of their place in the Universe (integration). Similarly, practicing the Creative Arts provided opportunities for participants to master their craft and/or experience, explore, and express themselves (differentiation), while also allowing for connection with their audience (integration). An underlying commonality of participant responses was the sense that these experiences involved the individual becoming a more competent, skilled, autonomous and/or coherent self as well as deepening relationships with other people. Therefore, the authors suggested love, passion, and peak experiences may be prototypical subjective experiences that satisfy BPN and lead to the development of a psychologically complex self through differentiation and integration.

Similarities and Differences Across Constructs, Cultures and Context

In addition to generating new theory about love, passion, and peak experience, there was also refinement of existing theory about each as a result of a few differences in the prevalence of themes across the three, and as a result of culture and context. First, there were themes coded more often for one construct compared to the others (e.g., Learning and Growing and Overcoming Adversity were more prevalent for peak experience than for love and passion). Second, some themes were found for one construct but not the others (e.g., Life was a key theme for love but not the other constructs). As such, there was support for the notion that the three constructs are related, but not identical from a theoretical point of view as well as from the perspective of participants. Third, as depicted in Figure 2 there was more variation in prevalence of themes *within* each continent of residence than *between* continents of residence. In other words, regardless of continent of residence, some themes were more frequently coded compared

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to others (e.g., Other People versus Spirituality), and the continents, on the whole, presented

similar trends in terms of prevalence of themes for each construct, as depicted in Figure 2 below.
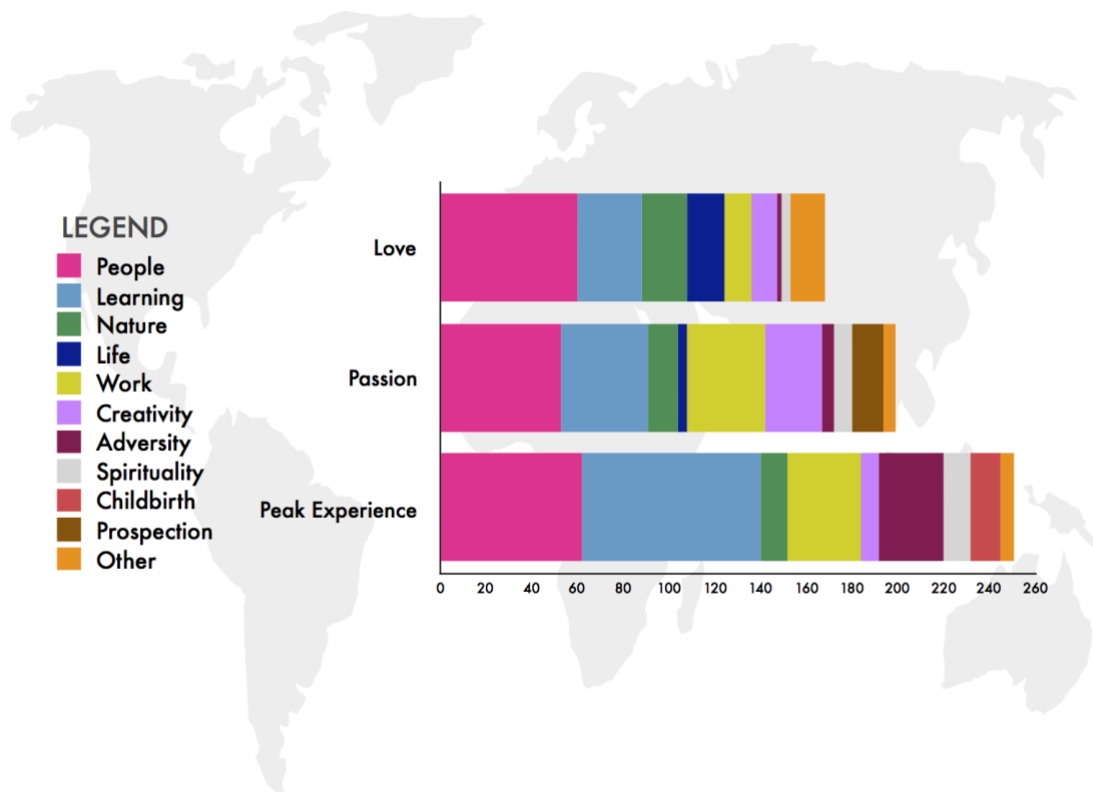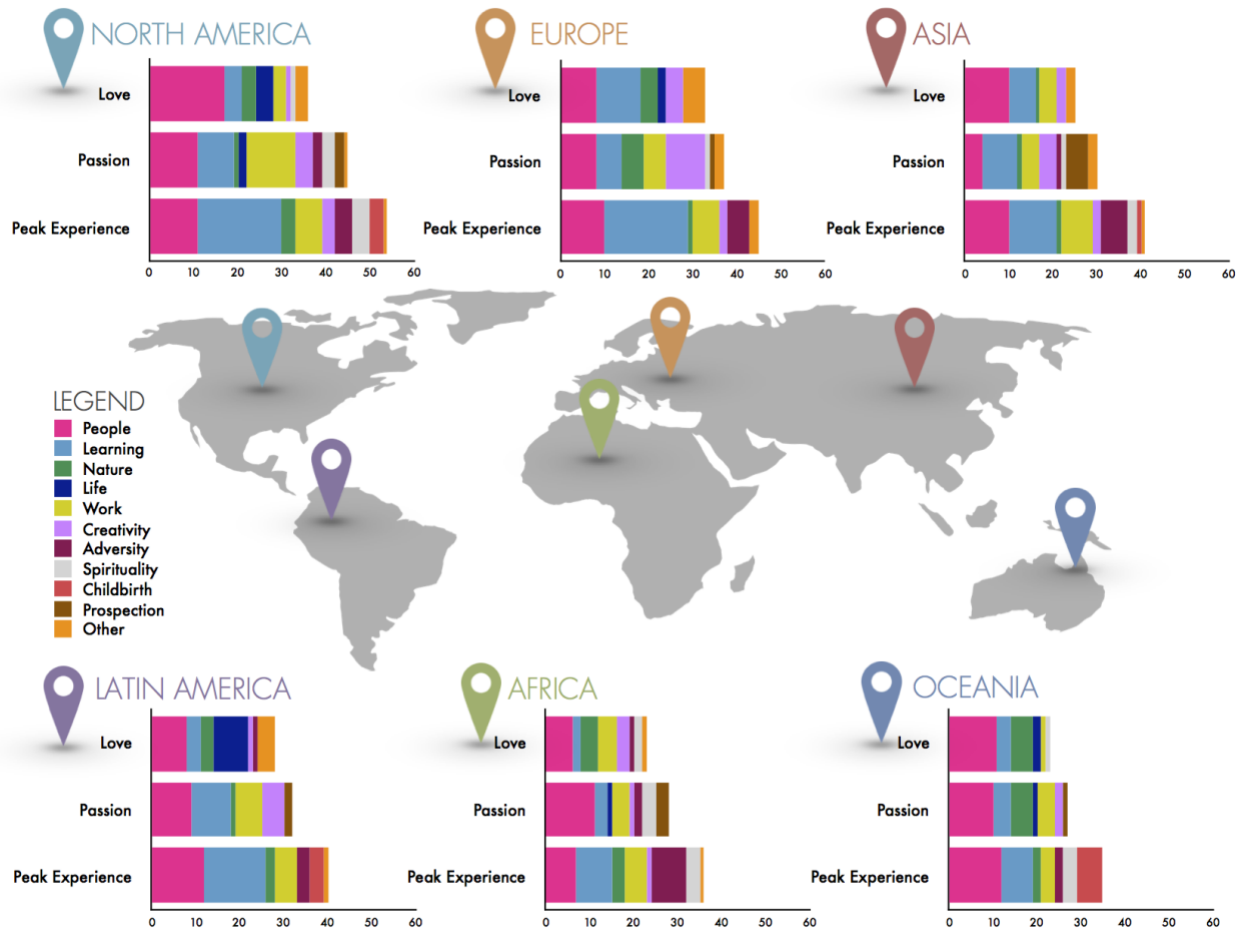

Figure 2. Pattern of themes for the constructs of love, passion, and peak experience by continent of residence. Units describe the number of participants coded within each theme.

However, there were a few notable exceptions to this trend, which the authors

hypothesized may be due to contextual factors such as income or occupation. For example, love

for Other People was coded more frequently for North American residents than for other

continents, and love of Life was mostly reported by Latin American residents. North American

residents reported passion for Work more frequently than residents of other continents, and

Learning and Growing was a more prevalent peak experience for North American and European residents when compared to residents of Africa and Oceania. Finally, childbirth in peak experience was more prevalent in Oceania. These findings hint that cultural and contextual influences may systematically impact how people experience love, passion, and peak experiences (see Mouton & Montijo, 2017 for a more detailed discussion).

There was also preliminary evidence that the prevalence of some themes might have been impacted by certain contextual factors such as income and occupation. Specifically, the authors noted a difference in the themes of Learning and Growing and Overcoming Adversity such that participants from higher income, more developed nations were more likely to report experiences of the former versus the latter, while the opposite was true for those from lower income, less developed nations. In addition, the theme of Work seemed to also be more prevalent in higher income, more developed nations as well as in people from helping professions. The authors suggested that these observations may reveal how experiences of love, passion, and peak experiences vary according to the available opportunities in one's environment. The present study tested these observations using quantitative methods.

Research Questions and Hypotheses

The two research questions driving the present study were generated from the insights of Mouton and Montijo (2017) with a view to testing the authors' initial findings utilizing a larger (but diverse) sample and quantitative methods. Based on the findings of the 2017 study, a series of hypotheses were devised regarding: (a) the prevalence of primary themes that emerged from the original qualitative analyses of participants' accounts of love, passion and peak experience; (b) the potential relationship between love / passion / peak experience and BPNS / psychological complexity; and (c) the variation of themes by culture and context.

Research Question 1

Do love, passion, and peak experiences satisfy BPN as well as lead to the development of psychological complexity through differentiation and/or integration?

Hypothesis 1. The two most frequently coded themes across love, passion, and peak experience will be Other People and Learning and Growing. Responses coded as such will have a higher mean importance rating than responses coded in other themes (e.g., Nature).

Hypothesis 2. Satisfaction with what the participant loves, is passionate about, and had a peak experience in will be significantly and positively related to satisfaction of BPN when engaging in what the participant loves, is passionate about, and had a peak experience in. Additionally, satisfaction of BPN when engaging in what the participant loves, is passionate about, and had a peak experience in will be statistically significantly higher than satisfaction of BPN in life generally.

Hypothesis 3. More love, passion, and peak experience responses will help achieve developmental outcomes related to both differentiation and integration (i.e., have evidence of psychological complexity) than only differentiating, only integrating or none.

Research Question 2

Do subjective accounts of love, passion, and peak experience vary in meaningful ways including as a result of culture and context?

Hypothesis 4. There will be more variation in key themes within than between groups consisting of (a) continents of residence, (b) region of residence, (c) cultural values of country of residence, and (d) income classification measured by the World Bank Gross National Income (GNI) of country of residence (Fantom & Serajuddin, 2016).

Hypothesis 5. Participant responses for love, passion, and peak experience that are coded as Learning and Growing will be positively and significantly related to the GNI of the participant's country of residence when controlling for family income level and income satisfaction

Hypothesis 6. Participant responses for love, passion, and peak experience that are coded as Work will be positively and significantly related to the GNI of the participant's country of residence.

Hypothesis 7. Of the participants who report love, passion, peak experience for Work, significantly more will be in helping professions than non-helping professions.

Hypothesis 8. The theme of Overcoming Adversity will be coded in at least 20% of participant's peak experience responses, and the probability of being coded in this theme will be negatively and significantly related to the GNI of the participant's country of residence, family income, and income satisfaction.

Summary

These research questions and hypotheses aim to refine existing theory about love, passion, and peak experiences as well as investigate novel assertions that these experiences are related to BPNS and the development of psychological complexity through differentiation and integration of the self and the environment. The study follows well established principles of scientific inquiry as the research questions and hypotheses were derived from the observations and qualitative findings of Mouton and Montijo (2017), and sought to test these findings using a larger (but diverse) sample and quantitative methods. Future research should take this line of inquiry a step further, using quantitative methods to assess the degree of overlap between the constructs of love, passion, and peak experience, validate measures of each across cultures, and

determine the degree to which love, passion and peak experience predict and promote BPNS and the development of psychological complexity. Future research directions are discussed further in the Discussion section.

Chapter 2: Methodology

This section outlines the method and measures used to address two overarching research questions in this study. First, do love, passion, and peak experience meet basic human needs as well as enable the development of psychological complexity through differentiation and integration? And secondly, do subjective accounts of love, passion, and peak experience vary in meaningful ways including as a result of culture and context? These questions are rooted in the results of Mouton and Montijo's (2017) qualitative investigation, which supplied preliminary support that the lived experiences of love, passion, and peak experience may function as pathways to self-determination (Ryan & Deci, 2008) and psychological complexity (Csikszentmihalyi & Rathunde, 1998), and that there was more variation in the prevalence of themes within each continent of residence than between continents of residence. In addition, while the constructs appear to be related, there were specific cultural and contextual nuances that emerged from previous research that were explored in the present study using both quantitative and qualitative analytic techniques in an online, cross cultural sample.

Epistemological Position and Choice of Methodology

As an undergraduate student studying psychology at Harvard University, a friend gave the author a copy of William James' *The Varieties of Religious Experience* (1982). James' use of observation, case study, and his thematic presentation of phenomena such as mystical experience, the divine, and healthy mindedness (to name a few) ignited a passion for studying the 'lived experience' of optimal human functioning. Soon thereafter, the author read and was impacted by *Flow - The Psychology of Optimal Experience* (Csikszentmihalyi, 1990), which reiterated the value of studying phenomenology to provide insights into a universal human condition and demonstrated the value of utilizing both qualitative and quantitative data to

generate knowledge (Rich, 2017). James and Csikszentmihalyi are in line with an epistemological tradition in American psychology to use subjective experience as a means to explore what makes like meaningful and worthwhile (Rathunde, 2001).

The author's epistemological orientation is rooted in the common and complementary ground between scientific paradigm positions. It draws on a pragmatic tradition espoused by Patton (2002) and Yin (2011) to seek and acknowledge numerous perspectives but agree, in accordance with a post-positivist paradigm, that there is the potential for some human experiences or constructs to be universal as a feature of a primary human condition. The epistemology underlying this investigation is also similar to the assumptions of the constructivist paradigm that (a) there are a diversity of realities and interpretations, including those of the researcher, (b) the inner, emic world perspective of novel subjective experiences is important and valuable, and (c) there is a potential for cultural relativism (Lincoln et al., 2011).

A strength of the scientific method is the iterative and recursive nature of observation, theory generation, hypothesis testing, and theory refinement that proceeds in a cycle of understanding (constructivism) and explanation (post-positivism) to produce knowledge. As such, qualitative and quantitative methodologies have relative strengths and weaknesses and more and less appropriate uses (Rich, 2017). This study takes the next step in the scientific process by using a larger, cross-cultural, online sample to test hypotheses generated from Mouton and Montijo's (2017) phenomenological investigation of love, passion, and peak experience. The present study utilizes open and closed ended survey questions and combines Quantitative Content Analysis, statistical analysis, and qualitative thematic analysis to address the primary research questions. The purpose of content analysis is to systematically review qualitative data and classify them according to characteristics, patterns, and themes the

researcher considers are useful to address research questions (Riffe, et al, 2014). This type of study functions well to link "general/nomological description/explanation with idiographic understandings of the human world" (Johnson et al., 2010, p. 65). Each method is outlined in turn below.

Situating the Researcher

The author, age 39, identifies as a middle class, American-Mexican female from Tucson, Arizona. She completed her undergraduate education at Harvard University, was a member of two Ivy League championship softball teams, and spent the first six years of her professional career as a public high school teacher, facilitator, and athletics coach in her hometown. She is the first person in her family to earn a graduate degree, and since 2010 has pursued career interests in education, consulting, and entrepreneurship. She is married to Dr. Angela Mouton, a South African woman, who has been an immigrant in New Zealand, the United Kingdom, Malta, and the United States and is also the first person in her family to earn a graduate degree. Dr. Mouton is a qualified attorney in the UK and New Zealand and practiced environmental and climate change law for ten years before attending graduate school in psychology. The researchers met as graduate students at Claremont Graduate University studying Positive Psychology. Both were motivated to contribute diverse voices to the psychology literature, which had been criticized as American-centric (Arnett, 2008) and lacking in diverse participants and authorship (Rao & Donaldson, 2015).

Participants

Data Collection

Data were collected online using Qualtrics software in two waves using snowball and convenience sampling techniques. A convenience sample is justified when a random sample is

difficult to obtain due to resource constraints and when the area of investigation is an under researched but important topic (Riffe et al., 2014). The goal was to achieve adequate representation of the primary themes to emerge from Mouton and Montijo (2017) by sampling 100 participants from each of the six continents visited in the study. Practical complications such as the use of a culturally validated BPNS measure and difficulty accessing participants from poorer countries caused an oversampling of European and United States participants and an under sampling of Asian and Latin American participants. The author and Dr. Mouton collected the first wave of data (Sample 1) as part of a separate study to test the replication of thematic findings in love, passion, and peak experience responses from Mouton and Montijo (2017) and did not include quantitative questions. In the second wave (Sample 2), the author added quantitative measures and questions to investigate the relationships of love, passion, and peak experience to BPNS and to psychological complexity defined by Csikszentmihalyi and Rathunde (1998). The qualitative data from Samples 1 and 2 were combined and analyzed together in Hypothesis 1a and Hypotheses 4 through 8, which was feasible because the qualitative questions were identical and the sampling strategies were aligned. However, only Sample 2 was used to answer Hypotheses 1b, 1c, 2 and 3, because these hypotheses required quantitative data that were not collected in Sample 1.

 Sample 1. In 2015 and 2016, the author collaborated with Dr. Angela Mouton to recruit a sample using convenience and snowball sampling techniques as part of a replication study following Mouton and Montijo (2017). Participants were required to be at least 18 years of age and speak conversational English (see Appendix A). They included undergraduate students in the author's Education Sciences courses at the University of California-Irvine (UCI), friends and colleagues from around the world, and participants recruited by friends and colleagues.

Participants were recruited in person as well as via Facebook, email, and text message. UCI students were given a brief introduction by the author in class to Mouton and Montijo's study (2017) and invited to participate online in a follow-up investigation. There was no incentive offered for their participation. All participant recruits were encouraged to share the study link with friends, family, and colleagues who met the minimum requirements (see Appendix C for an example of the recruitment post).

The survey questions were identical to the interview protocol used in Mouton and Montijo (2017) and included open-ended demographic questions related to age, gender, country of residence, and occupation (see Appendix B). These demographic responses were translated into quantitative categories used in Sample 2, so they could be included in hypothesis testing.

A total of 254 responses were collected, and 66 responses were excluded for the following reasons; 64 did not answer any survey questions, one did not consent, and one had a duplicate ID address. Overall, 188 participants (131 female; 55 male; 2 missing) were included in the analysis. The mean age was 30.47, $sd = 12.54$. Participants resided in North America (68.3%), Europe (4.3%), Asia (13.4%), Oceania (7.0%), Africa (5.4%), and Latin America (1.6%).

Sample 2. A second wave of participants was recruited between October 2018 and January 2019 via Amazon MTurk as well as a snowball sample. The snowball sample included asking personal and professional colleagues to share the survey link with their friends, family, and/or professional colleagues, and using social media posts to recruit participants on LinkedIn professional groups, Facebook, Twitter, and Craigslist. No incentive or compensation was offered. Participants were required to be at least 18 years of age, speak conversational English, and be a resident in one of the following countries - US, China, Australia, Belgium, Chile,

Hungary, Italy, New Zealand, Peru, Portugal, South Africa, or the United Kingdom (see

Appendix A). A revised survey measure was used, which included the original open-ended love,

passion, and peak experience questions from Mouton and Montijo (2017), a validated measure

for BPNS (Chen, Vansteenkiste et al., 2015), questions related to Csikszentmihalyi and

Rathunde's (1998) notion of psychological complexity, questions adapted from the WVS, and

closed-ended demographic questions (see Appendix B).

Overall, 976 responses were collected online, and of those, 640 (65.6%) were collected

using Amazon MTurk and 336 (34.4%) using a snowball sampling technique. Data cleaning

procedures excluded 296 responses for one of the following reasons: consent was not given, they

did not meet one of the primary criteria (speak conversational English and at least 18 years of

age), they did not answer any of the survey questions, or their qualitative responses were

nonsensical or written in another language. Ultimately, a total of 680 (316 female, 356 male)

responses were used for analysis. The mean age was 35.66, $sd = 11.74$. Participants resided in

North America (18.8%), Europe (39.7%), Asia (7.7%), Oceania (12.9%), Africa (13.1%), and

Latin America (7.7%). Demographic data collected in Sample 2 but not Sample 1 included

relationship status and highest level of education attained. In Sample 2, 38.6% identified as

married, 33.1% single, 16.5% as living together as married, 7.3% as separated, divorced, or

widowed, and 4.5% declined to answer. In terms of education, 58.9% reported a university level

education with a degree, 15.9% had some university education without a degree, 18.7%

completed secondary school, 5.5% had some education but did not complete secondary school,

and 0.7% declined to answer.

Combined Sample. Table 1 sets out the demographics of the combined sample. Sample

1 ($n = 188$; 21.7%) and sample 2 ($n = 680$; 78.3%) had a total of 868 participants (447 female;

411 male, 10 missing). The mean age of the combined sample was 34.55, *sd* = 12.10.

Participants resided in North America (29.5%), Europe (32.1%), Asia (9.0%), Oceania (11.7%),

Africa (11.4%), and Latin America (6.4%). More than 80% of the sample was composed of

participants native to their country of residence, although there was some variation of note in

Oceania, which was composed of only 60.7% native participants. In terms of religious affiliation,

35.3% identified Christian/Catholic, 2.8% Muslim, 5.4% Atheist, 4.4% Agnostic, 2.6% Spiritual,

9.2% other, and 29.1% reported having no religious affiliation.

Table 1

Demographics of the Combined Sample by Continent of Residence

	Sample 1	Sample 2	Combined Sample	Mean Age (*sd*)	% Male	% Female	% Native	% Immigrant
North America	127	126	253	31.89 (12.8)	36.8	63.2	91.1	8.9
Europe	8	267	275	33.82 (10.3)	64.0	36.0	81.7	18.3
Asia	25	52	77	34.96 (9.3)	58.4	41.6	78.0	22.0
Oceania	13	87	100	34.86 (11.0)	42.0	58.0	60.7	39.3
Africa	10	88	98	44.78 (14.2)	24.5	75.5	85.2	14.8
Latin America	3	52	55	31.00 (8.7)	56.4	43.6	88.2	11.8
Total	186	672	858	34.55 (12.1)	47.9	52.1	81.5	18.5

Note. There were 10 cases missing demographic data. Native refers to participants born in their

country of residence and immigrant refers to those who identify as an immigrant in their country

of residence. % Native and % Immigrant does not include Sample 1.

Procedure and Design: Quantitative Content Analysis

Quantitative Content Analysis (QCA) involves translating qualitative data into numeric

form and applying quantitative data analysis techniques to coded data (Riffe et al., 2014). In this

study, qualitative responses were evaluated according to a code book of 11 thematic categories

derived from the findings of Mouton and Montijo (2017) (see Table 2 and Appendix D) and

categorical variables for each of the themes were generated. The qualitative measures and the

procedure for QCA is set out below.

Table 2

Definitions and Examples of Thematic Codes

Level 5 Codes	Definition	Examples of Level 4 Codes (alphabetical)
Other people	Other human beings including family, friends, people in general, and strangers	children, family, friends, grandchildren, parents, partner (including husband and wife), people in general
Learning and growing	Activities and experiences that provide challenge and lead to growth	achievement, discovery, goal-striving, learning a skill or craft, leaving home, living abroad, securing first job, sport, travel
Nature	Appreciating and/or being in the natural environment, including animals	animals, being outdoors, diving, fishing, hiking, hunting, pets, surfing, swimming
Life	Being alive and appreciating the mystery of life or life in general	being alive, life itself, the mundane
Work	A specific occupation or volunteer activity	advocacy, business, entrepreneurship, farming, helping others (occupation), hospitality, medicine, law, projects, research, teaching, volunteering, youth
Creativity	Appreciating and/or performing creative arts	art, dance, film, music, painting, performance, photography, singing, theatre, writing
Overcoming adversity	Overcoming obstacles created by the self, relationships, cultural norms, or random (often tragic) events	addiction, be more authentic, death of a loved one, divorce, family rejection of gender or sexuality, illness, lack of education, poverty
Spirituality	God, religion, and the esoteric	awe of the cosmos, expansion of consciousness, God, miracles, religion, synchronicity
Childbirth	Experiencing the birth of a child (directly or indirectly)	child born, giving birth, grandchild born
Prospection	A passion expressed as an aspiration, goal or desire for the future	have a family, improve life, travel, work in a desired industry, work in the outdoors
Other	Miscellaneous categories	country, food, freedom, happiness, material things, none, peace

Qualitative Measures

The survey asked the same open-ended questions as Mouton and Montijo (2017), namely

"What do you love?", "What is a great passion in your life?" and "What has been a peak

experience in your life?". These questions were designed to be culturally sensitive by allowing the participant to define the meaning in their own way. Then, in alignment with the procedure of the original study, participants were asked follow up questions about a specific love, passion, or peak experience reported. The majority of follow up questions were adapted from measures used widely in cross cultural contexts, and participants were not required to submit an answer. In order to maintain a reasonable survey length, participants were randomly assigned into one of three conditions (love, passion, or peak experience) to answer follow-up questions about basic psychological need satisfaction and outcomes related to psychological complexity via differentiation and integration. After the three open-ended questions about love, passion, and peak experience, participants were asked,

> Thinking about your response to the question 'What do you love?'/ 'What is a great passion in your life?'/ 'What has been a peak experience in your life?', please choose one item and type it into the space below. You may choose either the first thing you responded with or the most significant thing to you. Think specifically about this item as you answer the remaining survey questions.

Subsequent quantitative questions were asked about this one item. While the survey intended for participants to identify only one thing, in some cases they identified more than one. Thus, the "one thing" category was also independently coded by the author using the same methodology as Mouton and Montijo (2017) and interrater reliability was calculated.

QCA

Qualitative responses to the questions "What do you love?" "What has been a great passion in your life?" and "What has been a peak experience in your life?" were downloaded into

an Excel spreadsheet (see Appendix E) where two coders independently identified whether a

theme was present (1) or absent (0) for each of the 11 primary themes (Other People, Learning

and Growing, Nature, Life, Work, Creative Arts, Overcoming Adversity, Spirituality, Childbirth,

Prospection, and Other). In the event a response contained novel content, it was coded as

"Other", and the words were entered verbatim into the spreadsheet. A detailed explanation of

how this novel content was coded is given in the Qualitative Procedures and Design section

below.

Response lengths varied from a single word such as "adventures" or "Family" to phrases

like "having an accident on my bike", and to longer paragraphs as depicted below:

I love immersion. I love immersing myself in another world. That could mean letting

my imagination run wild when watching an intense movie, a fascinating book or taking

on the persona of a character when playing a video game. I love exploring a new

location, a world away from the world I know, to challenge my ideals and improve on

what I know. Or getting immersed in someone else's world. Falling in love, getting to

know every aspect of a special someone.

As such, some responses were coded in a single category while others were coded in

multiple categories.

Every response was coded independently by two coders. A total of three coders was used

including the author (Coder 1), Dr. Mouton (Coder 2) from the original study, and a 24-year-old

South African woman living in Stellenbosch, South Africa (Coder 3) who was hired, trained, and

paid for the role. She was a university graduate, majoring in philosophy and was a relative of Dr.

Mouton. A third coder was included to increase the rigor of the study since the author and Dr.

Mouton created the codebook. Future research can increase the reliability of the code book by

utilizing additional coders other than the author and Dr. Mouton. First, the author and Dr. Mouton independently coded responses for love, passion, and peak experience for the first thirty cases, IDs numbered 1 to 30. The assigned codes were discussed, which promoted a deeper understanding of the thematic categories used in the code book. Next, Coder 3 was trained on each of the 11 categories in the code book using Excel matrix tables (See Appendices D and E). Then, responses from IDs numbered 31 to 883 were independently coded by the author and Coder 3. Afterwards, the author checked the codes for consistency, and a list of the discrepancies was made. Informed by the discrepancies, the author and Dr. Mouton refined the codebook to clarify the thematic categories and communicated these clarifications to Coder 3. A second, targeted round of coding by the author and Coder 3 reassessed the responses where there was a coding discrepancy. Discrepancies were highlighted in a spreadsheet and reevaluated by both coders independently. Then, the author calculated Cohen's κ (1960) to assess interrater reliability for each of the 11 themes. Categories with a Cohen's κ of less than .7 were discussed by Coder 1 and Coder 3 and categories were further clarified. This process was valuable because it eliminated typos and helped to flesh out grey areas in the codes, which are considered in the discussion and limitations sections.

Interrater Reliability. Cohen's κ (1960) was calculated to assess the interrater reliability of coders on assessing the presence/absence of the eleven primary themes in love, passion, peak experience, and "one thing" responses. Table 3 sets out the final κ ratings including confidence intervals. Overall, in the vast majority of cases Cohen's κ was very good (κ > .810), and in all cases it was good (κ > .710) for all themes across love, passion, peak experience and "one thing" responses.

Table 3

Cohen's κ Interrater Reliability Ratings for Love, Passion, Peak Experience, and One Thing Responses

Thematic Categories	Love (n=868)	95% CI	Passion (n=868)	95% CI	Peak Experience (n=866)	95% CI
Other People	0.926	(0.899 - 0.953)	0.974	(0.958 - 0.990)	0.925	(0.897 - 0.947)
Learning & Growing	0.861	(0.826 - 0.896)	0.865	(0.832 - 0.898)	0.796	(0.753 - 0.835)
Nature	0.935	(0.910 - 0.960)	0.964	(0.935 - 0.993)	0.904	(0.853 - 0.951)
Life	0.747	(0.676 - 0.818)	0.773	(0.620 - 0.926)	0.899	(0.702 - 1.000)
Work	0.822	(0.748 - 0.896)	0.815	(0.760 - 0.870)	0.847	(0.791 - 0.897)
Creative Arts	0.894	(0.861 - 0.927)	0.858	(0.819 - 0.897)	0.858	(0.819 - 0.897)
Adversity	0.799	(0.415 - 1.000)	0.726	(0.428 - 1.000)	0.755	(0.664 - 0.832)
Spirituality	0.852	(0.785 - 0.919)	0.793	(0.673 - 0.913)	0.814	(0.684 - 0.916)
Childbirth	-	-	-	-	0.976	(0.954 - 0.998)
Prospection	1	(1.000 - 1.000)	0.775	(0.687 - 0.863)	0.776	(0.442 - 0.982)
Other	0.791	(0.750 - 0.832)	0.861	(0.816 - 0.906)	0.828	(0.776 - 0.874)

Thematic Categories	One Thing - Love (n=228)	95% CI	One Thing - Passion (n=217)	95% CI	One Thing - Peak Experience (n=224)	95% CI
Other People	0.956	(0.917 - 0.995)	0.907	(0.840 - 0.974)	0.807	(0.727 - 0.887)
Learning & Growing	0.709	(0.586 - 0.832)	0.962	(0.925 - 0.999)	0.750	(0.664 - 0.836)
Nature	0.948	(0.875 - 1.021)	0.975	(0.926 - 1.024)	0.809	(0.660 - 0.958)
Life	0.705	(0.431 - 0.979)	1	(1.000 - 1.000)	0.855	(0.575 - 1.135)
Work	0.921	(0.766 - 1.076)	0.98	(0.941 - 1.019)	0.779	(0.654 - 0.904)
Creative Arts	0.836	(0.709 - 0.963)	0.88	(0.798 - 0.962)	0.816	(0.659 - 0.973)
Adversity	-	-	-	-	0.809	(0.627 - 0.991)
Spirituality	1	(1.000 - 1.000)	0.887	(0.667 - 1.107)	0.829	(0.596 - 1.062)
Childbirth	-	-	-	-	0.842	(0.719 - 0.965)
Prospection	-	-	0.762	(0.501 - 1.023)	1	(1.000 - 1.000)
Other	0.896	(0.825 - 0.967)	0.72	(0.598 - 0.842)	0.792	(0.678 - 0.906)

Note: All Cohen's κ ratings are significant at the $p < .001$ level. Peak Experience contained two missing cases.

The *n* values for the One Thing categories varied due to random assignment at the data collection phase.

Procedure and Design: Qualitative

Open ended responses to the questions "What do you love?", "What is a great passion in

your life?", "What has been a peak experience in your life?" and the "one thing" question that

were coded in the QCA phase as Other were thematically analyzed according to Yin's (2011) recursive and iterative five-level cycle consisting of compiling, disassembling, reassembling, interpreting, and concluding. First, verbatim content of the responses coded as Other were compiled into an Excel spreadsheet, then responses were disassembled into smaller parts, reassembled into themes with increasing abstraction until a final set of themes emerged (see Appendix E). Finally, the meaning of emergent themes was interpreted and conclusions as to the findings are discussed.

Procedure and Design: Quantitative

The online survey included validated and adapted measures for basic psychological need satisfaction, questions related to psychological complexity, validated and adapted questions from the World Values Survey, and demographic questions. Each is discussed in turn.

Quantitative Measures

World Values Survey Items - Satisfaction and Importance. Participants were asked to rate the satisfaction and importance of what they loved, what they were passionate about, and what their peak experience had been. "How important to you is the love/passion/peak experience entry you chose? [1 – Not at all important…10 – Very important] How satisfied are you with the love/passion/peak experience entry in your life these days? [1- Completely dissatisfied…10 – Completely satisfied]. These questions were modeled from World Values Survey (WVS) items assessing satisfaction with and importance of diverse phenomena in life (Inglehart, 2014). The WVS has a long history of collecting data across cultures, and the items are constructed in a way that promotes cross-cultural understanding.

Basic Psychological Need Satisfaction and Need Frustration Scale. The Basic Psychological Need Satisfaction and Need Frustration (BPNSNF) scale (Chen, Vansteenkiste et

al., 2015) uses 24 questions to assess the satisfaction and frustration of autonomy, competence, and relatedness in life generally. The present study used the 12 items related to need satisfaction, and it did not use the items related to need frustration. The BPNSNF scale was validated using measurement equivalence tests in a diverse cross-cultural sample of individualistic and collectivist countries (Chen, Vansteenkiste et al., 2015), and it has been subsequently validated in Chile (Del Valle et al., 2018), Italy (Costa et al., 2018), Portugal (Cordeiro et al., 2016), and Hungary (Tóth-Király et al., 2018). The scale was also used to compare a rural South African sample to a rural Chinese sample (Chen, Van Assche et al., 2015).

The BPNSNF was selected over other measures because it has been validated in diverse cultural contexts, it contains an equal number of items to measure autonomy, relatedness, and competence, and it has a low enough number of items to maintain a reasonable survey length. It was used twice, once to measure need satisfaction in life generally and once to measure need satisfaction as a result of engaging in love, passion, or peak experience. The latter retained all of the original wording in the BPNSFS scale and was adapted by adding a uniform qualifier of either "When engaging with what I love", "When engaging with what I am passionate about", or "As a result of my peak experience" to the beginning of each item (see Appendix B). Response options were a 1 to 5 Likert scale ranging from "not at all true" (1) to "completely true" (5).

Chen and Vansteenkiste et al. (2015) assessed the internal consistency of the BPNSFS in samples from the US, China, Peru, and Belgium. The average Cronbach's alpha was 0.77 for autonomy, 0.77 for relatedness, and 0.81 for competence. In the present study, the Cronbach's alpha was 0.82 for autonomy, 0.88 for relatedness, and 0.88 for competence. Table 4 sets out the internal consistencies for the adapted autonomy, relatedness, competence subscales for love, passion, and peak experience. The internal consistencies were satisfactory for all subscales.

Table 4

Internal Consistency for Adapted Need Satisfaction Subscales – Cronbach's Alpha

	Autonomy (*n*)	Relatedness (*n*)	Competence (*n*)
Love	0.833 (225)	0.901 (226)	0.873 (226)
Passion	0.755 (214)	0.877 (213)	0.803 (215)
Peak Experience	0.839 (221)	0.918 (219)	0.898 (220)
Life in General	0.824 (665)	0.876 (674)	0.880 (672)

Elements of Psychological Complexity – Differentiation and Integration. The following question was adapted from Csikszentmihalyi and Rathunde's (1998) description of psychological complexity to assess whether participants perceived that their love, passion, or peak experience has helped them differentiate from and/or integrate with their environment. The question asked, "Please indicate whether you agree or disagree with each statement. What I love/What I am passionate about/My peak experience…"

a. has helped me be physically healthy and fit.

b. has helped me be mentally healthy and happy.

c. has helped me be active and involved in an activity/job that is meaningful to me.

d. has helped me to maintain good relationships with family and friends.

e. has helped me be active and involved in my community.

f. has helped me to be a wise person.

These six items represent Csikszentmihalyi and Rathunde's (1998) optimal adult outcomes, which when taken together are theorized to represent a psychological complex individual. In terms of the development of psychological complexity, items (a-c) represent *differentiation* and items (d-f) represent *integration* between the individual and their environment (Csikszentmihalyi & Rathunde, 1998). Although these items cannot definitively identify whether

an individual is psychologically complex, it is based on the theoretical principle used in other studies of complexity (e.g., Gute et al., 2008) that integration and differentiation are qualities of all highly complex systems.

Demographic Variables. Data were collected to identify age, gender, nationality, continent of residence, occupation, family income level relative to others in their country (Chen, Vansteenkiste et al., 2015), and income satisfaction (Inglehart, 2014).

Chapter 3: Results

A qualitative thematic analysis of the data is presented first, followed by quantitative results presented by hypothesis. The results from the thematic analysis include (a) responses coded as Other and (b) illustrations of differentiation and integration across cultures. In terms of the quantitative analysis, Hypotheses 1 to 3 address the first research question, namely do love, passion, and peak experience satisfy BPN as well as develop psychological complexity via differentiation and integration between the self and the environment? These analyses address the potential relationships of love, passion, and peak experience, to BPNS and outcomes that are theorized to represent psychological complexity. The remaining hypotheses concern the second research question, namely do subjective accounts of love, passion, and peak experience vary in meaningful ways due to culture and context. These analyses stem from Mouton and Montijo's 2017 qualitative study results and delve into thematic differences between continents, regions, cultural values, and income levels.

Qualitative Thematic Analysis

Emergent Themes from the "Other" Category

Primary reasons for implementing quantitative and qualitative approaches in the same study is to enhance rigor through quantitative tests while also providing context and detail to improve understanding and interpretation with qualitative analysis. This study utilizes a creative approach to studying love, passion, and peak experience that ultimately knits together insights generated by qualitative and quantitative approaches into a new knowledge. The qualitative thematic analysis in the present study was performed to refine the thematic categories from previous research (Mouton & Montijo, 2017) using a larger, online sample. In the present study, responses coded as Other for love ($n = 321$), passion ($n = 149$), and peak experience ($n = 169$)

were thematically analyzed using an iterative, recursive process outlined by Yin (2011).

Although the Other theme as a whole was present for a larger proportion of the overall sample in

the present study than the sample in Mouton and Montijo's (2017) study, the findings from both

were similarly fragmented and miscellaneous. Table 5 sets out the frequencies of emergent

subthemes for the Other category by love, passion, and peak experience in the current study.

  Mouton and Montijo (2017) identified a number of miscellaneous subthemes that were

grouped into the theme of Other. These included country, food, freedom, happiness, material

possessions, peace, money, sexual activity, and none. Each of these themes was represented in

the present sample across love, passion, and peak experience suggesting they could be relevant

across constructs. Of these, love of food, cooking and eating was the most frequently coded

subtheme accounting for 15.0% of total participants in the current study, and it was coded more

frequently than love of Life, Work, Spirituality, Overcoming Adversity, Childbirth and

Prospection (see Table 2 for thematic definitions).

Table 5

Thematic Analysis of Responses Coded as Other

	Theme	Love	Passion	Peak Experience	Sample Quote
Other Category Sub-themes from Mouton & Montijo (2017)	Country	4	1	0	"I love my country"
	Food, cooking, and eating	130	22	4	"fresh food"; "good food" "eating"
	Freedom	23	9	7	"the freedom we have in this country"
	Happiness	14	16	1	"being happy"; "happiness "
	Material possessions /Shopping	8	1	5	"shopping spree"; "first camera"
	None	3	8	15	"no love"; "yet to be found"; "no idea"
	Peace	11	2	1	"peace" "give peace"
	Money, making money, wealth, having no debt	8	13	5	"saving money"; "making money"
	Sexual activity	11	1	6	"sex"; "first time I made love"
Emergent Other Category Sub-themes	Active Leisure	3	0	0	"doing things with my hands"
	Bodies	4	0	1	"my functioning body"
	Cars, Driving	8	5	4	"Cars"; "Car rides"; "driving a fast car"
	Communication	5	1	1	"Conversation"; "Communication"
	Drink (Wine, Beer, Coffee)	4	0	0	"wine"
	Drugs	3	0	0	"Marijuana"
	Emotion	34	5	8	"laughing"; "being silly"; "calm mind"
	Gambling	1	1	1	"gambling"
	Health	7	9	1	"healthy living"; "my health"
	Holiday/Vacation	3	1	7	"goin on vacation"; "ski holiday"
	Home	20	1	7	"my home" "house in the mountains"
	Justice/activism	2	9	1	"Social enterprises"; "Justice"
	Love	21	6	20	"love"; "being loved"; "falling in love"
	Me/Self	20	9	7	"I love myself"; "being true to myself"
	Passive leisure	30	15	8	"watching sports"; entertainment"
	Physical affection	5	0	0	"hugs"
	Ritual/Celebration	4	1	57	"my honeymoon"; "getting married"
	Sensory experience	15	1	1	"peace and quiet"; "feeling of joy"
	Sleep	11	1	0	"sleeping"
	Solitude	8	0	0	"privacy"; "time alone"
	Technology	12	14	1	"technology"; "computers"

Uncategorized	23	7	11	
Uninterpretable	7	2	1	"my jop"; "series"
Universe	5	1	1	"space"; "the Universe"
Values	11	4	1	"Being honest"; "Truth"; "Fairness"

Note: Uncategorized contains themes with less than 3 responses.

Love of food, cooking and eating was mentioned in a variety of ways. For example, the theme was identified in connection with a love of family or social gatherings i.e., "My family Food Holidays"; "good food shared with those I love", "I love to bake and spend time with others"; in terms of a specific food item such as "I love food, especially boba," "pizza", "chocolate ice cream with brownies inside"; as a new experience to learn and grow i.e., "eating and reading about food", "taste new flavours", "I love trying new foods"; or as a pleasurable experience i.e., "great meals and wine," "good food", "well prepared fresh food," "going to my favourite resutrants (sic)." Some responses within the theme of love of food, cooking, and eating highlight an underlying tendency for responses across the themes to showcase how love (or passion or peak experience) enables integration and differentiation of the self with and from the environment. However, there is also evidence within this theme to suggest love does not necessarily have this function, and food, cooking, and eating can simply be loved because it is pleasurable or life-sustaining.

None of the remaining subthemes for the Other category from Mouton and Montijo (2017) accounted for more than 4% of total participants including the subtheme of "none". The ability of most participants to report a specific love, passion, and peak experience supports the notion that these experience are ubiquitous or even universal from an emic perspective (Mouton & Montijo, 2017). Although the study was limited to English, there were 252 participants who reported English was not the primary language spoken at home, thus non-native English speakers

were also able to report a love, passion, and peak experience (albeit in a second language – see section on limitations for a discussion on the potential impact of language on participant responses).

As shown in Table 5, there were at least 25 new subthemes that emerged, and of these only two were reported by more than 4% of the sample – ritual/celebration and emotions. Ritual/celebration was typically found in peak experience but not love or passion responses. These experiences included honeymoons, weddings, and anniversaries. Although, it was a smaller subtheme in peak experience that was coded in just 6.6% of overall participants, it was coded more often than the themes of the Creative Arts, Spirituality, Life, and Prospection. Therefore, the theme of ritual/celebration adds refinement to theoretical notions of peak experience. The second emergent subtheme was emotions, typically found in love responses, and included responses such as "laughing", "calm mind", and "being silly". The theme of emotions was coded in 3.9% of love responses in the study, therefore it was coded more often than love of Overcoming Adversity, Childbirth, and Prospection.

The thematic analysis of responses grouped in the Other category reveal a breadth of things that people love, are passionate about, and have peak experiences in. This is in line with the literature on optimal experiences, or flow, which has also found optimal experiences occur in a variety of activities and environments (Csikszentmihalyi, 2014). Love had nearly twice as many responses coded as Other compared to passion and peak experience, hinting that it may be more ubiquitous or have a wider relevance in the daily experience of human beings, which is consistent with literature across disciplines such as sociology, linguistics, and psychology (Greenberg, 2008; Lomas, 2018; Paludi, 2012). There were also some categories that seem relevant to one or two but not all three experiences. The two most evident examples are the

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theme of food, cooking and eating, which was much larger in love responses, and

ritual/celebration found mostly in peak experience responses. Other examples included the theme

of happiness, which was present in love and passion responses but was rare in peak experience;

the theme of emotion, which was found in love responses but not as often in passion or peak

experience; and sexual activity, present in love and peak experience but rare in passion

responses.

In Their Own Words – Differentiation and Integration of the Self

There was evidence in people's responses across themes that the experiences of love,

passion, and peak experience function to differentiate and integrate the individual from and with

their environment. Table 6 provides a summary of illustrative quotes organized by construct and

by continent. In each case, participants describe having meaningful connections with others

including romantic partners, friends, colleagues, and people in general (e.g., "Meeting my

partner," "compete against others who share that passion," "bring joy to others") as well as

engaging in self-defining activities or experiences such as sports, the creative arts, work, and

spirituality (e.g., "Making a national sport team," "dancing", "I love my job," and "Spiritual

development of youth"). The table represents the diversity of participants in terms of country of

residence, age, and gender. These quotes were selected because they illustrate an underlying

commonality, namely that love, passion, and peak experiences help to develop and define the

self through differentiation and to connect the self with others / the environment via integration.

In some cases, that happens in the same activity or experience (e.g., "I love nothing more than to

experience the joy of mastering some craft and then to compete against others who share that

passion. I get to explore the deepest facets of my knowledge in this masterful competition")

while in other responses, participants described distinct activities or experiences (e.g., "Getting

married to my life partner. Completing a marathon"). Table 6 showcases how differentiation was evident in a variety of things such as mastering a craft, dancing, travelling to a new place, work, achieving a goal, and learning new things, while integration was illustrated by connecting to others, falling in love, helping others, being with friends and family, making new bonds, and pregnancy.

Table 6

Illustrative Quotes of Integration [I] and Differentiation [D] Across Love, Passion, and Peak Experience

Construct	Raw Data	Country of Residence	Gender	Age
Love	*[D; I] I love nothing more than to experience the joy of mastering some craft and to then compete against others who share that passion. I get to explore the deepest facets of my knowledge in this masterful competition.*	USA	M	23
	[I] Chat with friends, to laugh and smile, [D] to travel around, to cook and eat and drink well and last but not least to have good sex	Portugal	M	58
	[I] I love love. I love being in love with my husband, I love feeling loved by my family and friends (and husband of course). [D] I love running and I love being outdoors. I love knowing that I am doing right by myself	China	F	42
	[I, D] I love immersion. I love immersing myself in another world. That could mean letting my imagination run wild when watching an intense movie, a fascinating book or taking on the persona of a character when playing a video game. I love exploring a new location, a world away from the world I know, to challenge my ideals and improve on what I know. Or getting immersed in someone else's world. Falling in love, getting to know every aspect of a special someone.	Australia	M	24
	[I] I love God! I love my children! So blessed to have an amasing son and daughter. I love my grandson, being a granny is amazing. I love my family, all of them, especially my sisters, nieces and nephews! [D] I love my job. I am a teacher, have been for almost 40 years!	South Africa	F	59
	[I] I love being around people specially friends and family. [D] I love acomplishing great results on what I do and bein recognized for that. I love excersising especially running. [I] I love to have friends that I can talk to about my things.	Mexico	F	38
Passion	*[D] Self-realization Spiritual development of youth [I] Serving others by being a true friend and by teaching.*	USA	M	33
	[I] Creating experiences for my kids – [D]trying new things.	UK	F	38
	[D] My passion is to visit different places, see different cultures, [I] mix with different people.	India	M	30
	[D, I] Creating things thaT HELP OTHERS AND BRING JOY TO OTHERS	Australia	F	46

	[D] Gardening. Getting plants to grow. [I] Spending quality time with friends. [D] Learning new things and passing on knowledge. [I] Meeting strangers	South Africa	F	62
	[I] My husband, [D] dancing and writing.	Brazil	M	20
	[I] Getting married to my life partner. [D] Completing a marathon. Completing an Ironman. [I, D] Pregnancy and going through natural childbirth.	USA	F	36
	[I, D] My two year abroad in South Korea and Japan as an international student. I made new bonds, new experiences and improved myself in general.	Italy	M	26
	[I] Being in love Laughing with family [D] Being recognized at work [I] When someone I love achieves their goals	Malaysia	F	32
Peak Experience	*[I, D] making it to 28 years with my partner including conquering cancer!* *[D] Making a national sport team quite late in my sporting career.*	Australia	F	51
	[I] Meeting my partner.. [D] graduating at university	South Africa	M	32
	[I, D] I was an scout leader in my country, and my peak experience was to have created values in children that today are men and women distributed around the world. Having influenced their lives for good, demonstrates the power we have over future generations, and knowing that thanks to my contribution are the people that they are today, I consider it a great achievement.	Chile	M	36

Note: The raw data is verbatim from participant entries. Entries by construct are organized by continent in the order of North America, Europe, Asia, Oceania, Africa, and Latin America.

A similar pattern of differentiation and/or integration was found in responses coded as Other. While many responses were single words such as "cars", "sleeping", and "wine" where the motive behind engaging in that activity must be inferred, there were a number of responses that provided more context. People described loving things such as "laugh with the people", "socializing on social media", "to be loved and accepted in the society", "fighting and asking for democracy", and "kindness, compassion, mercy, love", which correspond to the integrative function theorized in psychological complexity, namely to maintain good relationships, to be active and involved in my community, and to be a wise person. There were similar findings for

passion and peak experience. For example, in terms of passion, "teaching my son to love", working towards gender equality", and "learning to love unconditionally", and for peak experience, "paying vacation to my parents", "experiencing my culture and heritage", and "realising that when you love something, or someone more than yourself, you find an amazing freedom from self absorbtion that you never knew existed [sic]." The raw data also provides evidence for differentiation in love, passion, and peak experiences responses coded as Other. Responses correspond to the criteria of being physically healthy and fit, mentally healthy and happy, and active in a job or activity that is meaningful. For example, for love illustrative responses included "a physical body that moves", "my functioning body", "my calm mind," "to laugh and smile", "feeling well about myself", "when there's no anxious doubts in my mind", "being (in) therapeutic circles", "finding creative solutions to common problems". In terms of passion, people said, "wellness...basically what you need to live longer", "staying healthy", "bring positive energy where ever I am", "being the best I can be", "save seas from plastic", making my home and environment beautiful", and for peak experience examples include, "lose weight for better health", "treated ourselves to the spa", "reorganising my life according to my needs", "being comfortable in my own skin and being content with who I am", "making representations to the Namibian government", and "launched my cookbook".

Taken together, the data from this study illuminate how love, passion, and peak experiences might relate to optimal developmental outcomes through a process of integration and differentiation between the self and the environment. The pattern of integration (e.g., maintain healthy relationships) and differentiation (e.g., physically healthy and fit) emerged across themes, constructs, cultures, and contexts suggesting it could be a common underlying feature of love, passion, and peak experience. Again and again, people described how what they love, are

passionate about, and their peak experience helps them to be a better version of themselves by engaging in meaningful, personally valued activities and relationships.

Quantitative Analysis

Hypothesis 1

The first set of hypotheses addressed the frequency and importance of the themes of Other People and Learning and Growing to love, passion, and peak experience.

Hypothesis 1(a). The two most frequently coded themes across love, passion, and peak experience will be Other People and Learning and Growing.

Based on the results of Mouton and Montijo (2017), it was hypothesized that Other People and Learning and Growing would be the two most frequently coded themes across love, passion, and peak experience. Table 7 sets out the results of a frequency analysis to assess the number of participant responses coded under each of the 11 themes for love, passion, and peak experience. For all three constructs, Other People and Learning and Growing were the two most commonly coded themes supporting Hypothesis 1(a) and results from previous literature (Mouton & Montijo, 2017). Love had the highest proportion of responses coded under the theme of Other People whereas for passion and peak experience, Learning and Growing was the top theme.

A number of secondary themes were prevalent for one or two but not all three constructs. For example, (a) more than one in three participants were coded under love of Nature compared to just over 10% in passion and peak experience, (b) more than one in ten were coded under love of Life whereas very few participants were coded as having passion for life (1.7%) or peak experiences of life (0.9%), (c) considerably more people were coded under love of Creative Arts (25.1%) and passion for Creative Arts (23.4%) than under peak experience (5.7%), (d)

noticeably more people were coded under Work in passion (15.7%) and peak experiences

(13.9%) than for love (8.1%), (e) a peak experience involving Childbirth was reported by 116

participants (13.4%) whereas zero people were coded as having a love or passion for Childbirth,

and (f) the theme of Prospection was present for passion (5.99%) but was extremely rare for love

(0.35%) and peak experience (0.58%) (see Table 2 for definitions of the themes) . Taken

together, the results suggest that Other People and Learning and Growing are foundational to the

subjective experience of love, passion, and peak experience, whereas secondary themes tended to

cluster under one or two of these constructs but not all three.

Table 7

Coding Frequencies by Theme for Love, Passion, and Peak Experience Responses

	Love		Passion		Peak Experience	
	Present (n=868)	% Total	Present (n=868)	% Total	Present (n=866)	% Total
Other People	599	69.01%	298	34.33%	359	41.45%
Learning and Growing	336	38.71%	383	44.12%	480	55.43%
Nature	268	30.88%	95	10.94%	91	10.51%
Life	100	11.52%	15	1.73%	8	0.92%
Work	70	8.06%	136	15.67%	120	13.86%
Creative Arts	218	25.12%	203	23.39%	50	5.77%
Overcoming Adversity	3	0.35%	6	0.69%	67	7.74%
Spirituality	63	7.26%	27	3.11%	30	3.46%
Childbirth	0	0.00%	0	0.00%	116	13.39%
Prospection	3	0.35%	52	5.99%	5	0.58%
Other	321	36.98%	149	17.17%	169	19.52%

Note. There were two cases with data for love and passion, but not peak experience.

Hypothesis 1(b). Love, passion, and peak experience responses to the "one thing" question that were coded as Other People will have a higher mean importance rating than the importance rating of those responses coded in other themes (excluding Learning and Growing).

Hypothesis 1(c). Love, passion, and peak experience responses to the "one thing" question that were coded as Learning and Growing will have a higher mean importance rating than the importance rating of those responses coded in other themes (excluding Other People).

Data Preparation for Hypotheses 1(b-c). Participants were randomized into rating the importance of "one thing" they loved, were passionate about, or had a peak experience in. In order to test whether there was a statistically significant difference in mean importance scores between participants coded under the themes of Other People and Learning and Growing and those who were not, participants were classified into four groups based on how their responses

were coded in terms of Other People (present/absent) and Learning and Growing

(present/absent). The first group consisted of participants whose responses were coded with both

themes absent ($n = 225$), the second group had responses with Other People, present and

Learning and Growing, absent ($n = 207$), the third had responses with Learning and Growing,

present and Other People, absent ($n = 208$), and the final group had responses with both themes

present ($n = 29$).

Assumption Testing for Hypotheses 1(b-c). The author intended to use one-way

ANOVAs to test these hypotheses and examine the difference of mean importance scores

between groups. However, 25 outliers were found when inspecting a boxplot. Also, the

assumption of normality was violated for the group with both themes absent (skew = -2.119;

kurtosis = 5.126) and the Other People, present and Learning and Growing, absent group (skew

= -4.226; kurtosis = 20.966), so the decision was made to transform the dependent variable.

Thus, the dependent variable was reverse scored and log transformed, and the assumptions were

rechecked. However, the transformation was not successful as a visual inspection of boxplots

found the Other People, present and Learning and Growing, absent group was still problematic

due to 15 outliers and a violation of the assumption of normality as assessed by skew (2.598) and

kurtosis (6.384). As a result, a nonparametric test was performed.

A Kruskal-Wallis H test was selected as a nonparametric alternative to the one-way

ANOVA. Distributions of importance scores were not similar for all groups as assessed using a

visual inspection of a boxplot. Therefore, the test will assess whether there are differences in the

distributions of groups not the medians of groups.

Hypothesis Testing for Hypotheses 1(b-c). A Kruskal-Wallis H test was used to analyze

the difference in distributions of importance ratings from four groups of participants; both

themes absent (mean = 8.80, *sd* = 1.77), Other People, present and Learning and Growing, absent

(mean = 9.65, *sd* = 1.03), Learning and Growing, present and Other People, absent (mean = 8.76,

sd = 1.43), and both themes present (mean = 9.24, *sd* = 1.02). The results indicated the

distributions of importance scores were statistically significant between different groups, χ_2 (3) =

75.368, *p* < .001. Pairwise comparisons were done using Dunn's (1964) method with a

Bonferroni correction for multiple comparisons. Statistical significance was acceptable at the *p* <

.0083 level. This post hoc analysis indicated support for Hypothesis 1(b) but not Hypothesis 1(c)

as statistically significant differences in importance scores were found between the Other People,

present and Learning and Growing, absent group (mean rank = 417.70) and the both themes

absent group (mean rank = 301.30) (*p* < .001), but not between the Learning and Growing,

present and Other People, absent (mean rank = 281.42) and the both themes absent groups (mean

rank = 301.30) (*p* = .756). Hence, responses coded as Other People, present and Learning and

Growing, absent were rated as more important than responses coded under other themes whereas

there was no difference between responses coded as Learning and Growing, present and Other

People, absent and other themes in terms of their importance to the participant.

Summary of Hypotheses 1(a-c). These hypotheses addressed thematic patterns across

the love, passion, and peak experience constructs, and the findings lend support to previous

research suggesting the importance of the themes of Other People and Learning and Growing to

each construct (Mouton & Montijo, 2017). These results suggest the themes are fundamental

commonalities underlying love, passion, and peak experience. Additionally, the theme of Other

People was rated as more important across constructs than other themes (excluding Learning and

Growing), which points towards the central role family, spouses, children, friends, relatives, and

in some cases strangers play in what people love, what they are passionate about, and in their

peak experiences. On the other hand, while Learning and Growing was a top two theme across all three constructs, in the absence of Other People, it was not rated as more important than other themes across the constructs.

Hypothesis 2

Participants were randomized into rating the satisfaction of "one thing" they loved, were passionate about, or had a peak experience in. The following set of hypotheses examines the relationships between the satisfaction rating and BPNS.

Hypotheses 2(a-c)(i-iii). Satisfaction with what the participant (a) loves, (b) is passionate about, and (c) had a peak experience in will be significantly and positively related to satisfaction of (i) autonomy, (ii) relatedness, and (iii) competence when engaging with what they love, are passionate about, or had a peak experience in.

Data Preparation for Hypotheses 2(a-c). Subscales for autonomy, competence, and relatedness were composed of four items each. Missing data composed less than 2% of the overall sample, and missing values were imputed.

Testing Assumptions for Hypotheses 2(a-c). Pairwise Pearson correlations were used to test these hypotheses and investigate the relationship between two continuous variables. The author tested the assumptions of linearity and bivariate normality before running the analyses, and a visual inspection of the scatterplots revealed an adequate linear relationship, and an inspection of Q-Q plots found bivariate normality to be satisfactory. However, a number of outliers were discovered in the z-scores of basic needs subscales and satisfaction ratings for love, passion, and peak experience. A total of 50 outliers were examined case by case and were found to be composed of legitimate ratings of what participants loved, were passionate about, and had peak experiences in. In all cases, the outlier values represented low ratings, thus they represented

important variation in the sample. Therefore, the outlier values were retained as-is for the analysis.

Hypothesis Testing for Hypotheses 2(a-c). Table 8 sets out the results of the correlation analysis. As shown, there were statistically significant at the $p < .01$ level, small to moderate positive relationships between satisfaction with what the participant (a) loves, (b) is passionate about, and (c) as a result of a peak experience and BPNS when engaging with the constructs as well as BPNS in life generally. Therefore, Hypotheses 2(a-c) are supported indicating that satisfaction with the constructs is associated with the fulfillment of their psychological needs while engaging in those experiences as well as in their lives generally. It is also noteworthy that there were strong correlations between autonomy, a proxy for differentiation and relatedness, a proxy for integration (Csikszentmihalyi & Rathunde, 1998) when engaging with love, passion, and peak experience ($r = .80, .65,$ and $.76$ respectively), which were stronger than the correlation seen between autonomy and relatedness in life generally ($r = .55$), which was in line with previous cross-cultural research (e.g., Chen, Vansteenkiste et al., 2015). This finding has multiple possible interpretations. It could support the notion that love, passion, and peak experience are prototypical experiences because they satisfy multiple BPN, in particular these experiences help develop psychological complexity through integration via relatedness and differentiation via autonomy. However, with regards to love and peak experience the correlations above $r = .75$ also suggests there could be measurement overlap in autonomy and relatedness that needs refinement. Nevertheless, these findings support the proposition that engaging in love, passion, and peak experience is related to BPNS.

Table 8

Correlations and Descriptive Statistics for Satisfaction with Love, Passion, and Peak Experience Responses and BPNS Subscales

Variables	*M* (*SD*)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Satisfied - Love	7.96 (1.99)	-														
2. Autonomy - Love	16.82 (3.12)	.353	-													
3. Relatedness – Love	16.44 (3.42)	.316	.797	-												
4. Competence – Love	16.15 (3.42)	.391	.479	.542	-											
5. Satisfied – Passion	7.80 (1.89)					-										
6. Autonomy – Passion	17.24 (2.58)					.309	-									
7. Relatedness – Passion	16.59 (2.74)					.260	.654	-								
8. Competence – Passion	15.45 (3.64)					.338	.380	.424	-							
9. Satisfied – PE	8.44 (1.97)									-						
10. Autonomy – PE	15.93 (3.47)									.335	-					
11. Relatedness – PE	16.26 (3.59)									.290	.760	-				
12. Competence - PE	15.42 (4.36)									.312	.557	.432	-			
13. Autonomy – General	15.33 (3.31)	.423	.482	.453	.306	.314	.420	.412	.283	.366	.633	.552	.361	-		
14. Relatedness – General	16.09 (3.31)	.439	.374	.335	.577	.298	.274	.278	.503	.335	.340	.382	.502	.548	-	
15. Competence - General	15.92 (3.28)	.306	.524	.592	.342	.256	.247	.491	.176	.333	.542	.634	.300	.666	.467	-

Note. All correlations are significant at the p < .01 level. Love (n = 227), Passion (n = 217), and Peak Experience (n = 223). PE refers to peak

experience

Hypotheses 2(d-f)(i-iii). Satisfaction of autonomy, relatedness, and competence when engaging with what the participant (d) loves, (e) is passionate about, and (c) had a peak experience in will be significantly higher than satisfaction of (i) autonomy, (ii) relatedness, and (iii) competence in life generally.

Testing Assumptions for Hypotheses 2(d-f). Paired differences between BPNS when engaging in love, passion, and peak experience and BPNS in life generally were tested using paired samples *t-tests*. Before running the analyses, the author tested the assumptions for the paired samples *t-test*. A visual inspection of boxplots representing the difference scores between basic psychological need components when engaging in love, passion, and peak experiences and basic psychological need components in life generally revealed a total of 79 outliers, defined as cases with values of 1.5 to 3 times the interquartile range, and five extreme outliers that were more than three times the interquartile range. The decision was made to winsorize all variables to the 5th and 95th percentiles to remove extreme outliers and reduce the overall number of outliers to 59. Since the difference scores represent important variation in the sample, the remaining outliers were kept in the analysis as-is. Finally, a visual inspection of Normal Q-Q Plots determined that the winsorized variables were normally distributed.

Hypothesis Testing for Hypotheses 2(d-f). Table 9 sets out the paired *t-test* results for the satisfaction of autonomy, relatedness, and competence when engaging in love, passion, and peak experience compared to life in general. Satisfaction of autonomy when engaging with what one loves and when engaging in a passion was higher than satisfaction of autonomy in life generally at a statistically significant level of $p < .001$, and satisfaction of autonomy as a result of a peak experience was higher than satisfaction of autonomy in life generally at a marginally statistically significant level ($p = .054$). Satisfaction of relatedness was higher when engaging in a passion

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than in life generally at a statistically significant level of $p < .05$, but there was not a statistically significant difference in the satisfaction of relatedness when engaging in what one loves and as a result of a peak experience compared to life generally. In terms of competence, there was not a statistically significant difference in the satisfaction of competence when engaging in what one loves and in life generally, but there were statistically significant differences at the $p < .05$ level for passion and peak experience in the opposite direction such that satisfaction of competence was higher in life generally than when engaging in a passion or as a result of a peak experience.

Follow-up Analyses for Hypotheses 2(d-f). A series of follow-up *t-tests* was performed to examine the unexpected finding that the satisfaction of competence was lower when engaging in a passion and as a result of a peak experience. Competence scores were compared between those whose responses were coded with the theme of Other People present and Other People absent. Table 10 set out the results, which reveal statistically significant differences between the groups, at the $p < .001$ level for love, the $p < .05$ level for passion, and the $p < .001$ level for peak experience such that for those coded with the theme of Other People, the satisfaction of competence when engaging in love and passion, and as a result of a peak experience was higher than those who were not coded with the theme of Other People. These analyses suggest the theme of Other People when engaging in a passion or peak experience could protect against a lower satisfaction of competence than when compared to life generally. Put another way, engaging in passion and peak experience has the potential to result in feeling less competent than life generally when other people do not figure prominently in that activity or experience.

Table 9

Descriptive Statistics and Paired t-test Results for Autonomy, Relatedness, and Competence When Engaging in Love, Passion, and Peak Experience Compared to Life in General

		Engaging in Love, Passion, or Peak Experience		Life in General			95% CI for Mean Difference					
		M	SD	M	SD	n	Lower	Upper	r	t	df	d
Love	Autonomy	16.91	2.84	15.50	3.14	227	1.02	1.81	.50	7.09***	226	0.47
	Relatedness	16.58	3.04	16.28	3.11	227	-0.17	0.76	.34	1.26	226	0.10
	Competence	16.23	3.55	15.96	2.93	227	-0.22	0.76	.34	1.08	226	0.08
Passion	Autonomy	17.32	2.34	16.03	2.54	217	0.95	1.63	.45	7.44***	216	0.53
	Relatedness	16.70	2.43	16.28	2.90	217	0.00	0.83	.34	1.98*	216	0.15
	Competence	15.55	3.41	16.22	2.78	217	-1.19	-0.15	.22	-2.55*	216	0.22
Peak Experience	Autonomy	16.07	3.11	15.73	3.09	223	-0.01	0.68	.65	1.94	222	0.11
	Relatedness	16.39	3.25	16.35	3.00	223	-0.42	0.49	.40	0.16	222	0.01
	Competence	15.46	4.26	16.57	2.95	223	-1.70	-0.53	.29	-3.77**	222	0.30

Note: Extreme outliers were winsorized to the 5th and 95th percentiles.

* $p < .05$; ** $p < .01$, ***$p < .001$

Table 10

Results of t-tests and Descriptive Statistics Competence Difference Scores of Love, Passion, and Peak Experience by Other People Theme Present/Absent

| Outcome | Group | | | | | | 95% CI for Mean Difference | | |
| | Other People (present) | | | Other People (absent) | | | | | |
	M	SD	n	M	SD	n		t	df
Competence – Love	1.96	3.16	101	-1.09	3.66	126	-3.94, -2.14	-6.73**	223.72
Competence – Passion	0.44	3.69	50	-1.01	3.90	167	-2.65, -0.25	-2.40*	84.33
Competence – Peak Experience	0.36	4.25	84	-2.01	4.30	139	-3.53, -1.20	-4.01**	176.87

Note: Competence scores represent the difference between the satisfaction of competence when engaging in love, passion, or peak experience and the satisfaction of competence in life generally.

** $p < .001$; * $p < .05$

Summary of Hypotheses 2(a-f). Overall, there was partial support for enhanced BPNS when engaging in love, passion, and peak experience compared to the BPNS in life generally, and the results highlight similarities and differences between the constructs. Engaging in what one loves had a greater satisfaction of autonomy than life in general, but there was no difference in the satisfaction of relatedness or competence. In terms of engaging in what one is passionate about, there was a greater satisfaction of autonomy and relatedness compared to life in general, but the opposite was true for competence. Finally, along the same lines as love and passion, the satisfaction of autonomy as a result of having a peak experience was higher compared to life generally, and like love there was no difference in the satisfaction of relatedness, whereas similar to passion, participants reported lower levels of competence satisfaction as a result of a peak experience compared to life in general. The finding that the satisfaction of competence when engaging in a passion and as a result of a peak experience was lower than life generally was surprising and follow up analyses suggest the theme of Other People is an important factor in whether the satisfaction of competence is higher or lower than life generally.

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In sum, experiences of love, passion, and peak experience had different effects on the satisfaction of autonomy, relatedness, and competence, which highlights potential similarities and differences across the constructs. Specifically, love, passion, and peak experience appear to be important for the enhanced satisfaction of autonomy, whereas engaging in passion and having a peak experience can result in less satisfaction of competence when compared to life in general, particularly when other people are absent. Thus, it seems that central to the lived experience of these constructs is the sense that one has freedom and choice and is driven by one's own interests and decisions. There was not a significant difference in the satisfaction of relatedness when engaging in what one loves compared to life generally. This might be explained by the use of the word *care* in two of the four questions used to define relatedness, which has been closely linked as a defining feature of love by prototype analyses (Fehr, 2019; Fehr & Russell, 1991). Thus, care and love are very similarly associated in people's minds suggesting that love and relatedness defined as care may be tapping into the same thing. In terms of competence, engaging in a passion or peak experience was associated with lower levels of confidence and competence than life generally, which highlights the skill-building and goal-striving nature of passion (Vallerand, 2015), the unpredictable, ineffable nature of peak experiences (Maslow, 1962), and the perceived balance of challenge and skill that is a precursor to flow, a related construct to both passion and peak experience. The finding that Other People buffers against less satisfaction of competence when engaging in a passion or peak experience compared to life generally alludes to the importance of having supportive relationships available when engaging in activities and experiences that one choses, one is interested in, and which are self-defining. Since doing what you are passionate about and/or having a peak experience often involves going outside of one's

comfort zone, supportive relationships may enhance the sense that one is confident and capable of reaching their goals.

Hypothesis 3

The construct of psychological complexity follows the logic of evolutionary biology, which suggests living systems are disposed to differentiate from and integrate with their environment, and those that are effective in doing so are considered more complex. The present study used previous literature to operationalize psychological complexity in terms of six optimal developmental outcomes, three related to differentiation and three to integration (Csikszentmihalyi & Rathunde, 1998).

Hypotheses 3(a-c). More (a) love, (b) passion, and (c) peak experience responses will help achieve developmental outcomes related to both differentiation and integration (i.e., have evidence of psychological complexity) than only differentiating, only integrating or none.

Data Preparation for Hypotheses 3(a-c). Table 11 sets out the frequency of agreement with the three items representing differentiation in development (e.g., "What I love/What I am passionate about/My peak experience has helped me to be physically healthy and fit"), and three items representing integration in development (e.g., "What I love/What I am passionate about/My peak experience has helped me to maintain good relationships with family and friends"). Results demonstrate that 98.5% of participants had at least some agreement that what they love, are passionate about, and their peak experience has helped them to achieve at least one optimal outcome representing differentiation and/or integration. Of those, just 3.5% contained only agreement for items representing integration, and just 2.1% had agreement exclusively for items representing differentiation. Thus, 93.0% of the sample reported agreement with at least one item representing integration and one item representing differentiation. Furthermore, more

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than one in three participants (35.7%) indicated agreement with all six items, providing

additional support for the notion that love, passion, and peak experience help people develop

psychological complexity by achieving optimal developmental outcomes that both integrate and

differentiate one with and from their environment.

Table 11

Frequencies for Elements of Differentiation and Integration by Love, Passion, and Peak Experience

		Differentiation					Integration		
		Item 1 (%)	Item 2	(%)	Item 3	(%)	Item 4 (%)	Item 5 (%)	Item 6	(%)
Love (n = 228)	Agree	161 (70.6)	206 (90.4)		184 (80.7)		183 (80.6)	137 (60.4)	198 (87.2)
	Missing	0	0		0		1	1	1
Passion (n = 217)	Agree	130 (59.9)	199 (92.1)		174 (80.2)		149 (69.0)	140 (64.8)	189 (87.5)
	Missing	0	1		0		1	1	1
Peak Experience (n = 223)	Agree	128 (57.7)	192 (86.1)		177 (79.7)		168 (75.3)	134 (60.1)	195 (87.4)
	Missing	2	1		2		1	1	1

Note: Items were dichotomous. Items 1-6 refer to (1) physically healthy and fit, (2) mentally healthy and

happy, (3) active and involved in activity/job that is meaningful to me, (4) maintain good relationships with

family and friends, (5) be active and involved in my community, and (6) be a wise person.

Testing Assumptions for Hypotheses 3(a-c). Assumptions for the chi square goodness of

fit tests were met and assessed by SPSS, which indicated 0 cells have expected frequencies less

than 5.

Hypothesis Testing for Hypotheses 3(a-c). Chi-square goodness-of-fit tests were

performed to determine whether an equal number of participants in the love, passion, and peak

experience conditions indicated agreement with items representing both differentiation and

integration versus those that indicated no agreement or agreement with only items representing differentiation or integration. All three conditions were statistically significantly different, and each is discussed in turn. Of the 228 participants in the love condition, 213 had agreement with at least one item representing differentiation and one of integration, and 15 had either no agreement or agreement with either items indicating just differentiation or integration. The minimum expected frequency was 114. Results indicated that the two groups were statistically significantly different, $\chi^2(1) = 171.947$, $p < .001$, with 93.42% of the participants indicating that what they love helps them achieve both differentiated and integrated developmental outcomes. There were 217 participants in the passion condition, 201 indicated agreement with at least one differentiation and one integration item and 16 had either no agreement or agreement with only differentiation or only integration items. The minimum expected frequency was 108.5. Results revealed that the two groups were statistically significantly different, $\chi^2(1) = 157.719$, $p < .001$, with 92.63% of the participants indicating that what they are passionate about helps them achieve developmental outcomes theorized to differentiate and integrate them with their environment. Finally, there were 224 participants in the peak experience condition, and 208 had agreement with both elements, while 16 did not. The minimum expected frequency was 112. Results again show that the two groups were statistically significantly different, $\chi^2(1) = 164.571$, $p < .001$, with 92.86% of the participants indicating that their peak experience had helped them to both differentiate and integrate with their environment.

The results support the proposition that love, passion, and peak experience may contribute to the development of psychological complexity by helping a person achieve optimal developmental outcomes that both differentiate and integrate them with their environment. These significant chi-square differences indicate that there is a greater probability for self-reported

love, passion, and peak experiences to have helped the person reach outcomes that both differentiate and integrate them with their environment than not. In terms of specific outcomes, the two items with the highest percentage of agreement for all three constructs was "What I love/What I am passionate about/My peak experience has helped me to be mentally healthy and happy", which is an item indicating differentiation, and "What I love/What I am passionate about/My peak experience has helped me to be a wise person", which is an item representing integration. Of the three conditions, 80.6% agreed that what they loved helps them be mentally fit and happy as well as wise, 82.4% agreed with both in the passion condition as did 78.5% in the peak experience condition. Compared to other combinations of agreement between indicators of differentiation and integration, this was the highest for all three conditions suggesting that there may be specific cognitive benefits related to mental fitness and wisdom when engaging in love, passion, and peak experience.

Summary of Hypotheses 1-3

The first research question of this study is whether love, passion, and peak experiences meet BPN as well as help develop psychological complexity through differentiation from and integration with the environment. Hypotheses 1 to 3 were partially supported, providing some support for this proposition but also some disconfirming evidence. First, there were similarities across the three constructs supporting their role as prototypical experiences satisfying BPN and enabling the development of psychological complexity through integration and differentiation. The themes of Other People (integration) and Learning and Growing (differentiation) were the top two themes for love, passion, and peak experience supporting previous research from Mouton and Montijo (2017), and 93% of participants agreed that engaging with these constructs helped them to develop optimal outcomes, which are theorized to develop psychological

complexity. Additionally, BPNS while engaging in what they loved, their passions, and as a result of their peak experiences was positively and significantly related to the satisfaction of autonomy, relatedness, and competence when engaging in those activities as well as in life generally. Interestingly, strong, positive and statistically significant correlations were found between satisfaction of autonomy and relatedness when participants engaged with what they loved, were passionate about, and as a result of their peak experiences (see Table 8), and these correlations were stronger than those between autonomy and relatedness in life generally, which suggests they covary to a greater degree when engaging in love, passion, and peak experiences. Taken together, the findings suggest that love, passion, and peak experience may promote differentiation from and integration with one's environment, thereby enabling the development of psychological complexity.

There were also some differences between the constructs to consider. Some, but not all of participants' basic need scores were significantly higher while engaging in love and passion than in everyday life. In particular, autonomy scores were higher when engaging in a love or a passion, and relatedness scores were higher when engaging in a passion than when compared to autonomy and relatedness in life generally. However, there was no difference in terms of the satisfaction of relatedness or competence scores for love, autonomy scores for passion, or autonomy and relatedness scores for peak experience compared to life generally. Finally, participant's competence scores were significantly higher in everyday life than they were when engaging in their passions and peak experiences, which hints that engaging in passions and peak experiences may be experiences that stretch one outside of one's comfort zone.

Hypothesis 4

Hypotheses 4(a-d). There will be more variation in key themes within than between groups consisting of (a) continents of residence, (b) region of residence, (c) cultural values of country of residence (traditional versus secular values and survival versus self-expansion values), and (d) GNI classification of country of residence.

Data Preparation for Hypothesis 4(a). There were residents of 32 countries across six continents represented, with the USA, UK, Italy, South Africa, Australia, Portugal, India, and Brazil comprising 88.3% of the sample. Participants were categorized into one of six continents of residence matching the distinctions of Mouton and Montijo (2017). Europe included participants living in the UK, Italy, Hungary, Portugal, Russia, the Netherlands, Belgium, and Germany and comprised 32% of the sample ($n = 275$), North America was 29% of the sample ($n = 253$), primarily represented by residents in the United States (99.6%) with one Canadian resident included, Oceania included residents of Australia, New Zealand, and Fiji, and was 12% of the sample ($n = 100$), Africa was composed of only those residing in South Africa and represented 11% of the sample ($n = 98$), Asia at 10% ($n = 87$) was represented by residents of China, Korea, Hong Kong, Thailand, Singapore, Malaysia, Bangladesh, India, the Maldives, Israel, Jordan, and the UAE, and finally Latin America was 6% of the sample ($n = 55$) comprised of residents of Mexico, Honduras, Brazil, Chile, Peru, and Grenada.

Data Preparation for Hypothesis 4(b). Countries of residence of participants in the sample were classified into 15 regions as defined by the United Nations M49 standard (2019). Regions with less than 20 participants were excluded from the present analysis. The included regions included Southern Africa ($n = 98$), Northern America ($n = 253$), South America ($n = 51$),

Southern/SE Asia (n = 49), Northern Europe (n = 111), Southern Europe (n = 148), and

Australia/New Zealand (n = 100).

Data Preparation for Hypothesis 4(c). The World Values Survey has published a map of

cultural values (Inglehart & Welzel, 2014) measuring the dimensions of traditional versus

secular values and survival versus self-expression values, with a midpoint of 0 representing

countries in between each extreme. Of the 32 countries represented in the present study, 24 were

classified by Inglehart et al., (2015). The eight countries without World Values data represented

only 22 participants (2.5%). The remaining 846 participants were categorized according to

traditional and secular values into three groups; traditional values (n = 164), midpoint (n = 331),

and secular values (n = 351), and in terms of survival and self-expression values there were four

groups; survival values (n = 27), midpoint (n = 55), self-expression – low (n = 291), and self-

expression – high (n = 473). Since most of the countries in the study were classified as having

self-expression values, self-expression was divided into a low category meaning countries were

categorized between 0.1 and 1 on the WVS map and a high category denoting countries with a

value higher than 1.

Data Preparation for Hypothesis 4(d). Participant responses were collected in 2015,

2016, 2018, and 2019. For each year the participant's country of residence was classified into

their respective GNI categories as determined by the World Bank (2018). While income level

varies slightly from year to year, the variation did not impact the categorization of countries into

the annual income categories of lower middle income (average range: USD $1,019 - $4,003,

upper middle income (average range: USD $4,004 - $12,375), and high income (average range:

USD $12,376 and higher) groups. The one exception in the study was Russia, in which two

participants resided. In 2015, Russia was categorized as a high income country, whereas in 2019,

it was an upper middle income country. The lower middle income group comprised 5.1%, the upper middle income group had 20.0% and the high income group contained 74.8% of participants.

Hypothesis Testing for Hypotheses 4(a-d). Table 12 sets out the frequencies of each theme by continent of residence for love, passion, and peak experience, and Table 13 illustrates the overall ranking of themes by group (continent and region of residence, cultural values, and GNI levels). The theme of "Other" is included in Table 12 for completeness but is a catch-all of miscellaneous subthemes, the only one of significance being "Food, cooking, and eating", which is discussed in the Qualitative Results earlier. As illustrated in Figures 3, 4, and Table 12 and 13, the relative frequencies of themes were similar across groups. In particular, the frequency analysis revealed Other People and Learning and Growing were the top two themes in love, passion, and peak experience for 87% of the continents of residence, regions of residence, cultural values, and GNI levels. For continent of residence, the only exceptions when excluding the Other category were that (a) Nature was the second most prevalent theme for love in Oceania and Africa behind Other people with Learning and Growing being the third most prevalent there, and (b) Creative Arts was the second most prevalent theme for passion in Europe behind Learning and Growing with Other People coming in third. The themes of Life, Overcoming Adversity, Spirituality, Childbirth, and Prospection were less prevalent themes for love, passion, and peak experience across all groups. As such, more variation was revealed within continents than between. In other words, people across continents, regions, cultural values, and GNI levels were more similar than they were different in terms of the most prevalent themes they described in answering the key questions of the study.
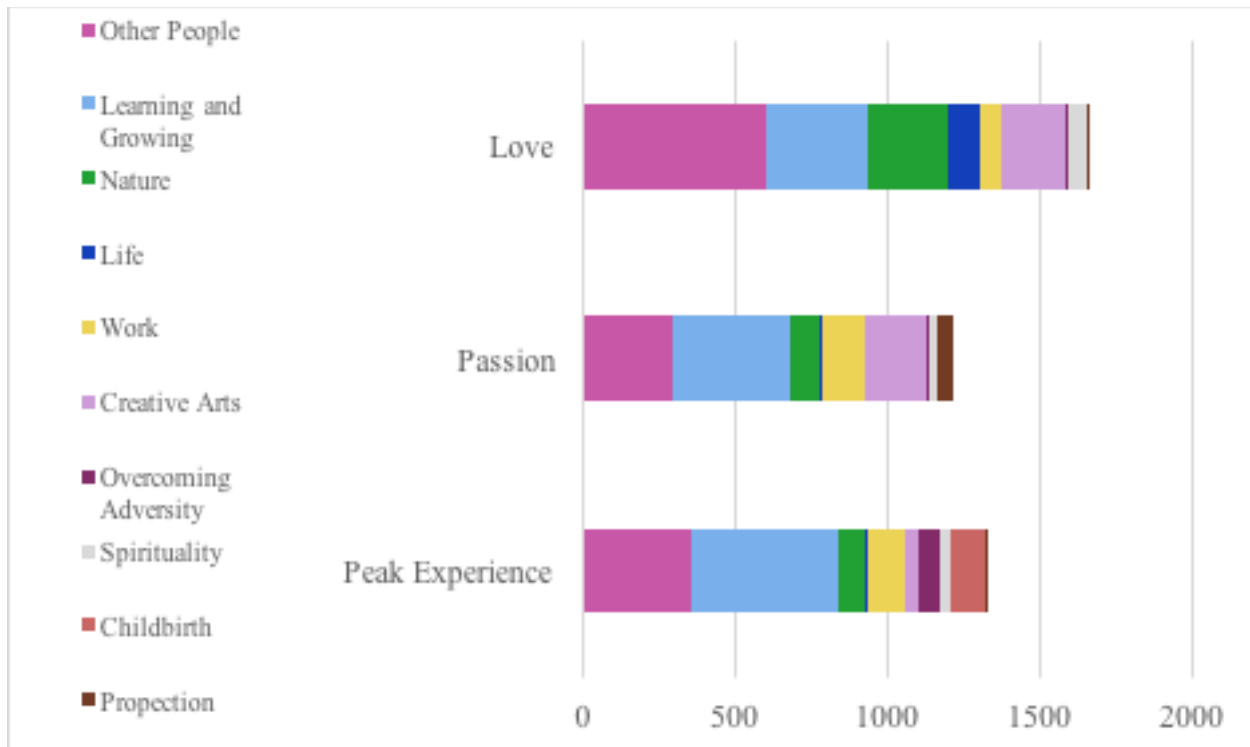
Figure 3: Pattern of themes in the present study for the constructs of love, passion, and peak experiences. Units describe the number of participants coded within each theme. The category of Other is not included because none of the subthemes of Other were primary themes.

Figure 4: Frequencies of coded responses by theme for North America (n = 253), Europe (n = 275), Asia (n = 77), Oceania (n = 100), Africa (n = 98), and Latin America (n = 55). The theme of Other was not included.

Table 12

Frequency of Themes by Continent of Residence

	Other People (%)	Learning and Growing (%)	Nature (%)	Life (%)	Work (%)	Creative Arts (%)	Overcome Adversity (%)	Spirituality (%)	Child birth (0%)	Prospection (0%)	Other (%)
LOVE - Continents of Residence (*n* = 858)											
North America (*n* = 253)	195 (77%)	80 (32%)	73 (29%)	34 (13%)	23 (9%)	52 (21%)	1 (0%)	27 (11%)	0 (0%)	0 (0%)	84 (33%)
Europe (n = 275)	175 (64%)	137 (50%)	72 (26%)	31 (11%)	22 (8%)	92 (33%)	1 (0%)	7 (3%)	0 (0%)	2 (1%)	99 (36%)
Asia (n = 77)	42 (55%)	31 (40%)	13 (17%)	9 (12%)	8 (10%)	16 (21%)	0 (0%)	6 (8%)	0 (0%)	1 (1%)	28 (36%)
Oceania (n = 100)	71 (71%)	40 (40%)	41 (41%)	11 (11%)	6 (6%)	22 (22%)	0 (0%)	7 (7%)	0 (0%)	0 (0%)	47 (47%)
Africa (n = 98)	73 (74%)	23 (23%)	52 (53%)	12 (12%)	8 (8%)	21 (21%)	0 (0%)	11 (11%)	0 (0%)	0 (0%)	41 (42%)
Latin America (n = 55)	37 (67%)	22 (40%)	15 (27%)	3 (5%)	3 (5%)	12 (22%)	0 (0%)	5 (9%)	0 (0%)	0 (0%)	16 (29%)
LOVE TOTAL	593 (69%)	333 (39%)	266 (31%)	100 (12%)	70 (8%)	215 (25%)	2 (0%)	63 (7%)	0 (0%)	3 (0%)	315 (37%)
PASSION - Continents of Residence (n = 858)											
North America (*n* = 253)	117 (46%)	102 (40%)	23 (9%)	4 (2%)	47 (19%)	44 (17%)	5 (2%)	13 (5%)	0 (0%)	20 (8%)	45 (18%)
Europe (n = 275)	61 (22%)	136 (49%)	28 (10%)	2 (1%)	27 (10%)	84 (31%)	0 (0%)	4 (1%)	0 (0%)	10 (4%)	50 (18%)
Asia (n = 77)	19 (25%)	41 (53%)	4 (5%)	4 (5%)	17 (22%)	13 (17%)	1 (1%)	2 (3%)	0 (0%)	9 (12%)	12 (16%)
Oceania (n = 100)	38 (38%)	45 (45%)	11 (11%)	2 (2%)	12 (12%)	25 (25%)	0 (0%)	3 (3%)	0 (0%)	7 (7%)	19 (19%)
Africa (n = 98)	44 (45%)	33 (34%)	21 (21%)	2 (2%)	17 (17%)	22 (22%)	0 (0%)	3 (3%)	0 (0%)	5 (5%)	12 (12%)
Latin America (n = 55)	16 (29%)	22 (40%)	7 (13%)	1 (2%)	14 (25%)	13 (24%)	0 (0%)	2 (4%)	0 (0%)	0 (0%)	6 (11%)
PASSION TOTAL	295 (34%)	379 (44%)	94 (11%)	15 (2%)	134 (16%)	201 (23%)	6 (1%)	27 (3%)	0 (0%)	51 (6%)	144 (17%)
PE - Continents of Residence (n = 856)											
North America (*n* = 253)	105 (42%)	144 (57%)	20 (8%)	3 (1%)	31 (12%)	14 (6%)	28 (11%)	13 (5%)	29 (11%)	1 (0%)	44 (17%)
Europe (n = 275)	104 (38%)	159 (58%)	32 (12%)	1 (0%)	39 (14%)	20 (7%)	12 (4%)	9 (3%)	35 (13%)	1 (0%)	42 (15%)
Asia (n = 76)	27 (36%)	35 (46%)	7 (9%)	1 (1%)	9 (12%)	7 (9%)	7 (9%)	1 (1%)	6 (8%)	1 (1%)	25 (33%)
Oceania (n = 99)	46 (46%)	58 (59%)	14 (14%)	1 (1%)	14 (14%)	3 (3%)	4 (4%)	1 (1%)	16 (16%)	2 (2%)	27 (27%)
Africa (n = 98)	47 (48%)	49 (50%)	10 (10%)	1 (1%)	14 (14%)	4 (4%)	13 (13%)	4 (4%)	27 (28%)	0 (0%)	19 (19%)
Latin America (n = 55)	22 (40%)	29 (53%)	6 (11%)	1 (2%)	12 (22%)	2 (4%)	2 (4%)	2 (4%)	2 (4%)	0 (0%)	11 (20%)
PEAK EXPERIENCE TOTAL	351 (41%)	474 (55%)	89 (10%)	8 (1%)	119 (14%)	50 (6%)	66 (8%)	30 (4%)	115 (13%)	5 (1%)	168 (20%)

Table 13

Rankings of Key Themes in Love, Passion and Peak Experiences

		n	Other People			Learning and Growing			Nature			Life			Work			Creative Arts			Overcoming Adversity			Spirituality			Childbirth			Prospection		
			L	P	PE	L	P	PE	L	P	PE	L	P	PE	L	P	PE	L	P	PE	L	P	PE	L	P	PE	L	P	PE	L	P	PE
Hyp 4a - Continents	North America	253	1	1	2	2	2	1	3	5	6	5	9	9	7	3	3	4	4	7	8	8	5	7	7	8	-	-	4	-	6	10
	Europe	275	1	3	2	2	1	1	4	4	5	5	8	9	6	5	3	3	2	6	9	9	7	7	7	8	-	-	4	8	6	9
	Asia	77	1	2	2	2	1	1	4	6	4	5	7	8	6	3	3	3	4	4	-	-	4	7	8	8	-	-	7	8	5	8
	Oceania	100	1	2	2	3	1	1	2	5	4	5	8	9	7	4	4	4	3	7	-	-	6	6	7	9	-	-	3	-	6	8
	Africa	98	1	1	2	3	2	1	2	4	6	5	8	9	7	5	4	4	3	7	-	-	5	6	7	8	-	-	3	-	6	-
	Latin America	55	1	2	2	2	1	1	3	5	4	6	7	8	6	3	3	4	4	5	-	-	5	5	6	5	-	-	5	-	-	-
Hyp 4b - Region	Southern Africa	98	1	1	2	3	2	1	2	4	6	5	8	9	7	5	4	4	3	7	-	-	5	6	7	7	-	-	3	-	6	-
	North America	253	1	1	2	2	2	1	3	5	6	5	9	9	7	3	3	4	4	7	8	8	5	6	7	8	-	-	4	-	6	10
	South America	51	1	2	2	2	1	1	3	5	4	6	6	8	6	3	3	4	3	5	-	-	5	5	6	8	-	-	5	-	-	-
	Southern/SE Asia	49	1	3	2	2	1	1	4	7	4	6	6	-	5	2	3	3	3	4	-	-	4	7	-	-	-	-	7	8	5	8
	Northern Europe	111	1	3	2	2	1	1	4	4	5	5	-	9	6	5	4	3	2	6	-	-	8	7	7	7	-	-	3	-	6	9
	Southern Europe	148	1	3	2	2	1	1	4	4	4	5	8	-	6	4	3	3	2	5	-	-	7	7	7	8	-	-	5	8	6	-
	Australia/New Zealand	100	1	2	2	3	1	1	2	5	5	5	8	9	7	4	3	4	3	7	-	-	6	6	7	9	-	-	3	-	6	8
Hyp 4c - World Values	Traditional	164	1	1	2	3	2	1	2	5	5	5	7	9	7	4	4	4	3	7	-	-	6	6	7	8	-	-	3	-	-	-
	Midpoint	331	1	2	2	2	1	1	3	6	6	5	8	9	6	3	3	4	3	7	9	9	5	7	7	8	-	-	4	8	5	10
	Secular	351	1	3	2	2	1	1	4	5	5	5	8	10	6	4	3	3	2	6	8	-	7	7	7	8	-	-	4	8	6	9
	Survival	27	2	2	2	1	1	1	4	6	6	5	6	7	-	3	3	3	3	4	7	-	4	5	6	-	-	-	-	7	5	-
	Midpoint	55	1	2	2	2	1	1	3	5	3	5	7	-	6	4	4	4	3	6	-	-	7	7	7	8	-	-	5	8	6	-
	Self-Expression (low)	291	1	3	2	2	1	1	3	5	5	5	7	9	6	4	4	4	2	7	-	-	6	7	8	8	-	-	3	8	6	10
	Self-Expression (high)	473	1	2	2	2	1	1	3	5	5	5	8	9	6	4	4	4	3	7	8	9	6	7	7	8	-	-	3	-	6	10
Hyp 4d – GNI	Lower middle income	44	1	4	2	2	1	1	4	7	3	5	5	-	3	2	6	3	2	3	-	-	3	6	7	8	-	-	7	7	5	8
	Upper middle income	172	1	1	2	3	2	1	2	5	5	5	8	9	7	3	3	4	3	7	-	-	6	6	7	8	-	-	3	-	6	-
	High income	642	1	2	2	2	1	1	3	5	5	5	8	9	6	3	3	4	3	7	8	9	6	7	7	8	-	-	4	8	6	10
	Mouton & Montijo (2017)	150	1	1	2	2	2	1	3	6	6	4	9	-	5	3	3	6	4	8	8	8	4	7	7	6	-	-	5	-	5	-

Note: Empty cells indicate there were no responses coded under that theme.

Hypothesis 5

Previous qualitative research from Mouton and Montijo (2017) suggested the theme of Learning and Growing, which includes activities and experiences such as achievement, travel, and learning a new skill was coded more often in responses from participants living in developed nations (e.g., Belgium) versus developing countries (e.g., India). In addition, researchers analyzing 80 nations found that agency and self-expressive values were more prevalent in economically advanced societies versus less developed ones (Welzel & Inglehart, 2010). Taken together, it was hypothesized that the theme of Learning and Growing would be significantly related to the economic reality of one's country of residence because of the availability of opportunities and the likelihood of agency and self-expression being socially valued.

Hypotheses 5(a - c)(i-ii). (i) Participant responses for (a) love, (b) passion, and (c) peak experience that are coded as Learning and Growing (present/absent) will be positively and significantly related to the GNI of the participant's country of residence. (ii) Controlling for family income and income satisfaction, participant responses for (a) love, (b) passion, and (c) peak experience that are coded as Learning and Growing will be positively and significantly related to the GNI of the participant's country of residence.

Data Preparation for Hypotheses 5(a – c)(i). GNI was treated as an ordinal variable with three groups defined as lower middle income, upper middle income, and high income. To test whether there was a linear association between GNI and the theme of Learning and Growing, a Cochran-Armitage test of trend was selected. The Cochran-Armitage test of trend uses binomial proportions from levels of the ordinal variable to assess whether or not there is a linear trend with a dichotomous dependent variable (Cochran, 1954; Armitage, 1955; as cited by Laerd Statistics, 2016).

Descriptive results set out in Table 14 show the percentage of Learning and Growing codes by each GNI group. For love, the proportion of Learning and Growing coded responses increased from the lower middle group (29.5%) to the upper middle group (33.7%) continuing to the high income group (40.8%). However, for passion the highest percentage of Learning and Growing responses was drawn from the lower middle income group (52.3%), with the upper middle group being the lowest (39.0%) and high income in between (44.2%). Peak experience had the same pattern as love with the lower middle income as the lowest proportion (37.2%), then upper middle income (51.2%), and high income (57.7%).

Table 14

Frequencies of Responses Coded as Learning and Growing for Love, Passion, and Peak Experience by GNI Income Levels (n = 858)

	GNI	Learning and Growing (present)	Learning and Growing (absent)	Total
Love	High income	262 (40.8%)	380 (59.2%)	642
	Upper middle income	58 (33.7%)	114 (66.3%)	172
	Lower middle income	13 (29.5%)	31 (70.5%)	44
Passion	High income	289 (44.2%)	353 (55.8%)	642
	Upper middle income	67 (39.0%)	105 (61.0%)	172
	Lower middle income	23 (52.3%)	21 (47.7%)	44
Peak Experience	High income	370 (57.7%)	271 (42.3%)	641
	Upper middle income	88 (51.2%)	84 (48.8%)	172
	Lower middle income	16 (37.2%)	27 (62.8%)	43

Note: There were 10 cases missing country of residence data.

Hypotheses Testing for Hypotheses 5(a – c)(i). A Cochran-Armitage test of trend was performed to ascertain whether a positive linear trend exists between GNI level and the theme of Learning and Growing in (a) love, (b) passion, and (c) peak experience responses. Table 14 sets out the proportion of responses coded as present and absent under the Learning and Growing theme for each income level. In terms of what people loved and their peak experiences, the Cochran-Armitage test of trend revealed statistically significant linear trends at the $p < .01$ level, such that the proportion of responses coded under Learning and Growing increased as the GNI level increased. Therefore, hypotheses 5(a)(i) and 5(c)(i) were supported indicating that higher income levels in the country of residence was associated with a higher proportion of love and peak experience responses being coded under the Learning and Growing theme. For passion, the Cochran-Armitage test of trend did not reveal a statistically significant linear trend between GNI levels and the theme of Learning and Growing in passion responses, $p = .821$, but note that passion for Learning and Growing dips for lower middle income people compared to people in lower middle income and high income countries. Therefore, the hypothesis of a significant positive relationship between GNI and the theme of Learning and Growing in passion responses is not supported.

In sum, this set of hypotheses lends support to the notion that the frequency of Learning and Growing experiences in love and peak experience is related to the income levels of a person's country of residence, but not for passion. Specifically, this suggests that people living in countries with lower income levels are less likely to report the theme of Learning and Growing in terms of love and peak experience. However, even so, more than half (52%) of participants in the study's lowest income countries reported a passion coded under the theme Learning and Growing.

Data Preparation for Hypotheses 5(a – c)(ii). Variables were prepped for analyses such that GNI was treated as a categorical variable with high income as the reference group, and family income and income satisfaction were treated as continuous variables.

Testing Assumptions for Hypotheses 5(a – c)(ii). To assess these hypotheses, we used binomial logistic regression, which has three key assumptions to check with regards to linearity, multicollinearity, and outliers. Family income and income satisfaction were treated as continuous variables. Linearity of these two variables in terms of the logit of the dependent variable (Learning and Growing theme in love, passion, and peak experience responses) was evaluated via the Box-Tidwell procedure. A Bonferroni correction was applied using all seven terms in the model resulting in statistical significance being accepted when $p < .0083$ (Tabachnick & Fidell, 2014). Based on this assessment, both variables were found to be linearly related to the logit of the dependent variable in the love, passion, and peak experience conditions. There was no multicollinearity between the variables as assessed from the correlation between the two continuous variables in the model ($r = .474$, $p < .001$), and no significant outliers greater than plus or minus two standard deviations were found.

Hypothesis Testing for Hypotheses 5(a-c)(ii). Binomial logistic regression was conducted to analyze the effects of country of residence GNI, family income, and income satisfaction on the likelihood that participants described the theme of Learning and Growing in their (a) love, (b) passion, and (c) peak experience responses. The logistic regression models for love and passion were not statistically significant, $\chi_2 (4) = 8.775$, $p = .067$ and $\chi_2 (4) = 4.875$, $p = .300$, respectively. Of the five predictor variables for love and passion, none were statistically significant indicating there was no relationship between the theme of Learning and Growing in love and passion responses and the GNI of participants' country of residence, family income, or

income satisfaction. In terms of peak experience, the logistic regression model was statistically

significant, $\chi_2 (4) = 11.617$, $p = .020$. The model explained 2.4% (Nagelkerke R_2) of the variance

in the theme of Learning and Growing and correctly classified 58.1% of cases. As shown in

Table 15, two predictor variables were statistically significant – the comparison between GNI –

high income and GNI – lower middle income and family income. These results indicate that

participants living in countries from the high income group were 2.27 times more likely to have

their peak experience responses coded as Learning and Growing than participants living in lower

middle income countries, *Odds ratio* = 2.27, *p* =.022. Additionally, for each increase in family

income, the odds of having a peak experience related to Learning and Growing increased by a

factor of 2.19, controlling for the other predictors in the model.

Overall, there is some evidence to support a positive association between the income

level in a participant's country of residence and the theme of Learning and Growing in love and

peak experience but not passion responses. However, in both cases the results were weak. In

terms of love, the positive relationship between income level and Learning and Growing

disappeared when controlling for family income and income satisfaction, and for peak

experience, the accuracy of the null model improved marginally from 55.6 % to 58.1%. Thus,

based on these results we can conclude that GNI of a participant's country of residence did not

have a large impact on whether a response was coded as Learning and Growing in terms of what

people loved, were passionate about, and had peak experiences in.

Table 15

Logistic Regression Predicting Likelihood of Learning and Growing Theme in Peak Experience Responses Based on GNI, Family Income, and Income Satisfaction (n = 651)

	B	SE	Wald	*df*	*P*	Odds Ratio	95% CI for Odds Ratio	
							Lower	Upper
GNI – lower middle income			6.63	2	.036			
GNI – upper middle income	-.82	.36	5.28	1	.022	.44	0.219	0.886
GNI – high income	-.29	.20	2.10	1	.147	.75	0.506	1.107
Income satisfaction	.01	.04	.14	1	.709	1.01	0.942	1.093
Family income	.20	.10	4.04	1	.045	1.22	1.005	1.475
Constant	-.39	.29	1.78	1	.182	.68		

Hypothesis 6

Maslow's hierarchy of needs theory (1970) posits that a person is motivated to meet basic physiological needs before striving to satisfy higher order needs such as love, belonging, or self-actualization, and previous qualitative research from Mouton and Montijo (2017) suggested the theme of Work was coded more often in responses from participants living in developing nations (e.g., India) versus developed countries (e.g., Belgium). In addition, researchers analyzing 80 nations found that for agency to be a driver of life satisfaction, basic material needs must be met first (Welzel & Inglehart, 2010). Thus, for people living in poorer nations, it was hypothesized that the theme of Work will occupy a central role in one's life via love, passion, and peak experience because it is a primary means of satisfying basic needs.

Hypotheses 6(a-c). Participant responses for (a) love, (b) passion, and (c) peak experience that are coded as Work (present/absent) will be positively and significantly related to the GNI of the participant's country of residence.

Hypotheses Testing for Hypotheses 6(a - c). A Cochran-Armitage test of trend was conducted to examine whether a linear trend exists between GNI level and the theme of Work in (a) love, (b) passion, and (c) peak experience responses. The income levels for the love and passion conditions were lower middle income ($n = 44$), upper middle income ($n = 172$), and high income ($n = 642$), and for peak experience they were lower middle income ($n = 43$), upper middle income ($n = 172$), and high income ($n = 641$). The proportion of responses coded under the Work theme by GNI levels were .16, .06, and .08 respectively for love, .25, .20, and .14 respectively for passion, and .07, .17, and .13 respectively for peak experience.

None of the hypotheses were supported. In terms of love and peak experience, the Cochran-Armitage test of trend did not reveal a statistically significant linear trend between GNI levels and the theme of Work in participant responses, $p = .399$ for love, and $p = .981$ for peak experience. Therefore, the hypothesis of a significant positive relationship between GNI and the theme of Work in love and peak experience responses is not supported. The Cochran-Armitage test of trend revealed a statistically significant linear trend, $p = .006$, between GNI and passion responses coded under the theme of Work. The proportion of responses coded under the Work theme for passion indicated a negative trend such that a higher proportion of passion for Work was found in the lower middle income group compared to the others. This result refutes the notion that higher income levels in a participant's country of residence is associated with a higher proportion of passion responses coded under the Work theme.

In sum, for love of Work or peak experiences involving Work, there were similar proportions of individuals from each of the GNI levels whereas having a passion for Work was less likely for participants living in countries with higher national income levels.

Hypothesis 7

Hypotheses 7(a-c). Of the participants who report (a) love, (b) passion, (c) peak experience for Work, significantly more will be in helping professions than non-helping professions.

Data Preparation for Hypotheses 7(a)-(c). Qualitative responses to the question, "What is your occupation (i.e., your work)?" were coded by the author into helping and non-helping profession categories. The definition of helping profession was informed by the literature (e.g., Schaufeli & Enzmann, 1998), and included jobs with high emotional demands such as teacher, nurse, doctor, and ministry as well as professions dedicated to the practice of helping others such as mental/behavioral professionals, child and elderly care professionals, veterinarians, police officers and firefighters, physiotherapists, coaches, and trainers. Non-helping professions included managers, administrative support professionals, musicians and artists, self-employed/freelancers, homemakers, hospitality workers, students, unemployed, and military, which are not considered by the literature to be either jobs or jobs with high emotional demands.

Testing Assumptions for Hypotheses 7(a-c). A chi-square test of independence was performed between helping/non-helping professions and the theme of Work (present/absent) in responses to (a) love, (b) passion, and (c) peak experience. All expected cell frequencies were greater than five.

Hypotheses Testing for Hypotheses 7(a-c). A chi-square test of independence found a statistically significant association between helping versus non-helping professions and the theme of Work in love responses, $\chi^2(1) = 11.861$, $p = .001$, and passion responses $\chi^2(1) = 8.344$, $p = .004$ providing support for Hypotheses 7(a) and 7(b). Both love and passion responses revealed a small positive association between helping professions and the theme of Work, $\varphi =$

.118, $p = .001$ for love, and $\varphi = .099$, $p = .004$ for passion. These results indicate participant responses coded as having a love or passion for Work were slightly more likely to be from helping versus non-helping professions (see Table 16). In terms of peak experience responses, a chi-square test of independence did not find a statistically significant association between helping versus non-helping professions and the theme of Work, $\chi_2(1) = .115$, $p = .694$. Therefore, the frequency of participant responses coded as having a peak experience with Work were not distinguishable by helping versus non-helping professions. Thus, Hypothesis 7(c) was not supported. In sum, participants reporting a love and passion for work were slightly more likely to be from helping than non-helping professions.

Table 16

Frequencies and Percentages of Participants in Helping and Non-Helping Professions Having a Response Coded as Work

	Helping Profession (n = 172)	Non Helping Profession (n = 677)
Love	25 (14.5)	44 (6.5)
Passion	39 (22.7)	93 (13.7)
Peak experience	25 (14.6)	91 (13.5)
Overall total	89 (51.7)	228 (33.7)

Note: Work represented 8.1% of the total love responses, 15.5% of the total passion responses, 13.7% of the total peak experience responses, and 12.5% of the overall responses. There was one fewer case in peak experience.

Hypothesis 8

Hypothesis 8(a). The theme of Overcoming Adversity will be coded (present/absent) in at least 20% of participant peak experience responses.

Hypothesis Testing for Hypothesis 8(a). Previous research by Mouton and Montijo (2017) found the theme of Overcoming Adversity in 20% of participant responses. A frequency

analysis of the present study revealed only 7.7% ($n = 67$) of responses were coded under this theme ($n = 866$), therefore this prediction was not supported.

Hypothesis 8(b). The probability of being coded as having a peak experience of Overcoming Adversity will be negatively and significantly related to the (i) GNI of the participant's country of residence, (ii) family income levels, and (iii) income satisfaction.

Hypothesis Testing for Hypothesis 8(b)(i). A Cochran-Armitage test of trend was performed to ascertain whether a linear trend exists between GNI level and the theme of Overcoming Adversity in peak experience responses. The income levels were lower middle income ($n = 43$), upper middle income ($n = 172$), and high income ($n = 641$), and the proportion of responses coded under the Overcoming Adversity theme was .09, .01, and .07 respectively. The Cochran-Armitage test of trend did not reveal a statistically significant linear trend between GNI levels and the theme of Overcoming Adversity in peak experience responses, $p = .241$. Therefore, the hypothesis of a significant negative relationship between GNI and the theme of Overcoming Adversity in peak experience responses is not supported.

Hypothesis Testing for Hypothesis 8(b)(ii). A Cochran-Armitage test of trend was performed to ascertain whether a linear trend exists between family income levels and the theme of Overcoming Adversity in peak experience responses. The family income levels were much below the average level of the country ($n = 27$), below the average level of the country ($n = 92$), around the average level of the country, ($n = 266$), above the average level of the country ($n = 205$), and much above the average level of the country ($n = 61$), and the proportion of responses coded under the Overcoming Adversity theme was .15, .07, .06, .05, and .08 respectively. The Cochran-Armitage test of trend did not reveal a statistically significant linear trend between GNI levels and the theme of Overcoming Adversity in peak experience responses, $p = .459$.

Therefore, the hypothesis of a significant negative relationship between family income levels and the theme of Overcoming Adversity in peak experience responses is not supported.

Hypothesis Testing for Hypothesis 8(b)(iii). A Cochran-Armitage test of trend was performed to ascertain whether a linear trend exists between income satisfaction and the theme of Overcoming Adversity in peak experience responses. The income satisfaction levels were from 1 – completely unsatisfied ($n = 43$) to 10 – completely satisfied ($n = 41$), and the proportion of responses coded under the Overcoming Adversity theme were .09, .05, .06, .07, .06, .08, .01, .09, .03, and .12 respectively. The Cochran-Armitage test of trend did not reveal a statistically significant linear trend between income satisfaction levels and the theme of Overcoming Adversity in peak experience responses, $p = .829$. Therefore, the hypothesis of a significant negative relationship between income satisfaction and the theme of Overcoming Adversity in peak experience responses is not supported.

Summary of Hypotheses 8(a-b)(i-iii). The results did not support a relationship between income levels and peak experiences of Overcoming Adversity. Unlike Mouton and Montijo (2017), which found 1 in 5 participants revealed a peak experience of Overcoming Adversity, the present study recorded only 7.7% who coded under this theme. It is worthwhile to note, however, that there was some variation between continents of residence with the highest percentage of participants reporting a peak experience of Overcoming Adversity resident in Africa. This discrepancy could be due to the fact that Mouton and Montijo (2017) had 47% of participants from low, lower middle, and upper middle GNI levels, whereas the present study was composed of 75% from high income GNI countries thereby skewing the sample and reducing power to detect an effect.

Summary of Hypotheses 4-8

Hypotheses 4 to 8 addressed the second research question, do subjective accounts of love, passion, and peak experience vary in meaningful ways due to culture and context. These hypotheses evaluated differences in the themes present in love, passion, and peak experience responses according to continent and region of residence, cultural values, and income levels. There were remarkable similarities between various cultures and contexts in terms of the relative frequency of themes present across the constructs, which supports previous literature (Mouton & Montijo, 2017). In other words, culture and context did not noticeably change the patterns of thematic representation of the 11 primary themes within love, passion, and peak experiences. Most importantly, with very few exceptions, Other People and Learning and Growing emerged as the most prevalent themes regardless of continent of residence, region of residence, cultural values, and GNI.

Many of the predictions made about variation in themes by culture and context were not supported including (a) the impact of GNI on the theme of Learning and Growing in love and passion, (b) the impact of GNI on the theme of Work in love and peak experience, and (c) the prevalence and impact of GNI on the theme of Overcoming Adversity. These predictions suffered from a lack of representation from lower and lower middle income groups, which were difficult to source using online methods, likely due to lack of access for lower income individuals to computers and/or reliable Wi-Fi access. Finally, there was some support for cultural and contextual variation namely (a) the impact of GNI on the theme of Learning and Growing in peak experiences, (b) the impact of GNI on the theme of Work in passion experiences, and the impact of helping versus non-helping professions on the theme of Work in love and passion experiences.

Chapter 4: Discussion and Limitations

Love, passion, and peak experiences are related to flourishing as generally positive, energizing, intense experiences that enable positive outcomes and well-being. Despite sharing theoretical underpinnings and definitional similarities, they have rarely been examined together. This study tested the findings from Mouton and Montijo (2017), which suggested these experiences were related as part of a universal human architecture that emerged to satisfy basic psychological needs as well as develop psychological complexity through differentiation and integration. Quantitative and qualitative approaches were used to examine this proposition in a cross-cultural sample recruited to complete an online survey. This study addressed two primary research questions, namely does engaging in love, passion, and peak experience satisfy the basic psychological needs of autonomy, relatedness, and competence as well as help develop psychological complexity through differentiation and integration, and do subjective accounts of love, passion, and peak experience vary in meaningful ways due to culture and context. In addition to addressing these questions, this study provides theory refinement for love, passion, and peak experience and discusses theoretical implications, practical applications, limitations of the study and future research directions.

The theoretical lens of this study comes from an adaptation of an open-systems model of evolutionary biology to human development (Csikszentmihalyi & Rathunde, 1998; Ryan & Deci, 2017; Delle Fave et al., 2011), which is recognized as a valid aspect of the paradigm shift in developmental science towards the assumption that ontogenic development is a fundamental part of the fabric of evolution (Overton & Molenaar, 2015). Both BPNT and the theory of psychological complexity describe human beings as having an innate tendency towards integration through ongoing connections, relationships, and relatedness with other people,

systems of value, and the ecosystem, and towards differentiation, autonomy, and the enhancement of capabilities (Csikszentmihalyi, 1996, Deci & Ryan, 2000). The process of differentiation and integration is essential to optimal development through the increased organization or synthesis of the self.

Overall, the study provides some support for the primary research questions. Table 17 sets out a summary of the hypothesis testing results and highlights what predictions were and were not supported. In terms of the first research question investigating whether love, passion, and peak experiences satisfy BPN as well as enable the development of psychological complexity, there was a general pattern highlighting love, passion, and peak experiences as potential pathways for differentiation and integration. In particular, the results indicate that the theme of Other People and the presence of meaningful relationships have a unique impact on BPNS.

First, as predicted in Hypothesis 1(a), the most commonly coded themes in participant responses were Other People and Learning and Growing, which corresponds to integration and differentiation because they refer to maintaining meaningful relationships and to developing the self through achievement, skill mastery, and travel. In addition, there was support for Hypothesis 1(b) but not 1(c) such that responses coded as Other People were rated as more important than other themes (excluding the theme of Learning and Growing), but there was no difference in the importance of responses coded as Learning and Growing compared to other themes (excluding the theme of Other People).

Table 17

Summary of Results by Hypotheses

	Result	Hypothesis
1(a)	✓	The two most frequently coded themes across love, passion, and peak experience will be Other People and Learning and Growing.
1(b)	✓	Responses coded as Other People will be rated as more important than responses coded in other themes (excluding Learning and Growing).
1(c)	—	Responses coded as Learning and Growing will be rated as more important than responses coded in other themes (excluding Other People).
2a(i-iii)	✓	Satisfaction with what the participant (a) loves, (b) is passionate about, and (c) had a peak experience in will be significantly and positively related to (i) autonomy, (ii) relatedness and (iii) competence.
2b(i-iii)	✓	
2c(i-iii)	✓	
2(d)(i)	✓	Satisfaction of autonomy, relatedness, and competence when engaging with what the participant (d) loves, (e) is passionate about, and (f) had a peak experience in will be higher than satisfaction of (i) autonomy, (ii) relatedness, and (iii) competence in life generally.
2(e)(i)	✓	
2(f)(i)	—	
2(d)(ii-iii)	—	
2(e)(ii)	✓	
2(e)(iii)	—	
2(f)(ii-iii)	—	
3(a)	✓	More (a) love, (b) passion, and (c) peak experience responses will have elements of both integration to and differentiation from the environment than only integrating, only differentiating or none.
3(b)	✓	
3(c)	✓	
4(a)	✓	There will be more variation in key themes within than between groups consisting of (a) continents of residence, (b) region of residence, (c) cultural values of country of residence (traditional versus secular values and survival versus self-expansion values), and (d) GNI classification of country of residence.
4(b)	✓	
4(c)	✓	
4(d)	✓	
5(a)(i)	✓	(i) Participant responses for (a) love, (b) passion, and (c) peak experience that are coded as Learning and Growing (present/absent) will be positively and significantly related to the GNI of the participant's country of residence.
5(b)(i)	—	
5(c)(i)	✓	
5(a)(ii)	✓	(ii) Controlling for individual income and financial satisfaction, participant responses for (a) love, (b) passion, and (c) peak experience that are coded as Learning and Growing will be positively and significantly related to the GNI of the participant's country of residence.
5(b)(ii)	—	
5(c)(ii)	✓	
6(a)	—	Participant responses for (a) love, (b) passion, and (c) peak experience that are coded as Work (present/absent) will be positively and significantly related to the GNI of the participant's country of residence.
6(b)	✓	
6(c)	✓	
7(a)	✓	Of the participants who report (a) love, (b) passion, and (c) peak experience for Work, significantly more will be in helping professions than non-helping professions.
7(b)	✓	
7(c)	—	
8(a)	—	The theme of Overcoming Adversity will be coded in at least 20% of

		participant responses to the question, "What has been a peak experience in your life?".
8(b)(i-iii)	—	The probability of being coded as having a peak experience of Overcoming Adversity will be negatively and significantly related to the (i) GNI of the participant's country of residence, (ii) individual income, and (iii) financial satisfaction.

Note: Results labeled as ✓ indicate the hypothesis was supported whereas those labeled as — were not.

Second, there was some support for Hypotheses 2 as satisfaction with what one loves, is passionate about, and one's peak experience was positively and significantly correlated with BPNS, and the satisfaction of autonomy was significantly greater when engaging in what one loves and is passionate about than in life generally (and approached significance for peak experience). In addition, the satisfaction of relatedness when engaging in a passion was significantly greater than life generally, but there was no difference for love or peak experience. There were surprising differences in the satisfaction of competence such that it was lower in the passion and peak experience conditions compared to life generally. Follow-up analyses showed that when Other People were involved in passion and peak experience, the negative relationship was eliminated. The largest themes in passion were Learning and Growing, the Creative Arts, and Work, which supports the role of passion in leisure activities, sports, the arts, and at work, echoing previous research (e.g., Vallerand et al., 2003; Vallerand et al., 2007). These results suggest that when other people are absent when engaging in a passion, the satisfaction of competence is lower than in life generally. Since obsessive passion is marked by conflict in interpersonal relationships (Curran et al., 2015), ruminations (Carpentier et al., 2012), and ill-being (Schellenberg et al., 2019), it makes sense that in the absence of social support a person might feel less confident, less capable, and less competent to achieve their goals and engage in their passion activity well compared to how they feel in life generally.

Third, Hypothesis 3 was supported indicating there was a significantly greater probability of participant agreement that what one loves, is passionate about, and their peak experience has helped them achieve optimal developmental outcomes related to differentiation and integration than not. In fact, over 90% of the sample agreed what they love, are passionate about, and their peak experience helped them achieve at least one outcome related to differentiation and one related to integration, which supports the notion that love, passion, and peak experiences may enable the development of psychological complexity. Further, 8 out of 10 participants agreed that the constructs enabled outcomes of being mentally healthy and happy (differentiation), and wisdom (integration), which represented the most common pathway that love, passion, and peak experience may help develop psychological complexity.

The present study also addressed whether subjective accounts of love, passion, and peak experience varied in meaningful ways due to culture and context in Hypotheses 4-8. The results indicate there was support for Hypotheses 4 highlighting the pattern of more variation of key themes within than between groups composed of continents of residence, region of residence, cultural values of country of residence, and GNI classification of country of residence. Notably, the themes of Other People and Learning and Growing were robust across groups, which suggests the constructs of love, passion, and peak experience may share a common foundation in an adult's subjective experience.

Previous research from Mouton and Montijo (2017) suggested there may be differences in the themes of Learning and Growing, Work, and Overcoming Adversity due to contextual factors such as socioeconomic status, type of profession, and economic indicators of one's country of residence. In terms of Hypotheses 5, which addressed the theme of Learning and Growing, there was some support illustrating a significant positive linear trend in love and peak

experience, but not passion responses, which indicates this theme was more prevalent in the former for participants living in countries with higher GNI levels. Moreover, this effect remained after controlling for perceptions of income at the family and individual levels. Hypotheses 6 investigated the theme of Work, and again there was partial support such that a significant positive linear relationship was found in passion and peak experience but not love responses, illustrating a greater proportion of responses related to Work were found in countries with a higher GNI. Additionally, Hypotheses 7 showed partial support as love and passion, but not peak experience responses coded under the theme of Work were more likely to be from helping than non-helping professions. Finally, contrary to previous research, Hypotheses 8 were not supported as the theme of Overcoming Adversity, although present, was not as prevalent in peak experience responses as predicted.

The most remarkable finding from this study is how similarly participants from around the world described what they love, their passions in life, and their peak experiences (see Table 6). In addition, there is evidence from participants of different countries, ages, and genders that what they love, are passionate about, and their peak experiences both differentiate via skill-building, achievement, and exploration and integrate through meaningful connections with others and the environment (see Table 6). Not only were responses similar across continents, cultures, and contexts, they also revealed commonalities underlying all the three experiences, namely that they share common themes such as Other People and Learning and Growing and help people integrate with and differentiate from their environment. The discovery of common themes in love, passion, and peak experience from a subjective point of view is a novel contribution to the literature and valuable considering the varied theoretical and empirical traditions of each construct (Curran et al., 2015; Gruel, 2015; Hatfield et al., 2012; Hoffman & Ortiz, 2009;

Sternberg & Sternberg, 2019; Whitehead & Bates, 2016). Furthermore, from an organismic perspective the results of this study suggest love, passion, and peak experiences can enable optimal developmental trajectories through increased organization of the self.

While it is clear from the results of this study that love, passion, and peak experience share common underlying themes when considered from the subjective experience of human beings, a few distinguishing features were also found. These differences offer theoretical refinements to love, passion, peak experience and BPN literatures. A discussion of the results is organized by research question and includes quantitative and qualitative findings.

Research Question 1 - Satisfaction of BPN and Catalysts of Differentiation and Integration

The results provide preliminary evidence in support of love, passion, and peak experiences as experiences that satisfy BPN and help the development of psychological complexity through differentiation and integration. In particular, each was found to be an important catalyst for the satisfaction of autonomy compared to life generally. This study affirms and extends novel findings from Mouton and Montijo (2017) that there are underlying similarities in love, passion, and peak experiences and presents a case for how these experiences impact positive development through differentiation, integration, and the increased organization of the self.

Love, Passion, and Peak Experience Satisfy BPN

The results of this study are in line with previous research that has linked BPNS with constructs related to love, passion, and peak experience such as attachment (La Guardia et al., 2000), harmonious passion (Curran et al., 2013), and self-actualization (Kaufman, 2018). Satisfaction with love, passion, and peak experience was moderately positively correlated with the satisfaction of autonomy, relatedness, and competence when engaging in love and passion,

and as a result of a peak experience as well as in life generally, and there were significant moderate positive correlations between the satisfaction of basic needs when engaging in love, passion, and peak experience and in life generally. In addition, the significant positive correlations between autonomy and relatedness were higher in terms of love, passion, and peak experience compared to life generally. This was the first study to examine BPNS in the context of love, passion, and peak experiences, and the results suggest a novel link between the motivation to satisfy needs for autonomy, relatedness, and competence and the subjective accounts of what people love, are passionate about, and their peak experiences. The moderately significant positive correlations illustrate these effects are in play for interpersonal as well as non-interpersonal forms of love, passion, and peak experience. Thus, this study provides evidence that both interpersonal and non-interpersonal types of love, passion, and peak experiences have the capacity to meet basic psychological needs, and these constructs may be important indicators of integration or organized developmental regulations.

Previous large scale, cross-cultural studies have supported the universality of autonomy, relatedness, and competence as basic needs (Church et al., 2012; Fischer & Schwartz, 2011). The present study, drawn from a demographically diverse, cross-cultural sample extends this support in terms of basic needs satisfaction in life generally as well as in the specific contexts of love, passion, and peak experiences. Contrary to critiques by cultural relativists that BPNT is a Western-centric theory, this study found evidence that BPNS was valid in life generally as well as the contexts of love, passion, and peak experience for Eastern/collectivist (e.g., India) and Western/individualistic (e.g., Italy) cultures.

Taken together, the findings lend support to the notion that love, passion, and peak experience may have emerged across cultures because they meet more than one basic need

and/or because they enable an increased organization of the self through differentiation and integration. Dweck's (2017) unified theory of motivation, personality, and development has self-coherence as a core concept and asserts that basic needs are a motivational system that propels development. Additionally, the theory predicts that it may be desirable to pursue goals that meet multiple needs. From this perspective, love, passion, and peak experiences could be seen as potent pathways to propel development because they meet basic needs for autonomy, relatedness, and competence.

The Importance of Autonomy to All Three Constructs

This study tested whether the BPNS was greater when engaging in love, passion, and peak experiences compared to BPNS in life generally. Specifically, the satisfaction of autonomy when engaging in what one loves and is passionate about was significantly higher than the satisfaction of autonomy in life generally, and for peak experience this finding was marginally significant therefore suggesting that the satisfaction of autonomy plays an important role in the subjective experiences of love, passion, and peak experience. Thus, there appears to be a sense that one has ownership and control over the things they love, are passionate about, and their peak experiences. It is important to note that this was an online, English speaking sample, and a majority of the participants live in countries that value self-expression (Inglehart & Welzel, 2014). Therefore, future researchers should test these findings with non-English speaking participants and those living in countries that favor interpersonal harmony.

Differences Between Love, Passion, and Peak Experience

Differences were found in terms of how love, passion, and peak experiences satisfied the needs for relatedness and competence when engaging in the construct versus life generally. Overall, the findings mesh with previous literature and theoretical foundations of love and

passion and offer new questions to explore with regards to peak experience. First, in terms of love there was no difference between the satisfaction of relatedness when engaging in love versus life generally. Since the concept of relatedness was measured as care and connection to others, which are also central tenets of love from a prototypical perspective (Fehr & Russell, 1991) and a theoretical one (Berscheid, 2010), it makes sense that there was little difference between engaging in what you love and life generally. Nearly seven out of ten participants were coded as loving Other People, thus for a majority of the sample there was little difference when considering the prompt of "when engaging in what I love" and life generally because both are tapping into the important relationships in one's life. There was some indication that the satisfaction of competence when engaging in what one loves is impacted by the theme of Other People, which fits within SDT theory and research that asserts that satisfaction of basic needs are enabled by autonomy support (Ryan & Deci, 2008).

The story for passion was more nuanced as responses demonstrated similar patterns to harmonious and obsessive passion across a wide variety of things people are passionate about in their lives. The DMP proposes two types of passion distinguished by autonomous (Harmonious Passion, HP) versus controlled motivation (Obsessive Passion, OP). People high in HP have been associated with higher levels of well-being including markers of interpersonal wellness (Curran et al., 2015) compared to people high in OP who tend to experience more negative emotion, interpersonal conflict, ruminations, and have lower physical and psychological well-being (Carpentier et al., 2012; Séguin-Levesque et al., 2003; Vallerand, 2012b). This study found that the satisfaction of relatedness when engaging in a passion was slightly but statistically significantly higher that the satisfaction of relatedness in life generally, while for competence there was the opposite finding such that engaging in a passion was associated with lower levels

of competence than life. However, the difference was greatest in passions that were not coded under the theme of Other People. So, although the study did not measure HP or OP, the results hint at how passions can lead to both satisfied and unsatisfied needs (Lalande et al., 2017) and the theme of Other People, as predicted in HP is a key differentiator for positive outcomes.

Finally, the pattern of need satisfaction as a result of a peak experience did not fully support Maslow's theoretical predictions that peak experiences enable higher levels of functioning, namely self-actualized motivation, which includes self-transcendence and a full expression of one's capabilities. Although there were marginally significant results in terms of a greater satisfaction of autonomy, there was a nonsignificant difference in terms of relatedness, and like passion the same pattern of less satisfaction of competence compared to life generally was found. Again, there was some evidence to suggest the theme of Other People in peak experiences is a necessity for the enhanced satisfaction of needs. Recent literature has painted self-actualization as more relevant in terms of unity and feeling at one with other people as opposed to a loss of a sense of self (Kaufman, 2017), and the results of this study fit roughly within that pattern.

It was unexpected to discover that the satisfaction of competence in life generally was significantly higher than the satisfaction of competence when engaging in a passion and as a result of a peak experience. Thus, people reported feeling less confident, capable and competent that they can do things well and complete difficult tasks when engaging in a passion or as a result of a peak experience than they do in their life generally. However, these results seem to be influenced by the theme of Other People. When the theme of Other People showed up in what people loved, were passionate about, or had peak experiences in, the satisfaction of competence was significantly higher than when they did not. In terms of passion, the three largest themes

were Learning and Growing, the Creative Arts, and Work, contexts which likely provide challenging opportunities to stretch outside of one's comfort zone and lead to self-growth (Vallerand & Rapaport, 2017). Therefore, when other people were not important or valued when engaging in a passion, then feelings of confidence and a sense of competence were lessened compared to how one feels about their lives generally. The driver of this effect could be due to ruminations, negative emotions, or low energy (Curran et al., 2015). This finding supports the notion that all love, passion, and peak experiences are not equal in terms of their effectiveness in developing BPNS and/or leading to positive outcomes, and that the presence of Other People and positive interpersonal connections are crucial. The love and passion literatures include theory to explain the importance of positive or autonomy supportive interpersonal relationships, but peak experience theory does not. Similar to passion, the largest themes outside of Other People in peak experience were Learning and Growing and Work with the unique addition of Childbirth, which was reported by more than one in ten participants. Again, it is logical that the absence of supportive relationships when engaging in learning and growing activities such as travel and achievement, as well as work and childbirth might make one feel less capable and confident of meeting the challenges in their environment compared to their life generally. Future research is needed to investigate how the presence and absence of caring, positive relationships impacts peak experiences.

Summary of Research Question 1

This study provides preliminary support for the proposition that love, passion, and peak experiences meet basic psychological needs and help the development of psychological complexity through differentiation and integration. This notion is supported by previous literatures from each of the constructs, for example (a) theories for love such as attachment that

connect exploration to secure interpersonal relationships in the context of parent and child (e.g., Diamond et al., 2011) as well as work orientation (Hazan & Shaver, 1990), (b) for passion such as harmonious passion for activities (Vallerand, 2015), and (c) for peak experiences as "acute identity experiences" characteristic of self-actualization (Maslow, 1959). Taken together, the data paints a picture of love, passion, and peak experiences as aspects of life that one chooses and that contain potent opportunities for growth through differentiation and integration.

Research Question 2 – Vary by Culture and Context

Psychological studies that explore subjective experiences across multiple cultures and regions are rare (Hefferon et al., 2017). A primary goal of this study was to bring diverse voices from around the world together, using both quantitative and qualitative approaches to learn more about how emic experiences of love, passion, and peak experiences might vary according to culture and context. Remarkably, people from around the world described what they love, what they are passionate about, and their peak experience in similar ways as illustrated by the relative prevalence of the themes Other People, Learning and Growing, Nature, Work, and the Creative Arts found across the constructs as well as continents, regions, and cultures. Additionally, the themes of Life, Overcoming Adversity, Spirituality, Childbirth and Prospection were less prevalent across constructs, continents, and cultures. These general findings support the validity of love, passion, and peak experiences involving interpersonal and non-interpersonal themes across cultures, and while there was more variation within the themes than there was between continents, regions or cultures, there were some minor differences found, which provide some support for the findings of Mouton and Montijo (2017). These are discussed in turn.

Differences that Highlight the Role of Available Opportunities in the Environment

There were minor variations found in the prevalence of themes across continents, cultures, and the contexts of income and occupation. The findings echo the optimal experience literature (Csikszentmihalyi, 2014), which has found flow experiences can occur in a wide variety of activities, but are influenced by one's sociocultural milieu. This study found thematic differences between continents in terms of love of Nature and passion for the Creative Arts, and there was some evidence that the theme of Learning and Growing was influenced by the GNI level of a person's country of residence. Each is discussed in turn.

Thematic Differences Across Continents

For residents of Oceania and Africa, a love of Nature was coded more frequently than a love of Learning and Growing, and for residents of Europe a passion for the Creative Arts was more prevalent than a passion for Other People. These minor variations highlight the potential impact of the availability of opportunities in the environment and preferences within the sociocultural milieu. Based on the in person interviews in Mouton and Montijo (2017), and on the open ended responses of participants in the current study, "the bush" and "the outback" seem to be key features of a national identity in Africa and Oceania. Furthermore, the relative remoteness of living in Southern Africa, where all of the participants from this study reside, and Oceania may have made the theme of Nature more salient because on balance people living in these places are confronted with more wide open natural spaces and live in closer proximity to dangerous wild animals. Many South African and Australian residents reported loving their pets, which was coded as Nature to reflect the connection between caring for animals and the appreciation and conservation of nature (Vining, 2003). This cultural difference may reflect the salience of big game animals in Africa and the need for a healthy respect of dangerous snakes

and other unique wildlife in Australia, which transfers to a love of domesticated animals and a desire to bond. Additionally, there could be an added utility to having a dog or a cat in these areas compared to others.

In the case of European residents, a passion for the Creative Arts, which included appreciating and performing music, visual arts, theatre, film, dance, and written forms such as poetry and literature also makes sense given the rich, diverse cultural traditions that compose Europe. As a whole, European countries have both an individual national identity (e.g., Italian versus British), and a collective identity under the European Union. The recent Brexit debate within the United Kingdom highlights the conflict that can arise between these two, and offers a possible explanation to account for the higher prevalence of the Creative Arts theme in European residents. The Creative Arts offer avenues to express one's unique voice, connect to other cultures, as well as escape boredom and anxiety. For example, a British man living in the UK said his passion was, "creating useful things using my own hands," while one Italian man described his passion as, "Films, they were my first exposition to other culture and ways of thinking" [sic], and another said, "Reading is one of the greatest passions of my life, I love immersing myself in the stories the books tell."

The data suggest that the Creative Arts could be an outlet for expressing oneself while living amongst a diversity of races, cultures, identities, and ideologies within a nation as well as between European Union nations. Many study participants lived in European countries (e.g., UK, Italy) that are high in self-expression values, which is marked by increased acceptance of foreigners and other minority groups (Inglehart & Welzel, 2014). Some people living in Europe described their passion for the Creative Arts in terms of an outlet for stress and an avenue of contribution to others. For example, an American ex-pat women living in the UK said, "One

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great passion in my life is writing...to bring the sense of feeling to those who are numb with rage/loneliness/pain" An Italian woman said, "A great passion in my life is theatre. I love doing it, this is my third year. I love working in group and express myself." Finally, the potential use of the Creative Arts to escape boredom and anxiety is illustrated by those with a passion for video games, for example a Portuguese male living in Portugal said, "i just love video games, it's one of my great passions cause it helped me a lot during some hard times."

Overestimating the Income Effect on Love, Passion, and Peak Experiences

There was evidence that the prevalence of the theme of Learning and Growing in love and peak experience responses, which included travel, achievement, goal-striving, discovery and sport/exercise was lower for residents from countries rated by the World Bank as having an average income of USD $1,019 to $4,003 than those countries with a higher average income range. This was not the case for passion, however which often involved learning a subject, skill, or craft. Thus, what people loved and their peak experiences may have been influenced by the availability of opportunities that higher income levels have, but the effects found in this study were small.

Insights into the Work Context

The theme of Work was found in love, passion, and peak experience responses across continents, regions, cultures, and contexts, but it was more prevalent in passion and peak experience than love responses. Researchers have long noted a paradox of work in that it should be an ideal context for optimal experiences (Csikszentmihalyi, 2014), but over the last 18 years more than two out of three people report being disengaged and feeling unsatisfied in their jobs (Gallup, 2018). Passion for work was significantly less prevalent in countries with an average income above USD $12,376 when compared to residents in countries with lower average income

levels. Furthermore, participants reporting a love or a passion for Work were more likely to be in helping versus non helping professions. One's profession or work is a substantial part of identity and self-concept, and for people who have a love or passion for what they do, there is often a dual component of helping or being connected to others. This was not the case for peak experiences involving work, many of which were achievement oriented such as gaining recognition, securing a new job, or getting a promotion.

A meta-analysis of BPNS at work found the strongest correlations involving autonomy and relatedness (Van den Broeck, et al., 2016), which was also found in the present study. The combination hints that these constructs may enable both differentiation and integration of the self in relation to the environment, making them potent opportunities for integration and growth.

Refining Love, Passion, and Peak Experience

One of the benefits of examining love, passion and peak experience together is to be able to compare and contrast one with another. The study provides theoretical support and refinement for love, passion, and peak experience discussed in turn.

Love. Of the three constructs, love is the most robust with literature from numerous disciplines (e.g., anthropology, psychology, sociology, religion, marketing), as well as multiple theoretical approaches within the field of psychology (e.g., developmental science, social psychology, positive psychology, and evolutionary psychology). Love is widely recognized by scholars as a polysemous concept (Berscheid, 2010; Lomas, 2018), yet it has rarely been examined from an emic perspective outside of human relationships. The theme of Other People was the most prevalent, found in nearly seven out of ten participant responses. However, the themes of Learning and Growing, Nature, and the Creative Arts were also found in more than one out of four participants supporting previous research, which found cross-sectional evidence

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for "beyond-personal" love (Lucas et al., 2019) and love of flow activities (Montijo & Mouton,

2016). Compared to the passion and peak experience constructs, there was more variation in the

types of things people loved, which included bodies, drinking, solitude, and drugs. These

findings suggest unidimensional definitions of love limited to interpersonal contexts fail to

account for the phenomenon of love for other things including sport and exercise, travel, the

outdoors, animals including pets, music, the arts, and food, cooking and eating.

From a developmental science perspective, these results support the importance of love in

integrating one with other people including their families and friends, but they also highlight

how love supports healthy differentiation as well through the love of activities such as sport and

exercise and engaging with the outdoors, which participants agreed helped them be physically

healthy and fit, and experiences such as travelling, playing music, and creating art, which

provide opportunities for frequent flow experiences (Montijo & Mouton, 2016). In fact, four out

of ten participants agreed that what they love has helped them differentiate from their

environment by being physically healthy and fit, mentally healthy and happy, and active in a

personally meaningful activity or job, while also integrating with family, friends, and their wider

community and becoming a wise person. Asking people what they love may give practitioners

and researchers valuable insights into how a person optimizes BPNS and generates sources of

intrinsic motivation. These findings seem particularly relevant to the broader education system in

America, which has deemphasized and unfunded physical education and creative arts programs,

thereby neglecting a powerful source of generating interest and motivation in the things that

make life worth living. Furthermore, over the last 50 years there has been a profound shift from

living in the natural world to spending a majority of time inside of buildings, computer screens,

and cell phones. A number of scholars have recently called attention to the epidemic rates of

depression, anxiety, suicide, and self-harm in Americans born after 1995 (e.g., Lukianoff & Haidt, 2019), and pointed in part to an increasing reliance on social media. This study suggests that experiences such as travel, sports, and exercise that enable a person to learn and grow, as well as a love of nature and the creative arts are central to the construct of love and help to satisfy the need for autonomy and the development of psychological complexity through differentiation and integration.

Passion. This study did not specifically define passion in terms of people or activities, instead allowing the participant to interpret the question. These results indicate passion for other people and for activities that help one learn and lead to self-growth are relevant to the emic experience of passion. The findings of this study largely correspond with Vallerand's definition of passion as a highly valued activity one likes or even loves that is part of one's identity (2015). Almost everyone in the study described a passion in their life, which included passion for family, loved ones, helping people, travel, sports, learning a skill or craft, work, music, and film and agreed that their passion in life helped them to be mentally healthy and happy.

The Dualistic Model of Passion posits that need satisfaction should play an important role in the development of passion (Vallerand, 2015), and previous research has linked Harmonious Passion with need satisfaction as a general construct. This study's results indicate that engaging in a passion satisfies the needs for autonomy and relatedness more than life generally, but for the satisfaction of competence the effect is reversed, and engaging in a passion may result in lower feelings of confidence, competence, and capability. A closer look into the data revealed that this effect seems to be largest for those that do not have a passion that includes the theme of Other People. The mean satisfaction of competence while engaging in a passion involving the theme of Other People was 16.92 (on a scale out of 20) whereas for those with a passion not involving the

theme of Other People, the mean rating for competence was 14.88. This pattern was unique when compared to the satisfaction of competence while engaging in other themes. Although this study did not measure Harmonious and Obsessive Passion, these results seem to support the general passion literature, which links Harmonious Passion to enhanced interpersonal relationships and Obsessive Passion to neglect of other important areas of life (such as relationships) and consequently, less desirable relational outcomes (e.g., Jowett et al., 2012).

Peak Experience. This study supports previous literature, which has found that most people can remember having a peak experience (Ho et al. 2012, Mouton & Montijo, 2017). The vast majority of participants reported having a peak experience and that the experience helped them feel mentally healthy and happy and to be a wise person. There is evidence to support both the extreme nature of peak experiences and the more serene plateau experiences, which are less well understood. This study is the first of the author's knowledge to test the relationship between need satisfaction as a result of a peak experience and need satisfaction in life generally. The results suggest that the satisfaction of competence may be lower as a result of a peak experience than in life generally. As Maslow theorized, peak experiences spontaneously occur and although one can make it more likely to have less intense plateau experience, there is less control than one would have when engaging in a passion or in what one loves. For example, for peak experiences the themes of Childbirth and Overcoming Adversity were present in peak experience responses but were rarely coded in love and passion responses, which suggest they are unique to the construct. It seems reasonable that people will feel less competent during intense, rare experiences such as childbirth and moments of adversity than they do in generally in their lives.

The Miracle of Childbirth. The theme of Childbirth was the fourth most prevalent code for peak experience found in 13.3% of peak experience responses, but it was not found in any

responses for love or passion. Thus, the experience of childbirth including giving birth or witnessing the birth of one's own child or kin is unique to the construct of peak experience in this study. This finding supports previous literature from Mouton and Montijo (2017). Often, the experience of childbirth was described succinctly and in similar ways, for example, "the birth of my child", while some participants described it as "the most amazing days of my life", "the most cherished moment in my life", and "a defining moment". For most people, the experience of childbirth is a rare occurrence in life that has profound implications for one's identity. In fact, ten participants specifically mentioned the birth of their "first" child. A person undergoes a transformation once the child is born to become a parent or in the case of a relative, a grandparent, an aunt, an uncle etc. Thus, the experience of childbirth supports Maslow's notion of the peak experience as an "acute identity experience" (1959). Participant responses also support Maslow's contention that peak experiences are characterized by the simultaneous presence of an emotional component of ecstasy and an intellectual component of illumination, a sudden insight or sense of understanding (1971). For example, not only did people describe childbirth as "amazing", being "on cloud 9", "the joy at his arrival was overwhelming", "the greatest happiness ever" "the joy, proud (sic) it gives", they also described it as "big and promising", "accomplished my most important mission", and "the best achievement I've had".

There was some cultural and contextual variation in the ranking of childbirth compared to other themes. Childbirth was ranked seventh as a peak experience for participants living in southern and southeast Asia and those living in lower middle income GNI countries compared to third, fourth, or fifth for all other regions and income levels. In particular, Childbirth was not mentioned at all as part of love or passion. However, previous research studying parents before and after the birth of their child found it was a positive experience for over 90% of their

participants including the non-birthing parent (Nystedt & Hildingsson, 2018). Thus, Childbirth presents a fascinating opportunity for future researchers to explore the physiology as well as document longitudinal outcomes from childbirth as a peak experience.

Overcoming Adversity. The theme of Overcoming Adversity was coded less frequently than expected from previous research, which found one in five people reported this type of peak experience (Mouton & Montijo, 2017). Compared to Mouton and Montijo, this study did not have as many participants from low-income countries, which may have impacted these results. It could also be that peak experiences involving adversity such as physical or emotional trauma, loss of a loved one, addiction, or illness are rare (Maslow, 1970).

Theoretical Implications

This paper presents preliminary evidence to support love, passion, and peak experiences as contexts that meet more than one basic human need and help to develop psychological complexity through differentiation and integration. This study was an innovative attempt at knitting together diverse theoretical perspectives about love, passion, and peak experiences with ideas drawn from an organismic and experiential tradition in developmental science, which includes SDT and flow. This is the first study to the author's knowledge to examine basic psychological need satisfaction in love, passion, and peak experiences and to link the subjective experience of each to differentiation and integration. Overall, these findings support a biological systems perspective that an underlying foundation of human systems is for the self to integrate with and differentiate from the environment. Not only were the themes of Other People and Learning and Growing the two most prevalent themes across the three constructs, but there were also strong correlations between the satisfaction of autonomy and relatedness when engaging in love, passion, and as a result of peak experiences. Furthermore, more than 8 out of 10

participants agreed that what they love, are passionate about, and their peak experiences have helped them to be mentally healthy and happy and to be wise.

In terms of love, passion, and peak experience, the findings from this study suggest there may be common foundation of promoting the satisfaction of autonomy over and above the satisfaction of autonomy in life generally. Thus, from an emic point of view, what these experiences have in common is a sense of volition and choice. Future research should look deeper into how and under what conditions love, passion, and peak experiences satisfy autonomy.

Finally, this study supports efforts by developmental scientists to strive towards more unified theories that explain processes. There was a pattern of results to suggest that emic descriptions of love, passion, and peak experiences often include experiences that closely resembled flow experiences. Flow is a complexifying experience because of the dialectical interplay of directed and effortless attention, which scholars note is experienced as a loss of self-awareness that ultimately leads to a growth of the self (Nakamura & Roberts, 2016).

Practical Applications

The practical value of this study is twofold. First, the subjective experience of love, passion, and peak experience seem to be prototypical areas for autonomy satisfaction. There is a problem with a lack of engagement and/or burnout at school and work and more attention to what people love, are passionate about, and have peak experiences in is warranted as an avenue to align people towards full functioning in life. As Ryan and colleagues (2019) assert, the more autonomous one is through the pursuit of intrinsically rewarding goals and authentic awareness, the more responsible and prosocial one is as well. More interventions at school or work should

investigate subjective accounts of love, passion, and peak experience to reveal potent sources of autonomy, and for meeting developmental challenges as well as developing wisdom in general.

A second practical application for these findings concerns specific developmental periods marked by transition and change. While this study has potential implications across the lifespan, the findings seems particularly relevant for the developmental periods of adolescence, a time marked by identity formation and role confusion, and the third age of adulthood when people have retired from full time work and finished their childbearing and parental responsibilities. Both of these periods are marked by a need for identity development and refinement and psychological well-being is impacted by the presence of caring, supportive relationships and a sense of meaning and purpose. These stages of life may derive extraordinary benefits from interventions that promote the development of relationships as well as learning and growing such as travelling with people one cares about, developing new knowledge and skills in the creative arts, or exercising and playing a sport. Rather than advocating for any specific prescription for optimal development, programs and practitioners working with these populations should focus on helping an individual identify the things they love, are passionate about, and have had peak experiences in, and then help them invest resources in those pursuits.

Limitations and Future Research Directions

The present study weaves together a diverse set of components including an emphasis on an emic interpretation of love, passion, and peak experience, QCA, the use of validated and non-validated measures for BPNS and psychological complexity, qualitative thematic analysis, a multidisciplinary theoretical foundation drawn from developmental science, Positive Psychology, motivation, personality psychology, and evolutionary logic, and the sampling of diverse participants from 32 countries across 6 continents. The breadth of this project across

love, passion, and peak experience, cultures, and disciplines was intended to serve integrative purposes, such as to identify universal patterns and processes, which can amplify the problem solving capacity of future interventions. Nevertheless, the scope and size of this project produced at least five important limitations to consider.

First, a primary aim of this study was to investigate whether love, passion, and peak experiences satisfy BPN as well as develop psychological complexity through differentiation and integration. In both cases, novel measures were used and future research is needed to validate their use. In particular, the measure used to signify psychological complexity may have been overly simplistic with only six items and a dichotomous scale. Thus, these results should be considered with optimistic caution that love, passion, and peak experiences are connected to differentiation and integration of the self and the environment.

A secondary aim of this study was to ascertain how subjective accounts of love, passion, and peak experience vary in meaningful ways due to culture and context, however the present study was unable to examine these factors in a multi-level analysis. Future research is needed using multi-level modelling techniques, which account for cultural and contextual difference at the individual rather than group level. For example, researchers investigating the cultural dimensions of collectivism and individualism have found these dimensions can vary significantly within cultures (e.g., East Asian and American cultures). Multi-level modeling is essential for an ecological systems argument and will allow future researchers to delve deeply into suggestions from this study as to why (a) love of Nature is more prevalent in Africa, Oceania, and similarly remote areas, (b) passion for the Creative Arts is more prevalent in Europe or in areas high in cultural diversity, and (c) passion for work is more prevalent when income is low.

Third, although these quantitative results complement the in context, qualitative interviews conducted by Mouton and Montijo (2017), their generalizability is limited by a number of factors. The study was limited to English speaking participants, which excludes large numbers of the population from regions such as Latin America and future research utilizing measures in diverse languages including a participant's native tongue is needed. Also, there was not equal representation across continents (e.g., in terms of income levels, regions of residence, or cultural values). In particular, Africa was represented by one country, North America was represented by just two countries, and there were few countries representing the lowest World Bank GNI classifications indicating poorer countries were not well represented in the study. Generalizability is also limited by the use of a cross sectional-design and an online convenience sample. Future researchers investigating the developmental significance of these constructs can address these limitations by using experience sampling methods and longitudinal designs to examine the stability of key themes and how they relate to BPNS and the development of psychological complexity over time. Future research is needed to understand how the subjective experiences of love, passion, and peak experience change over time and across the lifespan, and what if any impact these changes in one's interpretation have on outcomes such as performance, well-being, and life satisfaction.

Fourth, this study did not measure need frustration, which is a key theoretical tenet of BPNT. This study found that the satisfaction of competence was lower when engaging in a passion and/or as a result of a peak experience, which raises an important future research question about how these constructs may thwart the satisfaction of basic needs. Love, passion, and peak experiences share theoretical underpinnings hypothesizing potential negative forms such as infatuated love (Sternberg, 1986), possessive love (Lomas, 2018), obsessive passion

(Vallerand et al., 2003), and deficiency motivation (Maslow, 1971). Some SDT researchers have argued that the associations between need satisfaction and positive and negative outcomes do not lie on a single continuum. For example, the absence of need satisfaction is a weak predictor of negative outcomes, thus indicating the importance of studying need frustration (Van Den Broeck et al., 2016).

Finally, there were some methodological and analytic issues that warrant addressing in future research. In Hypotheses 1 and 2, the importance and satisfaction ratings for love, passion, and peak experiences had a strong positive skew that limited statistical precision. Future researchers should assess satisfaction and dissatisfaction using more than one indicator. Hypothesis 1 also was limited by comparing groups of vastly different sizes, which future research could address with larger sample sizes. In addition, there may have been substantial overlap between the items used to measure relatedness and the lay interpretation of love such that care is featured prominently in both resulting in a lack of differentiation between relatedness and satisfaction with what one loves. It would be prudent for future research to assess the degree to which relatedness, love, and care are tapping the same phenomenon. Finally, the representation of cultural values and contextual factors such as income and helping versus non helping professions was inferred from the data and treated as a group level variable. It would be prudent for future multi-level research designs to account for cultural values and contextual factors by measuring these at the individual level rather than aggregating them by groups. This type of design would be more sensitive to the within country/culture variance that can be lost when analyzing differences between countries and/or cultures.

Conclusion

This cross-cultural online survey study builds on previous in-context qualitative research (Mouton & Montijo, 2017) that found 11 primary themes in people's responses to the questions, "What do you love?" "What is a great passion in your life?" and "What has been a peak experience in your life?" and suggested that love, passion, and peak experiences may satisfy basic psychological needs as well as be related to the development of psychological complexity through differentiation and integration. The results support the relevance of the 11 themes, above all those of Other People and Learning and Growing, which were the top two themes for love, passion, and peak experience across cultures and continents. Also, there was evidence that love, passion, and peak experience satisfy BPN, and in particular satisfy the need for autonomy over and above life generally, thus indicating these experience may provide a more organized and coherent sense of self. The theme of Other People was relevant as a potential protective factor for a decreased sense of competence when engaging in passion and as a result of peak experiences compared to life generally. Further, the results support the notion that these experiences may help people achieve developmental outcomes theorized to represent psychological complexity through differentiation and integration. Overall, these results highlight a foundational developmental process of differentiating from and integrating with one's environment in the subjective accounts of love, passion, and peak experiences.

Appendix A: Informed Consent Pages

Informed Consent Form for a Cross-Cultural Study of Love, Passion and Peak Experience (Non-MTurk Sample)

STUDY LEADERSHIP: You are being asked to participate in a research project that is led by Monica Montijo, a Ph.D student at the Division of Behavioral and Organizational Sciences at Claremont Graduate University (CGU) and Angela Mouton, Ph.D who are being supervised by Dr. Mihaly Csikszentmihalyi, a distinguished professor of Psychology at CGU. You are being asked to participate because you are an adult aged 18 years or over and you speak English. Your participation in the study can help to shed light on what people around the world love, what their passions in life are, and what their peak experiences have been.

PURPOSE: The purpose of this study is to explore love, passion and peak experience as experienced by diverse people around the world.

ELIGIBILITY: To be in this study, you must:

(a)   be an adult 18 years or older;
(b)   speak English; and
(c)   be a resident in one of the following countries (US, China, Australia, Belgium, Chile, Hungary, Italy, New Zealand, Peru, Portugal, South Africa, United Kingdom).

PARTICIPATION: During the study, you will be asked to complete an online survey. In the survey you will be asked questions about what you love, your passions in life, your peak experiences, and your life in general. You will be identified via a unique identifier. No identifying details such as your name or contact details will be collected. Your responses will be anonymous.

Examples of typical questions are provided below:
1. What do you love?
2. What is a great passion in your life?
3. What has been a peak experience in your life?

You will also be asked to rate your level of agreement with a variety of statements about your life in general. Finally, you will be asked demographic information such as your age, gender, ethnicity, income relative to others in your country, etc.

It is anticipated that the survey will take approximately 5 to 10 minutes of your time.

RISKS OF PARTICIPATION. The risks that you run by taking part in this study are minimal. The risks include inconvenience and time spent taking the survey.

We expect this research to benefit society and science by helping us to understand love, passion and peak experience from different perspectives around the world.

BENEFITS OF PARTICIPATION. There are no direct benefits to you by participating in this study.

This study will benefit the researchers by helping them further explore the topic of love, passion and peak experience, to complete a Ph.D. dissertation, to submit articles for publication, and to present at Psychology conferences.

Finally, it is believed that the study will contribute to the field of Positive Psychology by understanding more fully what culturally diverse people love, what their passions are, and what their peak experiences have been. It is the intention of the researchers to address the criticism that Positive Psychology and the social sciences generally tend to over-represent the experiences of people from Western nations.

COMPENSATION. There is no financial compensation for participating in this study.

VOLUNTARY PARTICIPATION. Your participation in this study is completely voluntary. You may stop or withdraw from the study at any time or refuse to answer any particular question for any reason without it being held against you. Your decision whether or not to participate will have no effect on your current or future connection with anyone at CGU.

CONFIDENTIALITY. Your individual privacy will be protected in all papers, books, talks, posts, or stories resulting from this study. We may share the data we collect with other researchers, but we will not reveal your identity with it. In order to protect the confidentiality of your responses, you will be assigned a unique identifier, we will secure your data and survey responses in a password protected laptop.

FURTHER INFORMATION. If you have any questions or would like additional information about this study, please contact us at monica.montijo@cgu.edu or c/o E 10th Street, Claremont, California, 91711, or on +1 909 670 5550. You may also contact our faculty advisor Dr. Mihaly Csikszentmihalyi at miska@cgu.edu, c/o E 10th Street, Claremont, California, 91711 or on +1 909 621 8000.

The CGU Institutional Review Board (IRB) has reviewed this project and made a determination that it is exempt from IRB supervision. You may contact the CGU IRB with any questions or issues at +1 909 607 9406 or at irb@cgu.edu.

CONSENT. Clicking on the "I Agree" button below means that you understand the information on this form, that someone has answered any and all questions you may have about this study, and you voluntarily agree to participate in it. If you consent, please continue with the survey. If you do not consent, you can terminate your participation without consequence now or at any time.

You may print and keep a copy of this consent form.

If you understand the statements above and freely consent to participate in the study, click on the "I Agree" button to begin the survey.

**MTurk-Specific Recruitment Text
Followed by Informed Consent Form**

1. Text for HIT cover page
(first contact with recruit)

Requester: Monica Montijo
Reward: [$.50] / [$1.00]
Time allotted: 45 minutes

Title: Answer a survey about your experiences in life.

Description: You are invited to participate in an online research study designed to explore what you love, your passions in life, your peak experiences, and your life in general.

Keywords: love, passion, peak experience, survey, research, psychology, study

2. Text for expanded HIT description

(visible to recruit after expanding description)

We are conducting an academic survey about experiences in life across cultures. The information gathered from this survey will be used to help better understand how culturally diverse people experience love, passion, and peak experience.

Please select the link below to complete the survey. At the end of the survey, you will receive a code to paste into the box below to receive payment for taking our survey.

Make sure to leave this window open as you complete the survey. When you are finished, you will return to this page to paste the code into the box.

Provide the survey code here:

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Survey Link: <xxxx> Note: Link transfers the recruit to the Informed Consent Form (below).

3. Informed Consent Form for a Cross-Cultural Study of Love, Passion and Peak Experience
(located on site where survey is hosted)

STUDY LEADERSHIP: You are being asked to participate in a research project that is led by Monica Montijo, a Ph.D student at the Division of Behavioral and Organizational Sciences at Claremont Graduate University (CGU) and Angela Mouton, Ph.D who are being supervised by Dr. Mihaly Csikszentmihalyi, a distinguished professor of Psychology at CGU. You are being asked to participate because you are an adult aged 18 years or over and you speak English. Your participation in the study can help to shed light on what people around the world love, what their passions in life are, and what their peak experiences have been.

PURPOSE: The purpose of this study is to explore love, passion and peak experience as experienced by diverse people around the world.

ELIGIBILITY: To be in this study, you must:

(a) be an adult 18 years or older;
(b) speak English; and
(c) be a resident in one of the following countries (US, China, Australia, Belgium, Chile, Hungary, Italy, New Zealand, Peru, Portugal, South Africa, United Kingdom).

PARTICIPATION: During the study, you will be asked to complete an online survey. In the survey you will be asked questions about what you love, your passions in life, your peak experiences, and your life in general. You will be identified via a unique identifier. No identifying details such as your name or contact details will be collected. Your responses will be anonymous.

Examples of typical questions are provided below:

1. What do you love?
2. What is a great passion in your life?
3. What has been a peak experience in your life?

You will also be asked to rate your level of agreement with a variety of statements about your life in general.

Finally, you will be asked demographic information such as your age, gender, ethnicity, income relative to others in your country, etc.

It is anticipated that the survey will take approximately 5 to 10 minutes of your time.

RISKS OF PARTICIPATION. The risks that you run by taking part in this study are minimal. The risks include inconvenience and time spent taking the survey.

We expect this research to benefit society and science by helping us to understand love, passion and peak experience from different perspectives around the world.

BENEFITS OF PARTICIPATION. There are no direct benefits to you by participating in this study.

This study will benefit the researchers by helping them further explore the topic of love, passion and peak experience, to complete a Ph.D. dissertation, to submit articles for publication, and to present at Psychology conferences.

Finally, it is believed that the study will contribute to the field of Positive Psychology by understanding more fully what culturally diverse people love, what their passions are, and what their peak experiences have been. It is the intention of the researchers to address the criticism that Positive Psychology and the social sciences generally tend to over-represent the experiences of people from Western nations.

COMPENSATION. As an MTurk worker you will be offered [$0.50] / [$1.00] for your participation in this survey as compensation for your time.

VOLUNTARY PARTICIPATION. Your participation in this study is completely voluntary. You may stop or withdraw from the study at any time or refuse to answer any particular question for any reason without it being held against you. Your decision whether or not to participate will have no effect on your current or future connection with anyone at CGU.

CONFIDENTIALITY. Your individual privacy will be protected in all papers, books, talks, posts, or stories resulting from this study. We may share the data we collect with other researchers, but we will not reveal your identity with it. In order to protect the confidentiality of your responses, you will be assigned a unique identifier, we will secure your data and survey responses in a password protected laptop.

FURTHER INFORMATION. If you have any questions or would like additional information about this study, please contact us at monica.montijo@cgu.edu or c/o E 10th Street, Claremont, California, 91711, or on +1 909 670 5550. You may also contact our faculty advisor Dr. Mihaly Csikszentmihalyi at miska@cgu.edu, c/o E 10th Street, Claremont, California, 91711 or on +1 909 621 8000.

The CGU Institutional Review Board (IRB) has reviewed this project and made a determination that it is exempt from IRB supervision. You may contact the CGU IRB with any questions or issues at +1 909 607 9406 or at irb@cgu.edu.

CONSENT. Clicking on the "I Agree" button below means that you understand the information on this form, that someone has answered any and all questions you may have about this study, and you voluntarily agree to participate in it. If you consent, please continue with the survey. If you do not consent, you can terminate your participation without consequence now or at any time.

You may print and keep a copy of this consent form.

If you understand the statements above and freely consent to participate in the study, click on the "I Agree" button to begin the survey.

Appendix B: Survey Measure

Q1: Informed Consent (I Agree/I Do Not Agree)

Q2: Are you 18 years of age or older? (Yes/No)

Q3: Do you speak English: (Yes/No)

Q4: In the space below please answer the following question: What do you love?

Q5: In the space below please answer the following question: What is a great passion in your life?

Q6: In the space below please answer the following question: What has been a peak experience* in your life?
> (* What is a peak experience? Imagine a mountain. The top of a mountain is called the peak. Thinking of all the experiences that you have had in your life, what would you say has been a peak experience?)

[NOTE: Participants will be randomly assigned to one of three conditions – love, passion, or peak experience to answer the following set of questions.]

Q7: Thinking about your response to the question "What do you love? /What is a great passion in your life? /What has been a peak experience in your life?, please choose one item and type it into the space below. You may choose either the first thing you responded with or the most significant thing to you. Think specifically about this item as you answer the remaining survey questions.

Q8: How important to you is the love/passion/peak experience entry you chose?
[1 – Not at all important…10 – Very important]

Q9: How satisfied are you with the love/passion/peak experience entry in your life these days?
[1- Dissatisfied…10 – Satisfied]

Q10: (Adapted) Basic Psychological Need Satisfaction and Frustration Scale – General Measure (Chen, Vansteenkiste et al., 2015)

[Note: Only the need satisfaction items are used.]

Below we are going to ask about your actual experiences of certain feelings regarding the love/passion/peak experience entry you identified in the previous question. Please read each of the following items carefully. You can choose from 1 to 5 to indicate the degree to which the statement is true for you.

1 – Not true at all   2   3   4   5 – Completely true

LOVE VERSION

a. When engaging with what I love I feel a sense of choice and freedom in the things I undertake
b. When engaging with what I love I feel that the people I care about also care about me
c. When engaging with what I love I feel confident that I can do things well
d. When engaging with what I love I feel that my decisions reflect what I really want
e. When engaging with what I love I feel connected with people who care for me, and for whom I care
f. When engaging with what I love I feel capable at what I do
g. When engaging with what I love I feel my choices express who I really am
h. When engaging with what I love I feel close and connected with other people who are important to me
i. When engaging with what I love I feel competent to achieve my goals
j. When engaging with what I love I feel I have been doing what really interests me
k. When engaging with what I love I experience a warm feeling with the people I spend time with
l. When engaging with what I love I feel I can successfully complete difficult tasks

PASSION VERSION

a. When engaging with what I am passionate about I feel a sense of choice and freedom in the things I undertake
b. When engaging with what I am passionate about I feel that the people I care about also care about me
c. When engaging with what I am passionate about I feel confident that I can do things well
d. When engaging with what I am passionate about I feel that my decisions reflect what I really want
e. When engaging with what I am passionate about I feel connected with people who care for me, and for whom I care
f. When engaging with what I am passionate about I feel capable at what I do
g. When engaging with what I am passionate about I feel my choices express who I really am
h. When engaging with what I am passionate about I feel close and connected with other people who are important to me
i. When engaging with what I am passionate about I feel competent to achieve my goals
j. When engaging with what I am passionate about I feel I have been doing what really interests me
k. When engaging with what I am passionate about I experience a warm feeling with the people I spend time with
l. When engaging with what I am passionate about I feel I can successfully complete difficult tasks

PEAK EXPERIENCE VERSION

a. As a result of my peak experience I feel a sense of choice and freedom in the things I undertake

b. As a result of my peak experience I feel that the people I care about also care about me
c. As a result of my peak experience I feel confident that I can do things well
d. As a result of my peak experience I feel that my decisions reflect what I really want
e. As a result of my peak experience I feel connected with people who care for me, and for whom I care
f. As a result of my peak experience I feel capable at what I do
g. As a result of my peak experience I feel my choices express who I really am
h. As a result of my peak experience I feel close and connected with other people who are important to me
i. As a result of my peak experience I feel competent to achieve my goals
j. As a result of my peak experience I feel I have been doing what really interests me
k. As a result of my peak experience I experience a warm feeling with the people I spend time with
l. As a result of my peak experience I feel I can successfully complete difficult tasks

Q11: Indicate whether you agree or disagree with the following statements about your love/passion/peak experience entry.

1 - agree   2 - disagree

What I love/what I am passionate about/my peak experience…

a. has helped me be physically healthy and fit.
b. has helped me be mentally healthy and happy.
c. has helped me be active and involved in an activity/job that is meaningful to me.
d. has helped me to maintain good relationships with family and friends.
e. has helped me be active and involved in my community.
f. has helped me to be a wise person.

Q12: Basic Psychological Need Satisfaction and Frustration Scale– General Measure (Chen, Vansteenkiste et al., 2015)

[Note: Only the need satisfaction items are used.]
Below we are going to ask about your actual experiences of certain feelings in your life generally. Please read each of the following items carefully. You can choose from 1 to 5 to indicate the degree to which the statement is true for you at this point in your life.

1 – Not true at all   2   3   4   5 – Completely true

a. I feel a sense of choice and freedom in the things I undertake
b. I feel that the people I care about also care about me
c. I feel confident that I can do things well
d. I feel that my decisions reflect what I really want
e. I feel connected with people who care for me, and for whom I care
f. I feel capable at what I do
g. I feel my choices express who I really am

h. I feel close and connected with other people who are important to me
i. I feel competent to achieve my goals
j. I feel I have been doing what really interests me
k. I experience a warm feeling with the people I spend time with
l. I feel I can successfully complete difficult tasks

Q13: What is your age?

Q14: What is your gender?
- Male
- Female
- Transgender

Q15: What is your nationality?

Q16: How would you describe your ethnicity?

Q17: What country do you live in?

Q18: What language do you normally speak at home?

Q19: Were you born in your country of residence or are you an immigrant?
- I was born in my country of residence.
- I am an immigrant in my country of residence.
- Decline to answer

Q20: What is your occupation (i.e., your work?)

Q21: How satisfied are you with the financial situation of your household? 1 means you are complete unsatisfied and 10 means you are completely satisfied.

Q22: Compared to others living in your country, how would you describe your family's income level?
- Much below the average level of the country
- Below the average level of the country
- Around the average level of the country
- Above the average level of the country
- Much above the average level of the country
- Decline to answer

Q23: What is the highest educational level that you have attained?
- No formal education
- Incomplete primary school
- Complete primary school
- Incomplete secondary school: technical/vocational type
- Complete secondary school: technical/vocational type

- Incomplete secondary: university-preparatory type
- Complete secondary: university-preparatory type
- Some university-level education, without degree
- University-level education, with degree
- Decline to answer

Q24: What is your relationship status? Are you currently:
- Married
- Living together as married
- Divorced
- Separated
- Widowed
- Single
- Decline to answer

Q25: Have you had any children?
- No children
- One child
- Two children
- Three children
- Four children
- Five children
- Six or more children
- Decline to answer

Q26: What is your religious affiliation (if any)?

Q27: How important is religion in your life?
- Very important
- Rather important
- Not very important
- Not at all important
- Decline to answer

Appendix C: Facebook Recruitment Script Example

What do you love? Hey all. If you have 5 mins please take our quick (anonymous) survey which is a follow up to our 2013 world research trip. And please share the link with any and all who may be willing and interested. Thanks! (with Monica N. Tijo)

https://cgu.co1.qualtrics.com/SE/?SID=SV_73R6JrGFpizlz37.

Appendix D: Love, Passion, Peak Experience Codebook

1. PEOPLE
Other human beings including family, friends, people in general, and strangers.

101. Family
102. Children
103. Partner/Spouse
104. Parents
105. Friends
106. Grandparents
107. Relatives
108. People in general
109. Other

2. LEARNING AND GROWING
Activities and experiences that provide challenge and lead to growth.

201. Achievement
202. Discovery
203. Goal-striving
204. Learning a skill or craft
205. Leaving home
206. Living abroad
207. Securing a job
208. Sport
209. Travel
210. Other

3. NATURE
Appreciating and/or being in the natural environment, including animals.

301. Animals
302. Pets
303. Being outdoors
304. Being in or on the ocean or large body of water (e.g., diving, boating, snorkeling, surfing)
305. Fishing or Hunting
306. Hiking, running, or walking in nature
307. Other

4. LIFE
Being alive and appreciating the mystery of life or life in general.

401. Being alive
402. Life itself
403. The mundane of life

5. WORK
A specific occupation or volunteer activity.

501. Helping profession (An occupation where the participant's primary responsibilities are directly involved in helping other people to learn, grow, or flourish e.g., nurse, teacher)
502. Other profession (An occupation where the participant's primary responsibilities are NOT directly involved in helping other people to learn, grow, or flourish e.g., property lawyer, janitor)
503. Helping volunteer activity (Volunteer or unpaid vocation where the participant's primary responsibilities are directly involved in helping other people to learn, grow, or flourish e.g., youth mentor, domestic violence counselor)
504. Other volunteer activity (Volunteer or unpaid vocation where the participant's primary responsibilities are NOT directly involved in helping other people to learn, grow, or flourish e.g., accounting; event planning)
505: Individual tasks
506: Team work
507: Interaction with clients, patients, customers
508: Planning, projects
509: New tasks
510: Other

6. THE CREATIVE ARTS
Appreciating and/or performing creative arts.

601. Appreciating the creative arts (e.g., art, music, theatre)
602. Performing the creative arts (e.g., art, music, theatre)
603. Visual arts (e.g., painting, photography, sculpture)
604. Dance
605. Theater or Film
606. Music
607. Writing
608. Other

7. OVERCOMING ADVERSITY
Overcoming obstacles created by the self, relationships, cultural norms, or random (often tragic) events.

701. Overcoming obstacles created by the self (e.g., addiction, low self-esteem)
702. Overcoming obstacles created by difficult relationships (e.g., divorce, abuse)
703. Overcoming obstacles caused by cultural or religious norms (e.g., rejection due to age, sex, race, gender, sexual preference, etc.)
704. Overcoming obstacles caused by random, tragic events (e.g., death, illness, theft)
705. Overcoming obstacles created by poverty
706. Other

8. SPIRITUALITY

God, religion, and the esoteric.

801. God (e.g., Jesus, Allah, Krishna, etc.)
802. Religion (e.g., Christianity, Islam, Buddhism)
803. Natural expansion of consciousness (e.g., Meditation)
804. Substance induced expansion of consciousness
805. Miracles
806. Synchronicity
807. Awe of the cosmos
808. Other

9. CHILDBIRTH
Experiencing the birth of a child (directly or indirectly).

901. Giving birth
902. Watching a live birth
903. Your child is born
904. Your grandchild is born
905. Other

10. PROSPECTION
A passion expressed as an aspiration, goal or desire for the future.

1001. Aspiration or goal for the future.

11. OTHER
Miscellaneous categories.

1101. Country
1102. Food
1103. Freedom
1104. Happiness
1105. Material possessions
1106. Peace
1107. Money, making money, wealth
1108. Sexual activity
1109. None
1110. Uncategorized

12. CONTINENT
The continent of the participant's residence.

1201. Africa
1202. Asia
1203. Oceania
1204. North America

1205. South America
1206. Latin America/the Caribbean
1207. Europe
1208. North America

13. REGION
The region of the participant's residence.

1301. Northern Africa
1302. Eastern Africa
1303. Middle Africa
1304. Southern Africa
1305. Western Africa
1306. Central Asia
1307. Eastern Asia
1308. South-Eastern Asia
1309. Southern Asia
1310. Western Asia
1311. Caribbean
1312. Central America
1313. South America
1314. Oceania
1315. Eastern Europe
1316. Western Europe
1317. North American

14. PSYCHOLOGICAL COMPLEXITY
Definitions are based on Csikszentmihalyi and Rathunde's (1998) theory.

1401. Purely integrating
1402. Purely differentiating
1403. Complex
1404. None

Appendix E: Sample Coding Sheet

WHAT DO YOU LOVE	ID #	1. OTHER PEOPLE	101. Family	102. Children	103. Partner/ Spouse	104. Parents	105. Friends	106. Grand parents	107. Relatives	108. People in general	109. Other [Type in response]
Family, friends, travel, happy people, hot places, the beach, biltong, braai, kitties	1	1	1	0	0	0	1	0	0	1	0
I love my husband, children, parents and pets	2	1	0	1	1	1	0	0	0	0	0
Learning about the collective consciousness, mysticism and the wonder of nature	3	1	0	0	0	0	0	0	0	0	collective consciousness
My friends and family - children, husband, parents, brother, grandparents, pets Reading, travelling to new places, yoga	4	1	1	1	1	1	1	1	0	0	brother
Music Listening Time with family and friends	5	1	1	0	0	0	1	0	0	0	0
The spiritual joy found in the inner stillness of mind and breath Connection with God My girlfriend	6	1	0	0	1	0	0	0	0	0	0
My children! Contributing, helping others, being in nature, good food, live music, reading, exercise, friends, laughing, art (admiring and creating), falling in love - especially the falling part :)	7	1	0	1	0	0	1	0	0	0	Contributing, helping others

Note: 0 indicates a code of "not present" and 1 represents a code of "present".

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