

SELF-DETERMINATION THEORY AND HEDONIC WELL-BEING IN A
CROSS-CULTURAL PERSPECTIVE

By

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To the Faculty of Washington State University:

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OMEDETTO GOZAIMASU!

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CROSS-CULTURAL PERSPECTIVE

Abstract

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In the present study, I examined the relationships among three important constructs: self-determination, hedonic well-being, and cultural values. My study explored Self-Determination Theory (SDT; Deci & Ryan, 1985, 2000) and its hypothesis that humans have the universal and innate psychological needs of autonomy, relatedness, and competence. Specifically, I examined the following concepts: (a) the current complete measure of SDT's needs and its construct validity; (b) cultural group differences between Japanese, Japanese American, and European American college students in SDT needs, hedonic well-being, and Asian values; (c) the ability of cultural value adherence to moderate the relationship between SDT needs and life satisfaction; and (d) cultural group differences in the ability of SDT need to predict life satisfaction.

Japanese college students ($n = 329$), Japanese American college students ($n = 49$), and European American college students ($n = 126$) completed measures of SDT needs, hedonic well-being and Asian values. Confirmatory factor analysis indicated that distinct SDT needs of autonomy, relatedness, and competence cannot be specifically identified by the Basic Psychological Needs – General measure (Deci et al., 2001). Rather, this measure can only distinctly measure self-met and relationally-met needs.

United States participants endorsed all three SDT needs more than Japanese participants. Japanese American participants reported higher levels of Asian values than either European American or Japanese participants, suggesting that the Asian Values Scale (Kim et al., 1999) measures Asian American values as opposed to Asian values. European American college students reported more hedonic well-being than either Japanese or Japanese American college students. Analyses also showed that Asian values moderate the relationship between competence and hedonic well-being for Japanese participants. Finally, β -weights showed that life satisfaction was mediated by cultural differences in autonomy, relatedness, and competence. More research of SDT needs across cultures and outcome variables is warranted.

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CHAPTER ONE

Introduction

Historically, psychological research has been concerned with the development of psychopathology. In contrast, many psychologists and researchers are developing an asset or strength-based approach to understanding mental health (Sheldon & King, 2001).

Sheldon, Williams, and Joiner (2003) posited that a principle component of both clinical psychology and empirical psychological research should be to increase understanding of how to foster resiliency and increase positive mental health outcomes. To do so, it is necessary to understanding how psychology has viewed psychological variables that relate to an increase in positive mental health outcomes or a sense of satisfaction with life.

As far back as Aristotle, social science theorists have believed that one of humankind's innate drives is to feel content and pleased with their lives (Hergenhahn, 2005). The majority of human drives can be associated with satisfaction with life or a sense of well-being. Angyl (1925) and Hull (1931) completed foundational work on understanding the construct of well-being and its underlying factors, in which they theorized that individuals' feelings and emotions influenced well-being. Psychological research, beginning largely in the 1980s, has moved away from the primary focus on pathology to include the study of well-being. Today, the study of life satisfaction is growing rapidly, with the most recent addition being the identification of specific factors that impact life satisfaction, such as resiliency (McCreanor & Watson, 2004), freedom (Veenhoven, 2000), and psychological needs (Deci & Ryan, 1985, 2000). Life satisfaction research maintains a positive psychological perspective and encompasses psychological well-being perspectives (Ryff, 1989; Ryff & Singer, 1998) and subjective

well-being perspectives (Diener, 1984; Diener & Larsen, 1992). This research on well-being is valuable to psychology because understanding cognitive and affective components of human functioning are primary functions of the field of psychology (Pavot & Diener, 1993). Further, understanding psychological variables of human functioning allows scholars and clinicians to better understand how people can find a sense of satisfaction within their own lives.

Satisfaction with life is best understood from a subjective perspective. Individuals find a sense of gratification and happiness through emotional experience and cognitions related to emotional interpretations of life events. Thus, it is argued that judgments and intrapersonal interpretations are important factors in the development of subjective well-being (Kahnemann et al., 1999). A key question to consider when addressing the acquisition of subjective well-being is: What psychological variables are necessary for individuals to subjectively view life as satisfying? In the literature, subjective well-being and hedonic well-being have been used interchangeably. Therefore, my study used hedonic well-being to describe subjective well-being.

Deci and Ryan, lead researchers in the study of the theory of self-determination (1985, 2000), argued that there are three basic psychological needs which are innate and universal for humans to attain satisfaction with life. These three psychological needs are autonomy, relatedness, and competence. Deci and Ryan define autonomy as, an individual believing that he or she is volitionally responsible for their behavior; relatedness as, an individual functioning optimally when he or she is in relation to a social group; and competence as, an individual feeling effective and having the opportunity to convey those capabilities to others. Deci and Ryan's (2000) Self-

Determination Theory (SDT) argues that these three innate psychological needs are necessary and sufficient for individuals to attain a sense of well-being.

Deci and Ryan (2000) posited that SDT is a theory describing people's intentions and actions toward specific goal behaviors and how these psychological needs of autonomy, relatedness, and competence propagate those intentions and actions. Specifically, "according to SDT, a critical issue in the effects of goal pursuit and attainment concerns the degree to which people are able to satisfy their basic psychological needs as they pursue and attain their valued outcomes" (p. 227). Deci and Ryan assert that these necessary and sufficient psychological needs are innate and universal to all human beings.

Prior cultural theory and research suggests that this may not be the case. Some psychologists view culture as the primary component that shapes human behavior and leads to intentions and actions (Levine, 1973; Lonner & Adamopoulos, 1997; Markus & Kitayama, 1991). Further questions regarding the universal component of SDT's definition have led to controversy around how certain cultural values lead individuals to both perceive and pursue goals differently. For example, certain values within some cultures may be in direct opposition to the notion that adhering to cultural values is a volitional choice for individuals. Specifically, in some cultures, people's social responsibility is not a matter of choice; rather it is part of the self. Individuals' beliefs lead to certain ways of acting and doing that are led by that aspect of the self. Thus, this development of the self is not volitional as much as it is a result of self-in-relation to the individual's culture. Therefore, this sense of self is potentially a result of cultural value differences which could impact the relevance of SDT cross-culturally.

Deci and Ryan (2000) acknowledged the need for more research examining the relationship of cultural values to SDT, as well as the relationship of cultural values to positive psychological and motivational outcomes. Since there may be differences in cultural value adherence both within cultures and between cultures, value structures may impact the relevance of Anglo theoretical perspectives in psychology. This may be compounded by prior research findings that suggest that some measures of culture and cultural values may provide misleading results when examining cultural differences (Matsumoto, 1999; Takano & Osaka, 1999). Matsumoto, and Takano and Osaka, argued that a fundamental problem in cross-cultural research is the measurement of cultural variables. Thus, when researching cultural differences, it is important to understand what aspect of culture is being measured (i.e., behaviors, values, or practices) and to also take into account within-culture differences.

Goal of the Present Study

The goal of my study was to test the relevance of SDT in three cultural groups: Japanese college students, Japanese American college students, and European American college students. This study examined cultural mean differences in SDT needs and the relationship between SDT and hedonic well-being in these groups through the following research questions.

- 1) What is the dimensionality or structure of the measures used to assess SDT needs?
- 2) Do measures of SDT needs exhibit convergent validity with related constructs?

- 3) Are there mean differences between European American, Japanese American, and Japanese college students on (a) the three basic needs of SDT, (b) endorsement of Asian values, and (c) reports of life-satisfaction (well-being)?
- 4) Within cultural groups, does the degree of endorsement of Asian cultural values moderate or impact the strength of the relationship between the level of fulfillment of SDT's basic needs and hedonic well-being?
- 5) Can cultural differences in well-being be accounted for by cultural differences in the level of fulfillment of SDT needs?

Significance of the Study

My study provides a better understanding of the role of cultural values in the application of SDT. Deci and Ryan (1985, 2000) argue that SDT's psychological needs are innate and universal, yet prior research suggests that SDT's impact may vary as a function of cultural values (Iyengar & Lepper, 1999; Sheldon & Bettencourt, 2002; Sheldon et al., 2001). This research aided in developing a greater understanding of these questions, while providing empirical support for theory and application of this strengths-based approach to psychology.

Prior authors have asserted that SDT has capacious empirical support (Sheldon et al., 2003). However, a critical examination of the research methodology suggests that more thorough and controlled methods need to be applied to test the theory within and across cultures. Such research will either lend further support to the generalizability of SDT across cultures or provide evidence for the need to reexamine the cross-cultural relevance of SDT.

Furthermore, the current measures of SDT's basic psychological needs use items compiled from other instruments. Construct validity evidence is needed for the measures of all three psychological needs. Valid instruments will enable researchers and clinicians to assess individuals' current levels of volitional autonomy, relatedness to others, and competence in their day-to-day activities.

CHAPTER II

Literature Review

This review critiques theory, findings, and assessment methods that may impact the relationships among three constructs: self-determination, hedonic well-being, and cultural values. The first section reviews Self-Determination Theory (SDT; Deci & Ryan, 1985, 2000) and the hypothesis that humans have the universal and innate psychological needs of autonomy, relatedness, and competence. The second section focuses on subjective or hedonic well-being and its role in human functioning. The third section examines the role that cultural values play in cultural variability in human functioning and perspectives. A synthesis of the literature was used to examine the relationship between SDT and hedonic well-being, and the role of culture in moderating the impact of SDT's psychological needs of autonomy, relatedness, and competence on an individual's subjective well-being.

Overview of Self-Determination Theory

The idea that human beings have primary psychological needs and exist in environmental conditions that sustain human functioning dates back to Murray (1938), Angyal (1941), and Hull (1943). Murray (1938) argued that human needs are acquired through a force regulating functioning of the brain. He believed that needs are a fictional force that changes neurochemical structures responsible for perception, apperception, intellection, conation, and action. Angyal (1941) argued that human action is the exploration of two determinants of behavior: autonomous determination and heteronomous determination. That is, he believed that behavior was determined either by the person (autonomous) or by others around that individual (heteronomous). Conversely,

Hull (1943) argued that individuals have specific drives toward the attainment of life-sustaining behaviors and fulfillment of innate human needs (e.g., food, water, sex). However, Hull's (1943) theory did not account for certain behaviors, such as how an individual's participation in meaningful activities impacts the pursuit of psychological needs.

Twenty-two years later, McClelland (1965) argued that Murray's assertions were too broad. Thirty-five years after McClelland's statement, Deci and Ryan (2000) argued that "Murray's needs represent an array of motives whose pursuit may or may not conduce to optimal functioning" (p. 228). This examination of needs representing motives can be differentiated from the components of psychological functioning necessary for mental health. That is, what basic psychological needs are necessary to develop the ability to manage the positive and negative events of life?

The study of self-determination evolved from these early works on basic human needs. Deci and Ryan (1985, 2000) developed a theory of self-determination that examined the role of basic psychological needs in the pursuit of goal-directed behavior and motivation toward specific interests, then expanded the theory to include areas such as well-being.

In Self-Determination Theory (SDT), Deci and Ryan (1985, 2000) argued that there is an association between individuals' need to internalize and integrate values and regulations, and find intrinsic meaning in an activity or task at-hand (Ryan & Deci, 2002; Schafer, 1968). Deci and Ryan (1985, 2000) argued that without the internalizing meaning in activities, individuals will not find a sense of satisfaction in those activities (e.g., work or play) and will engage in these activities only to fulfill some sort of

responsibility. That is, individuals will find meaning and satisfaction only in activities in which they participate volitionally.

In SDT, Deci and Ryan (1985, 2000) argued that the acquisition of three basic psychological needs – autonomy, relatedness, and competence – is fundamental for human functioning. Deci and Ryan (2000) stated that these needs, “specify innate psychological nutrients that are essential for ongoing psychological growth, integrity, and well-being” (p. 229). Specifically, individuals must satisfy these psychological needs to work at an optimal level, to achieve in academic settings to the best of their capability, and to be satisfied or find pleasure with the experiences in their lives. Furthermore, the theory asserted that these basic needs are innate and universal to every human being regardless of gender, race, ethnicity, or social economic status (La Guardia, Ryan, Couchman, & Deci, 2000).

Foundational Research and Theory Development

Deci and Ryan (1985, 2000) have developed a theoretical foundation for understanding positive outcomes from a psychological perspective. Deci and Ryan and other researchers have established a collection of work consistently explicating these variables under the definition of SDT. Furthermore, Deci, Ryan, and their colleagues use some empirical approaches to the study of their theory in an attempt to support their assertions. Appendix A is provided to summarize measures used in the study of autonomy, relatedness, and competence.

Deci and Ryan (1985) also attempted to explore autonomy, relatedness, and competence in relation to a multitude of positive outcome variables. For example, the psychological needs of autonomy, relatedness, and competence have been found to (a)

increase an individual's motivation in the environment in which he or she works (e.g., Baard, Deci, & Ryan, 2004; Deci, Ryan, Gagne, et al., 2001; Guay, Senecal, Gauthier, & Fernet, 2003; Senecal, Vallerand, & Guay, 2001), (b) increase participation in either recreational exercise or sports activities (e.g., Frederick & Ryan, 1995; Hagger, Chatzisarantis, Culverhouse, & Biddle, 2003; Vallerand, Deci, & Ryan, 1987; Vansteenkiste, Simons, Soenens, & Lens, 2004), (c) increase motivation for educational pursuits (e.g., Deci, Ryan, & Williams, 1996; Patrick, Skinner, & Connell, 1993; Ryan & La Guardia, 1999), and (d) foster human development (e.g., Grolnick, 2003; Guland & Grolnick, 2003; La Guardia & Ryan, 2002). Of particular relevance to this paper, research has explored the relationship between autonomy, relatedness, and competence; the development of hedonic well-being; and potential cultural considerations. These considerations are discussed later in this review.

SDT has assisted researchers and psychologists to better understanding how autonomy, relatedness, and competence are integrated into individual human behavior and motivation. Researchers have shown that, in some capacities, SDT can account for many of the aforementioned behaviors. But how do autonomy, relatedness, and competence function in the development of SDT (Deci & Ryan, 1985, 2000)?

Autonomy overview. SDT contends that autonomy is an individual's personal perception that he or she is the source or origin of his or her behaviors (deCharms, 1968; Deci & Ryan, 1985, 2000, 2002; Ryan & Connell, 1989). SDT further asserts that individuals want to believe that their behavior is a result of personal interest and values, or that this behavior is volitional. Specifically, a person's desire to self-organize experiences and behaviors has to be in line with one's integrated sense of self (Angyal,

1965; deCharms, 1968; Deci, 1980; Deci & Ryan, 2000; Ryan & Connell, 1989; Sheldon & Elliot, 1999). While Deci and Ryan (1985, 2000) argued that autonomy can be confused with independence, they contend that a clear distinction exists between the two. Deci and Ryan argued that independence refers to the idea that people rely solely on intrinsic sources. In contrast, autonomy involves individuals acting in ways that utilize their interests and integrated values without external pressure (Deci & Ryan, 2000).

Deci and Ryan (1985, 2000) further differentiate autonomy from locus of control (James, 1957) by the causality of action component. That is, whose choice is it to participate in an action? Other researchers have argued that autonomy is only a reinterpretation of the concepts of control theory (Carver & Scheier, 1999). Carver and Scheier argued that autonomy can be seen from an SDT perspective through the lens of the approach-avoidance paradigm put forth by Gray (1990). Gray said that individuals will avoid or approach a situation based on their perception of the expected outcome and their regulation of the situation. As we can see, a debate exists over the operational definition of autonomy in SDT. Is autonomy a unique construct or a reiteration of prior concepts under a new guise? Given this debate, it appears important to develop further empirical studies exploring the correlation between autonomy as operationally defined in SDT and these various alternative constructs.

Deci (1971) conducted a major foundational study supporting the inclusion of autonomy in SDT. In this often cited study, he examined effects of extrinsic reward on the development of participants' intrinsic motivation to participate in an activity. Results of this study indicated that college students are more likely to find intrinsic motivation to participate in an activity when they are verbally reinforced in their work as opposed to

monetarily reinforced. Participants spent more time on puzzles and writing headlines when they were verbally reinforced as opposed to monetarily compensated for participation. This research actually adds confusion to the operational definition of autonomy. It appears to contraindicate the differentiation of autonomy from choice and independence. Close examination indicates that this finding may be connected more to the concept of relatedness than autonomy because participants were receiving verbal support that may lead them to a sense of connection to another person.

Relatedness overview. SDT's second basic need is relatedness. According to SDT, an organism functions optimally only when it is connected to its larger social group (Ryan, Kuhl, & Deci, 1997). That is, connections to a social group can impact a person's motivation toward, and the cognitive load needed for, further tasks. The empirical study of relatedness, within SDT, has involved looking at how individuals find satisfaction through connection to and acceptance of others. However, the constructs of autonomy and relatedness may be counter to each other. As an individual relates more closely to others, the need for autonomy may go down.

Deci and Ryan (2000) acknowledged that the need for autonomy can compete with the need for relatedness. However, they theorized that under optimal circumstances these needs will complement each other. Kagitçibasi (2003) supported this view by asserting that individuals have an autonomous choice to participate in collectivistic or individualistic cultural practices or beliefs (Hofstede, 1980; Triandis, 1995). That is, individuals can embed their autonomous beliefs within the construct of relational components. Oyserman, Kimmelmeier, and Coon (2002) asserted that systematic

differences in self, cultural values, and thinking and relating to others play a significant role in how these basic psychological needs are acquired.

The assertion that these two needs can coexist is supported when individuals show high levels of both the need for autonomy and the need for relatedness (Markus & Kitayama, 2003; Wiggins & Trapnell, 1996). Markus and Kitayama (2003) hypothesized that individuals who find opportunities for self-regulation in situations can also find social connectedness in the same situation. In support, Wehmeyer (1996, 1997) argued that individuals, particularly those with disabilities, have four essential components of self-determined behavior: (a) the behavior was acted upon autonomously, (b) the behavior was self-regulated, (c) the individual acted in a psychologically-empowered manner, and (d) the person acted in a self-realized manner. This assertion lends credence to the concept that satisfaction with outcomes is increased through perceptions that behavior is self-regulated.

In a foundational empirical study looking at relatedness, Anderson, Manoogian, and Reznick (1976) examined the role of verbal reinforcement and group prosperity on participants' willingness to invest time and find satisfaction in activity participation. Preschool children participated in the target activity (i.e., free-style drawing) when they received verbal reinforcement, whereas participants who did not receive this verbal reinforcement did not increase participation in the target activity. The study found that verbal reinforcement was the only construct that increased time spent on the task. Deci and Ryan (1985, 2000) often cite this study as empirical support for the concept of relatedness, yet it appears that this research supports the same findings as the

foundational research supporting autonomy (Deci, 1971). Furthermore, it may be that the verbal reinforcement increases feelings of competence.

Competence overview. Ryan and Deci (2002) defined competence as “feeling effective in one’s ongoing interactions with the social environment and experiencing opportunities to exercise and express one’s capacities” (p. 7). Of the three psychological needs, competence has the most empirical support. In cognitive evaluation theory, a foundation for SDT, Deci (1975) argued that individuals’ motivation toward specific events increases when their competence is supported. Deci theorized that the intrinsic motivation to act during events increases as competence increases. Deci used this concept as a foundation for Deci and Ryan’s (1985, 2000) theory pertaining to the psychological need for competence and its relationship to well-being. However, it appears that he based this argument only on previous research, not on any empirical research directly assessing competence itself.

However, Deci and Ryan (1980) showed that the need for competence, in addition to autonomy, impacts the intrinsic motivation of individuals to accomplish tasks. These researchers found that when college students perceive themselves as competent, they are more likely to increase their participation in that activity. Further, college students increase participation in activities that they feel competent doing only if they also feel a sense of autonomy in the activity, a finding that supports other research as well (Fisher, 1978; Ryan, 1982). Competence itself has emerged as a valid and empirically supported basic psychological need. Additionally, competence has been shown to decrease negative outcomes such as a reduction in intrinsic motivation (Markland, 1999; Vallerand & Reid, 1984), a threat of punishment (Deci & Cascio, 1972), competition participation (Deci,

Betley, Kahle, et al., 1981), and perception of negative evaluations (Ryan, 1982; Smith, 1975).

SDT's innate psychological needs have also been examined in relation to motivation toward recreational exercise and sports. Research showed that individuals' motivation to participate in leisure-time recreational activity correlates with their support of autonomous participation in structured exercise (Hagger et al., 2003). Further, individuals appear to find motivation to continue in various sports when their competence is supported and they perceive intragroup effort (Vansteenkiste et al., 2004). That is, when participants won sporting events, they were more likely to continue in the sport as a result of feeling connected to the group, whereas participants who lost the event were more likely to continue in sports if their effort and choice were supported. These results have implications in both social and individual contexts as well. Individuals may participate in recreational and sports exercise when they view the participation as autonomous, when they perceive participation as a socially connecting activity, and when they perceive that they are competent and contributing to the success or positive outcome of the activity (Frederick & Ryan, 1995; Vallerand, et al., 1987).

Deci and Ryan (2000) suggested that early experiments supporting the competence construct (Boggiano & Ruble, 1979; Deci & Cascio, 1972) indicate that participants feel a sense of satisfaction when they believe they are competent and receive positive feedback on their participation. However, Boggiano and Rubble (1979) examined only the influence of social comparison and meeting an absolute standard on a sense of competence. These authors engaged preschool and elementary-school children in an activity of high initial interest with an anticipated reward after successful completion

of the activity. Participants who believed they accomplished the “hidden picture” activity faster or more successfully than other children appeared more intrinsically motivated to participate in the activity. Once again, Deci and Ryan’s (2000) foundational research suggesting that competence is an innate psychological need may be confounded. Participants apparently are motivated to participate in an activity when they perceive themselves as more competent at an activity when they are being evaluated in comparison to their peers – as opposed to a personal belief that they are competent at the activity.

Empirical Support for SDT

To date, a significant amount of research supports SDT and its basic psychological needs of autonomy, relatedness, and competence in relation to various outcomes. Some prior research indicated that individuals who perceived autonomy support experienced slightly lower levels of anxiety and depression, higher work evaluations, and perceived autonomy support at work (Baard, Deci, & Ryan, 2004; Deci, Ryan, Gagne, et al., 2001). Autonomy support in this context involves a person of higher position “understanding and acknowledging the subordinate’s perspective, providing meaningful information in a nonmanipulative manner, offering opportunities for choice, and encouraging self-initiative” (Baard et al., 2004, p. 2048). These findings showed that this relationship between autonomy support and these work variables can be seen in both Bulgaria (Deci, Ryan, Gagne, et al., 2001) and the United States (Baard, Deci, & Ryan, 2004; Deci, Ryan, Gagne, et al., 2001). Additional research showed that individuals’ motivation to participate in leisure time recreational activity correlates with their support of autonomous participation in structured exercise (Hagger et al., 2003). Further,

individuals appear to find motivation to continue in organized sports when their competence and relatedness lead to group success (Vansteenkiste et al., 2004). Thus, individuals may participate in recreational and sports exercise when they view their participation as autonomous, when they perceive participation as a socially connecting activity, and when they perceive that they contribute to the success of the activity as competent participants.

Other areas of research looking at relatedness can be found in the works of Craighead, Kimball, and Rehak (1979), Russell et al. (1984), Baumeister and Leary (1995), and Furrer and Skinner (2003). Baumeister and Leary (1995) reviewed prior research and theorized that the need to form strong interpersonal relationships has an enduring effect on health, adjustment, and well-being. They asserted that these outcomes are directly related to people's intrinsic motivation to participate in activities.

Craighead et al. (1979) examined how the perceived loss of social relatedness impacts mood changes and affect. This study explored the role that types of environments had on participants' negative affective states. This research indicated that individuals view themselves negatively and report negative affective states when they view a scene as socially rejecting. Russell et al. (1984) also studied the role of social relatedness to reported social loneliness (an absence of relatedness) and emotional loneliness (the affective component of the absence of relatedness) in terms of satisfaction with social relationships. These researchers found that deficits in social relationships predicted social loneliness in college students, whereas only the lack of romantic relationships predicted emotional loneliness. Additionally, they found that the negative affective state of depression is correlated with social loneliness. Russell et al. revealed that participants

who did not have social relationships were higher in loneliness and depression. This research focused on individual reports of experienced relatedness, which supports subjective apperception of negative affective states in the absence of relatedness.

Sheldon and Bettencourt (2002) examined the impact of group inclusion on positive and negative affect, intrinsic motivation, and commitment. Their results indicated that group inclusion and SDT's relatedness need were significantly correlated with positive affect, whereas the autonomy construct was only marginally correlated. Group inclusion was the only construct that was significantly correlated with intrinsic motivation. In addition, perceptions of lack of autonomy were correlated with negative affect.

Furrer and Skinner (2003) explored the direct role of relatedness in academic engagement and performance. Furrer and Skinner asked children to report the degree of relatedness in relationships with significant people in their lives. The results of this study indicated that relatedness was positively correlated with student- and teacher-reported engagement and academic achievement. Further results indicated that the less connection a child had to parents, teachers, or peers, the lower his or her level of engagement. Thus, SDT's psychological needs of autonomy, relatedness, and competence appear to correlate with positive outcomes. However, there may be some additional innate psychological needs individuals seek in relation to various positive outcomes.

Potential Shortcomings of SDT

Minimization of possible human needs. The development of a theory describing innate human needs assists researchers and clinicians in fostering people in developing human potential and satisfaction with life. However, it appears that SDT (Deci and Ryan,

1985, 2000) minimizes the potential innate psychological needs that humans possess. Research indicates that acquiring SDT's psychological needs alone does not lead to developing an internalized sense of satisfaction that drives people to seek further meaning in their lives and daily activities. Rather, it is more a satisfaction with immediate and proximal goal development. Thus, SDT misses aspects that support human growth and functioning.

For example, Sheldon et al. (2001), using surveys to support SDT, found support for these basic psychological needs, as well as the additional need of self-esteem. Sheldon et al. asked participants (322 U.S. college students) to think about the most satisfying events they had experienced during the last month. Then these participants were asked to rate a variety of thoughts and feelings pertaining to this event. Additionally, the authors did a pairwise comparison of participants' scores on the Positive and Negative Affect Schedule (PANAS; Watson, Tellegen, & Clark, 1988) to examine the correlation of positive and negative affect with 10 needs (i.e., self-esteem, autonomy, competence, relatedness, pleasure-stimulation, physical thriving, self-actualization, security, and popularity-influence, and money-luxury) (Appendix A). These needs were utilized by Oishi et al. (1998) to address cultural values associated with collectivism and individualism (Triandis, 1995). Factor analysis indicated that participants found nine psychological needs factors that could be delineated when evaluating positive and negative affective self-reports pertaining to the satisfying events (Sheldon et al., 2001). The only factor unable to differentiate between positive and negative affect when participants reported satisfying events was money-luxury. This supports the idea that individuals may have additional psychological needs not encompassed in SDT. When

researchers looked at negative events, further analysis revealed that competence was no longer significant when reporting these negative events. That is, competence was not significant in correlating negative affect with unsatisfying events. This is the opposite of findings for the loss of autonomy, relatedness, and self-esteem. The authors acknowledge an apparent connection between positive affect and well-being and self-esteem, which is not a basic need in SDT.

Need satisfaction or fulfillment. Deci and Ryan (1985, 2000) argued that autonomy, relatedness, and competence are necessary conditions that must be satisfied for psychology health and well-being. Deci and Ryan (2000) further posited that SDT needs are innate and not learned or fulfilled. However, examination of the measures of SDT needs reveals that they typically assess need fulfillment, rather than needs as motives (e.g., Deci et al., 2001; Hagger et al., 2006; Reis et al., 2000; Ryan et al., 2005; Sheldon, 1995; Sheldon et al., 2001). For example, close examination suggests that Deci et al.'s (2001) measure of SDT needs assesses both innate needs and need fulfillment. To illustrate, the autonomy item ~~“there is not much opportunity for me to decide for myself how to do things in my daily life”~~ is measuring fulfillment of autonomy needs – not the innate need or motive of autonomy. This problem may be difficult to resolve, yet researchers continue to examine SDT needs from both fulfillment and motive perspectives. Thus, it appears that there may even be a direct connection between an innate need and fulfillment of that need.

Potential for not generalizing across cultures. A more significant shortcoming of SDT is that the hypothesized innate psychological needs may not generalize to other cultures. Sheldon et al. (2001) further found that culture impacts the relationship of

SDT's psychological needs to well-being. Even though autonomy, relatedness, and competence were three of the four highest needs in relation to satisfying events in collectivistic and individualistic cultures, these results indicated that self-esteem was also among the highest reported needs in both cultures (i.e., highest need in the United States and second highest in South Korea), and self-esteem was correlated with both positive and negative affect. The results indicated that the higher an individual's reported positive affect, the higher his or her self-esteem. Furthermore, the researchers found that relatedness was more salient for South Koreans, which may illustrate that this construct is more significant for collectivistic cultures than for individualistic cultures. This finding is counter to SDT's hypothesis that autonomy is the central psychological need (Deci & Ryan, 2000).

Sheldon et al.'s (2001) study supports prior research showing that self-esteem is a potential fundamental human need (Epstein, 1990; Greenberg, Pyszczynski, & Solomon, 1995; Leary, 1999). However, because SDT's innate psychological needs were congruent with their hypothesis, they assumed that self-esteem could be subsumed within SDT. Sheldon and his colleagues suggested that it "might be prudent to consign self-esteem to the outcome category rather than considering it as a need in its own right" (p. 336). This argument is supported by Tatarodi and Swann (1995), who found that self-competence and self-liking are factors leading to higher levels of reported self-esteem. This assertion supported the views of Deci and Ryan (2000), yet the research indicated that self-esteem was a fourth fundamental psychological need (Sheldon et al., 2001). The absorption of self-esteem into the autonomy or competence need seems to be an area of future investigation.

As prior research has indicated, there is some credence to SDT's hypothesis that autonomy and relatedness are correlated with increases in human functioning. However, questions remain about how competence can differentiate between positive and negative human functioning. Furthermore, SDT does not draw on some evidence that other psychological variables may be significantly correlated with the increase in human functioning and well-being. Prior research indicated that cultural adherence may mediate the relationship between psychological needs and well-being (Sheldon et al.'s, 2001), which are discussed later in this paper.

Integrative Summary

Controversy surrounds all of SDT's psychological needs. As previously mentioned, the operational definition of these constructs may not be as definitive as Deci and Ryan (1985, 2000) suggest. The scales measuring autonomy, relatedness, and competence need to be further examined to determine if these are construct valid predictors of well-being. Furthermore, the universality of this theory of innate psychological needs comes into question when an individual's adherence to cultural values impacts the relevance of these psychological needs.

Analysis of the SDT research revealed that SDT researchers have not used standardized instruments to thoroughly assess autonomy, relatedness, and competence. An examination of the literature revealed that authors either use their own instruments to assess these needs without first validating them or compile sections of others instruments that have not been validated apart from the whole measures (See Appendix A). An example instrument used by SDT researchers is presented later in this paper.

Directly related to this review, it appeared that SDT (Deci & Ryan, 1985, 2000) has some influence on positive outcomes such as well-being. Individuals did report high levels of autonomy and relatedness when expressing high levels of well-being. However, competence may be a residual of well-being or some other construct such as self-esteem. Additionally, culture could impact the correlation between these variables and well-being. But how is this possible? To better understand this connection, we need to better understand well-being as it relates to SDT and possible cultural values that influence this relationship.

Well-Being

Well-being can be viewed as a combination of people's affective and cognitive evaluation of their lives (Diener & Fujita, 1994). Early researchers studied happiness as a fundamental aspect of well-being. Wilson (1967) developed a definition of a happy person as one who is a "young, healthy, well-educated, well-paid, extroverted, optimistic, worry-free, religious, married person with high self-esteem, job morale, modest aspirations, of either sex and of a wide range of intelligence" (p. 294). Presently, researchers contend that components other than happiness are essential to the development of well-being. For example, Cantor and Sanderson (1998) stated that personal goals are equally important to the attainment of well-being, whereas others contend that more concrete variations exist in the type of well-being defined (Lent, 2004; Ryff, 1989). Kahneman, Diener, and Schwarz (1999) posited that subjective evaluation consists of many factors such as, culture, judgment, affect, experience, biology, and physiology. Clearly, global or overall well-being and one of its components, life

satisfaction, can take many different directions when researchers examine how people interpret happiness.

At present, researchers hypothesize that both cognitive and affective components are incorporated into a person's perception of well-being (Chamberlain, 1988). Some argue that well-being is a psychological or cognitive construct (Ryff, 1989). In contrast, other researchers view well-being from an affective standpoint (Kahneman et al., 1999; Lent, 2004). Together, these camps are developing a conceptual knowledge-base of well-being that is characterized by two separate and distinct factors: eudaimonic (cognitive) and hedonic (affective) well-being (Andrews & Withey, 1976; Liang, 1985; Lucas, Diener, & Suh, 1996; Pavot & Diener, 1993). However, Kahneman et al. (1999) stated that hedonic perspectives of well-being actually incorporate a bottom-up approach to well-being in which pleasure in a situation leads to global evaluation in similar experiences. This then results in domain-specific well-being (e.g., family life or work). Once domain-specific well-being is achieved, the development of hedonic well-being encompasses all domains of life. Ryan and Deci (2001) argued that eudaimonic well-being is related to overall satisfaction, whereas hedonic well-being is a subjective interpretation of satisfaction in events that results from attainment of the basic psychological needs described by SDT.

Life satisfaction, from a eudaimonic perspective, refers to cognitive judgments of one's life as a whole" (Terry & Huebner, 1995, p. 39) or the quality of life that individuals imagine for themselves. Ryff (1989) argued that it is important to look at particular factors in relation to life satisfaction (e.g., purpose in life, self-acceptance, and personal growth). Others contend that personal and global perspectives are more

important (Diener et al., 1999) That is, individuals' experiences, perceptions, and evaluations lead to the acquisition of well-being (Kahneman et al., 1999). As we can see from the various perspectives, even a construct such as well-being can have many operational definitions. However, since the crux of Ryan and Deci's (2001) argument refers to hedonic well-being, this paper focuses on research and theory on Kahneman et al.'s (1999) subjective approach to hedonic well-being.

Hedonic Well-being

Kahneman et al. (1999) defined hedonic well-being from a psychological perspective as —~~what~~ "what makes experiences and life pleasant and unpleasant" (p. ix). Accordingly, in applying this perspective, researchers examine areas related to the experience of enjoyment in which individuals attain balance between positive and negative affective states, overall life satisfaction, and congruence of values, capabilities, and tasks in their lives.

Kahneman et al. (1999) asserted that satisfaction with life develops from a subjective perspective that includes making judgments, comparing ideals, holding aspirations, sustaining healthy relationships with others, and coping with difficult experiences in one's own past. Pavot and Diener (1993) found that individuals strive for happiness from an intrinsic or subjective perspective. That is, people develop happiness through their pleasure versus unpleasurable evaluations utilizing multiple physiological, affective, and cognitive experiences which is a global interpretation of satisfaction that incorporates the cognitive evaluations described by Ryff (1989, 1998).

Pavot and Diener (1993) examined the relationship of life satisfaction to positive and negative affective states. These researchers found that life satisfaction reported by

their participants was positively correlated with positive affect, but negatively correlated with negative affect. That is, positive and negative affect can differentiate reported life satisfaction. These results supported prior research that found global subjective well-being and satisfaction can differentiate positive affect from negative affect (Diener, 1990; Diener et al., 1991). This judgment fosters a sense of self that drives people to obtain some form of contentment.

Empirical Research on Self-Determination Theory and Hedonic Well-Being

Overview. When the study of SDT and subjective well-being are merged, it is clear that SDT focuses on the hedonic perspective of well-being rather than a eudaimonic perspective (Ryan & Deci, 2001). But how do autonomy, relatedness, and competence influence hedonic well-being? Appendix B lists the measures used to assess hedonic well-being in SDT research. A good example of a well-established measure of subjective well-being used in SDT research is the 5-item Satisfaction with Life Scale (Diener et al., 1985). While this is a very short scale assessing well-being, it was used in over 100 known studies measuring this construct. Sheldon and Elliot (1999) and Sheldon, Elliot, et al. (2004) have shown that the Satisfaction with Life Scale correlates highly (.75 and .81 – positive affect) with an affective scale (PANAS; Watson, Tellegen, & Clark, 1988) used in SDT research. This suggests that affect is one aspect of global subjective well-being, but is not all-encompassing.

This line of research started when Sheldon et al. (1996) investigated the effect of “~~trait~~” competence and autonomy on individual ratings of one’s day (i.e., good or bad), thereby addressing immediate daily well-being rather than overall hedonic well-being. These authors hypothesized that within-individual variations in well-being on a daily

basis may be different from an aggregate of overall well-being between participants, which varies based on how autonomy and competence impact one's motivation toward good days. The researchers found that individuals high in "trait" competence and autonomy are more apt to report higher levels of daily well-being. Interestingly, these researchers also found that "bad" days lead to further bad days. This finding supports the idea that hedonic well-being is fairly stable because individuals who have positive and negative days do not typically recover immediately. The continuation of well-being thus can be directly related to the development of competence and autonomy within the individual (Sheldon et al., 1996).

Reis et al. (2000) investigated the independent contribution of state and trait need satisfaction on individual reports of self-reported daily well-being. Hierarchical regression model analysis indicated that individual relatedness constructs were significant only in predicting positive outcomes and affect. Relatedness did not predict negative outcomes. However, both autonomy and competence could predict negative aspects of well-being. The authors explained this finding by asserting that positive affect directs people toward relationships with others. In contrast, individuals are less likely to connect with others when experiencing negative affect.

Ryan and Deci (2001) argued that SDT research focuses on maximizing an individual's happiness and that the satisfaction of basic psychological needs typically fosters hedonic well-being. Deci et al. (2001) tested this assertion in a study of workers in Bulgaria and the United States. Results indicated that autonomy-support increased satisfaction of basic psychological needs at work, which in turn reduced employees' work anxiety, increased engagement in work tasks, and increased overall self-esteem. The

authors noted that these findings supported a direct correlation between autonomy-support and work satisfaction. This is not surprising, considering that autonomy is one of the three basic psychological needs described in SDT (Deci & Ryan, 1985, 2000).

In a direct examination of SDT and life-satisfaction, Ryan et al. (2005) found that autonomy, relatedness, and competence were associated with well-being. The researchers used a series of studies examining how emotional reliance on others impacted hedonic well-being. They found that SDT's psychological needs mediated the relationship between emotional reliance and hedonic well-being. The researchers concluded that emotional reliance may foster a subjective view of an autonomous, related, and competent self, and, in turn, individuals may perceive life as solely volitional and very happy. Thus, it appears that emotional reliance may also influence the relationship between SDT's basic psychological needs and hedonic well-being. This conclusion can be assessed further by understanding the role of autonomy, relatedness, and competence in certain behaviors, such as exercise and diet.

Hagger et al. (2006) examined the effects of need fulfillment on one's intention to act volitionally toward certain behaviors (exercise and diet). They found that autonomy, competence, and relatedness collectively regulated participation in these activities either directly (diet) or indirectly (exercise). Their research provides empirical support for how situational events impact the role of autonomy, relatedness, and competence on people's perceptions and pursuits. This concept supports the idea that cultural value differences could situationally impact the relationship between these psychological needs and hedonic well-being. An individual may have culturally bound attitudes that mitigate his or her intent to participate in certain activities, which can then influence the participants'

overall hedonic well-being. Overall, the empirical study of SDT's basic psychological needs provides some insight into how individuals find meaning and satisfaction with different aspects of their subjective world.

Methodology of empirical studies. The methods used to study SDT (Deci & Ryan, 1985, 2001) in relation to hedonic well-being (Kahneman et al., 1999) generally involve correlating the need and well-being constructs. Studies have utilized various populations ranging from children (Sheldon et al., 2001) and college students (Hagger et al., 2006; Reis et al., 2000; Ryan et al., 2005), to factory workers (Deci et al., 2001). Using multiple populations lends support to the external validity of the relationship between SDT and hedonic well-being and the generalizability of these constructs to entire populations. Additionally, researchers investigating this relationship have primarily used self-reports of well-being (Deci et al., 2001; Hagger et al., 2006; Reis et al., 2000; Ryan & Deci, 2001; Ryan et al., 2005; Sheldon et al., 1996). This approach lends credence to the concept of hedonic well-being because participants are asked to report pleasurable perceptions of well-being.

When measuring SDT's psychological needs, researchers have used self-report measures comprised of similar questions across studies. For example, Deci et al.'s (2001) article uses the Basic Needs Scale at Work. This scale is typical of the measures used to research SDT. This scale consists of 21 items assessing workers' beliefs in their autonomy, relatedness to fellow workers and supervisors, and competency to fulfill their work expectations. A sample item from the autonomy subscale is, "My feelings are taken into consideration at work." A sample relatedness subscale item is, "I get along with people at work." A sample item from the competence subscale is, "On my job I do not

get much of a chance to show how capable I am.” Sufficient Cronbach’s alpha values for these subscales were provided for two cultural groups in this study (Bulgaria and the United States). While these items appear to have face validity, the items were not tested using confirmatory factor analysis to determine if they are indeed measuring what they are intended to measure. Initial confirmatory factor analysis of this instrument would provide further construct validity for these subscales and provide evidence of their ability to measure what they intended to measure. Furthermore, as typical with most of the SDT research, the authors reference validity evidence in an unpublished manuscript, which they do not make available.

Overall, multiple assessment tools have been used to measure hedonic well-being from subjective perspectives. While this approach may help SDT researchers understand the subjective well-being construct, it may provide only preliminary findings regarding the relationship between SDT and hedonic well-being. The relationship may also be impacted by cultural factors.

Prior research typically assessed autonomy, relatedness, and competence only in relation to each other while ignoring other psychological needs that may be significant for hedonic well-being. Deci et al. (2001) and Reis et al. (2000) made a significant effort to explore other psychological variables related to hedonic well-being. However, the researchers assessed self-esteem as an outcome variable related to well-being and not as a psychological need as suggested by the work of Sheldon et al. (2001). Self-esteem could have predicted increases in hedonic well-being.

Measurement of SDT and hedonic well-being. Researchers have used a multitude of measures to assess psychological needs and hedonic well-being (See Appendix A and

B). The autonomy scales measure perceived autonomy related to a specific task. These measures support the concept of autonomy as a single construct, yet none of these measures directly assess autonomy as people's volitional approach to a task. Rather, these assessment tools measured a perception of choice to participate in activities. This paper addresses this issue later in a discussion of other assessment tools.

There are more construct-valid measures of the relatedness variable (Deci & Ryan, 1985, 2001) (See Appendix A and B). These instruments have demonstrated construct validity in prior research, as evident in the correlations of relatedness' with various outcome measures. Furthermore, these measures are more thorough in content coverage than the autonomy measures. The statistical validity and reliability of the relatedness measures have more support than the autonomy measures and are more understandable.

As previously mentioned, competence in SDT (Deci & Ryan, 1985, 2001) has been assessed with measures developed by the authors. None of the SDT studies examined the construct validity of the measures. For example, the Self-Liking and Self-Competence Scale (Tafarodi & Swann, 1995) is a valid measure of self-competence and self-liking that was developed using good methodological procedures. An example item from the self-competence subscale is "I perform very well at a number of things." This subscale is shown to measure competence as defined by SDT. Researchers have attempted to develop their own statistically valid measures to assess competence or to develop these measures based upon preexisting construct valid measures. In addition, scales have been developed to measure autonomy, relatedness, and competence collectively (Deci et al., 2001) (See Appendix A).

There are numerous validated instruments that measure subjective well-being (See Appendix B). These instruments measure affect states that can be differentiated from global well-being (e.g., PANAS) (Pavot & Diener, 1993) or reliable and valid measures of global or hedonic well-being, as described by Kahneman et al. (1999). Thus, some researchers are using measures they believe measure overall well-being; when in actuality they are measuring specific constructs like affect (Sheldon & Elliot, 1999; Sheldon et al, 2001; Sheldon et al., 2004) or the absence of depression (Chirkov et al., 2003; Chirkov et al., 2005). Overall, researchers have given significant consideration to the quality of hedonic well-being measures in these studies.

Potential Shortcomings of Hedonic Well-Being and SDT Research

On the surface, research on SDT's psychological needs and hedonic well-being indicates a relationship between these constructs. However, a thorough examination of the research reveals methodological and measurement shortcomings and researchers in this area appear to draw misleading or unjustified conclusions based upon findings that could have alternative conclusions.

The research methodology used to examine the relationship between autonomy and hedonic well-being is one major concern. For example, Chatzisarantis and Biddle (1998) researched variables that lead to planned behavior and behavioral regulation. The study was conducted to empirically validate SDT in relation to the Theory of Planned Behaviour (Ajzen, 1985). The results indicated that subjective norms, more than perceived behavioral control, impacted the intention to perform behaviors. That is, participants were influenced by the expectations of others rather than volitional autonomy. This could impact not only behavioral intentions, but also the subjective perception of

well-being. Thus, these results indicated that autonomy is influenced by a person's adherence to group expectations, and not by a volitional indicator, as SDT would theorize.

Further studies have illustrated that how people subjectively interpret experiences impacts reports of happiness (Lucas, Diener, & Suh, 1996; Morris, 1999). For example, Lucas, Diener, and Suh (1996) found that life-satisfaction is different from states of affect. The researchers examined the difference between life-satisfaction and positive and negative affect; the correlation between positive and negative affect; the differentiation between optimism and self-esteem and their relationship to life-satisfaction; and optimism's differentiation from affective states. Results indicated that participants who subjectively judge their lives to be happy are more likely to find meaning in life. This finding provides initial evidence that these subjective judgments of life directly impact an individual.

In addition, if these stable or trait-like psychological needs stand on their own, and if relatedness is one of these trait-like needs, why do individuals intentionally move toward others when hedonic well-being is high and isolate themselves when competence and autonomy are low (Sheldon et al., 1996)? It appears that relatedness is more important to hedonic well-being than autonomy and competence. Furthermore, the research does not indicate whether relatedness is a universal innate need, or a function of culture and personal needs. Indeed, Reis et al. (2000) found that culture affects the influence of relatedness on daily reports of well-being; this finding is discussed later. Culture may be moderating the impact of psychological needs on hedonic well-being.

Integrative Summary

As the prior research indicates, there is some correlation of autonomy, relatedness, and to some extent, competence with hedonic well-being. However, instruments used to measure SDT's psychological needs appear not to assess the constructs as operationally defined by Deci and Ryan (1985, 2001), and standard or consensus measures have not been agreed upon. It is difficult to know the statistical value of their findings when the authors refer readers to unpublished manuscripts for reliability and validity information. Additionally, some prior research suggests that the variance in hedonic well-being accounted for by autonomy, relatedness, and competence is minimal. Misinterpretation of findings can lead to false conclusions about the universality of autonomy, relatedness, and competence needs (Deci & Ryan, 1985, 2001).

The idea that autonomy, relatedness, and competence are not universal and innate has roots in cross-cultural research. Under certain cultural value expectations, the importance or role of these psychological needs may vary. Thus, it is important to examine cross-cultural research on values and how cultural values may influence the relationship between psychological needs and hedonic well-being.

Cultural Values

Many researchers have argued that culture is a pertinent and context-specific construct that should be considered in all psychological and sociological explanations of behavior and values (Sue & Sue, 2003). In fact, in the view of some psychologists, cultural factors are the principal elements that shape human behavior and values (Lonner & Adamopoulos, 1997; Markus & Kitayama, 1991). This shift toward a cultural perspective has led many researchers to reconsider dominant Anglo perspectives on

mental health and well-being. That is, mental health and well-being may vary as a function of culture and are not always accurately conceptualized through the Anglo majority lens. LeVine (1973) initiated work on cultural paradigms and human needs. LeVine argued that cultural norms influence behavioral and personality manifestations. The three processes by which culture influenced human beings were: a) willing conformity, in which human and cultural needs are intertwined by biological predispositions; b) coerced conformity, in which individual personality and cultural influences produce contradictory behavioral pressures; and c) normal pluralism, in which multiple norms exist within and between cultural and social groups. D'Andrade (1984) went so far as to argue that these sources of cultural values are crucial, if not foundational, for all social and individual behavior.

Foundational Research in Cultural Values

Hofstede (1980) examined four dimensions of culture-level values that influence individuals based on their cultural background: power distance, uncertainty avoidance, femininity/masculinity, and individualism/collectivism. Hofstede (2001) defined power distance as the acceptance by society of a power differential in social context, and uncertainty avoidance as preference for institutions and social structures that provide certainty and conformity. The masculinity versus femininity construct was characterized as valuing material success, achievement, and assertiveness at the masculine pole, and valuing relationships, compassion, and interpersonal harmony at the feminine pole. Finally, individualistic cultures were described as favoring loose social networks in which individuals tend to themselves and their immediate family. In contrast, collectivistic cultures were characterized as having tightly knit relationships in which

individuals receive support from larger in-groups in society in exchange for loyalty.

Hofstede found that cultural and national groups adhere to some level of these four value constructs. Hofstede's (1980) research led to further exploration of cultural implications for the self.

Markus and Kitayama (1991) theorized that people from different cultures construe the self differently according to the culture to which they belong. People with interdependent self-construal are more prevalent in Eastern cultures and develop the self through interaction with others. People with independent self-construal are more prevalent in Western cultures and develop a sense of the self based on self-actualization. These definitions assist in understanding how self and other interpretations may impact individual reactions to and participation in everyday activities.

Triandis (1995) related these self-construal differences back to Hofstede's (1980) work. He argued that cultural values are important elements in differentiating what Hofstede (1980) classified as individualistic and collectivistic cultural groups. Triandis (1995) conceptualized individualism and collectivism even further. He contended that these two constructs were based on four identifications of the self. Triandis (1995) categorized each of these selves in four types based on these two dimensions (individualism and collectivism). The four types are: a) independence and same status among members (horizontal individualism), b) interdependence and same status among members (horizontal collectivism), c) independence and different status among members (vertical individualism), and d) interdependence and different status among members (vertical collectivism) (See Figure 1).

Figure 1: Triandis (1995) Vertical/horizontal conceptualization of Collectivism/Individualism

| | Horizontal | Vertical |
|---------------|--------------------------------|-------------------------------------|
| Collectivism | Interdependent and same status | Interdependent and different status |
| Individualism | Independent and same status | Independent and different status |

Triandis articulated that individuals from vertical individualistic perspectives are generally achievement oriented; individuals in horizontal collectivistic cultures are generally cooperative; individuals in vertical collectivistic cultures are generally dutiful; and individuals in horizontal individualistic cultures are generally unique. He added that these aspects of cultural adherence impact self-perception, attributions, identity, emotions, cognitions, motivations, attitudes, and many more aspects of human behavior and interaction. However, he emphasized that an individual does not need to adhere to only one aspect of self. He stated that individuals convey these different aspects of self according to certain types of behavior or interactions. For example, if a person is collectively motivated, he or she may exhibit receptivity and adjustment. However, in different contexts, he or she may also reflect more individualistic beliefs in self-reliance and competition. This phenomenon allows individuals to find certain values that are salient and culturally congruent for them and their respective cultural group, while still allowing individual within-group differences.

Heine (2001) discussed aspects of human behavior and perceptions of the self that vary as a function of one's cultural group. He did so by describing different constructions

of the self through the cultural lenses of North America and Eastern Asia. Previous research has shown that these cultural groups are distinct in terms of self-concept (Triandis, 1989). Heine postulated that North American culture is founded on an ideology that stresses the importance of self-determination and individual rights. The sense of self in North America, which is referred to as independent self-construal, derives from individuals believing they are autonomous, complete (or, as we might say, competent), and connected to society only through the shared separate existence of others (Markus & Kitayama, 1991). In contrast, Heine (2001) asserted that the East Asian self is largely viewed as a relational construct and involves an interdependent self-construal. East Asians see themselves through their relationships and roles with others, and explore life as a means of fulfilling obligations to their social groups. Individuals from East Asian cultures tend to believe that these role requirements assist in interacting and responding to social situations (Markus & Kitayama, 1991).

Japanese and American Values

Kitayama et al. (1997) investigated the role self-esteem plays in the construction of the self across different situations for Japanese and American college students. Participants were asked to report how their self-esteem was influenced by different culturally and socially constructed situations. Kitayama et al. found that Japanese college students' values are collectivistic. Results indicated that Japanese individuals see themselves as tolerant, cooperative, dependable, self-motivated, persevering, considerate, and focused on shame. These values describe individuals who are not only collectivistic, but vertical collectivistic, which portrays individuals who understand their role in the social context and work to fulfill their social obligations (Kitayama & Markus, 2000).

Schwartz and Bilsky (1990) previously found that individuals from Japan lean toward these collectivistic values and are more at the masculinity side of Hofstede's (1980) masculinity/femininity dimension, and do not question authority or status differences. Japanese also lean toward uncertainty avoidance in examining social and institutional structures.

In contrast, Kitayama et al. (1997) found that American college students' values are individualistic. They see themselves as dependable, tolerant, adaptable, competent, determined, attractive, self-confident, and intelligent. These self-views also indicate individuals who are independent and unique, consistent with a horizontal individualistic perspective. This outcome supports Hofstede's (1980) prior research which indicated that Americans average high scores in individualism and masculinity. Americans are also low in power distance and uncertainty avoidance. These values allow Americans to approach cultural and social situations by conveying their successes and attempting to put themselves in a position of power and high status.

Other scholars have postulated that Japanese cultural values are distinct from American cultural values, and that the differences impact social practices (Morling, Kitayama, & Miyamoto, 2002), self-evaluation (Heine, Kitayama, & Lehman, 2001), emotions (Kitayama, Markus, & Kurokawa, 2000), influence and adjustment (Morling et al., 2002), and well-being and happiness (Uchida et al., 2004). In sum, Japanese individuals develop a sense of self through their interaction and responsibility to the collective. In contrast, people from the United States tend to view themselves as unique and develop a sense of self based upon success and individuality. Despite these

arguments, others have questioned the methodology and measurement of these constructs between the two cultures (Matsumoto, 1999; Takano & Osaka, 1999).

Self-Determination Theory and Culture

Relating this cultural discussion back to SDT, some authors and researchers contend that cultural values may either conflict with, or complement, the concepts of autonomy, relatedness, and competence as universal psychological needs. As previously mentioned, Heine (2001) went so far as to define North American culture as self-determined and East Asian culture as relational in nature. Iyengar and Lepper (1999) stated that autonomy is opposed to the cultural values of group cohesion and loyalty to the collective. Oishi (2000) even stated that autonomy benefits only individuals from Western cultures because it conflicts with the cultural practices of Eastern cultures. Furthermore, Kitayama et al. (2004) argued that psychological needs conflict with cultural values and that the interpretation of subjective well-being and emotions is also culturally determined. Uchida, Norasakkunkit, and Kitayama (2004) posited that in United States culture independence and autonomy of the self are the foci of thought, action, and motivational patterns. In contrast, in East Asian cultures, cultural values are consistent with a self-in-relationship-to-others perspective in which cultural perceptions guide the thoughts, actions, and motivation of its members. However, Kagitçibasi (1996) and Deci and Ryan (2002) asserted that these cultural psychologists' interpretations of autonomy do not match the SDT's volitional perspective, which involves individuals sanctioning their own goals and actions.

Potential Limitations of Self-Determination and Cultural Values

A potential limitation in Deci and Ryan's (1985, 2000) theory is that individuals from various cultures have different value structures and perceptions. Failing to expand SDT to include cultural differences could lead to a culturally biased viewpoint of basic needs. For example, individuals from an independent, or Western, culture may require autonomy as a key component to life satisfaction, while individuals from an interdependent, or Eastern, culture may find that autonomy limits the attainment of other basic needs such as relatedness, which could be the key component to hedonic well-being. Including culture as a variable is supported by Schwartz (1994), who found that individuals from independent (individualistic) cultures value pleasure, achievement, competition, freedom, and autonomy – a finding that supports the importance of autonomy in a Western context. In contrast, individuals from interdependent (collectivistic) cultures value security, obedience, duty, and in-group harmony, which suggests that SDT may be culturally bound or have cultural limitations. Thus, despite assertions by Deci and Ryan (1985, 2001), cultural variations in psychological needs seem to impact personal perceptions of life satisfaction, happiness, and subjective well-being.

Some have argued that the innate psychological needs of SDT are culturally bound (Iyengar & Lepper, 1999; Markus & Kitayama, 1991; Oishi, 2000), while others have argued that there is no problem when these constructs coexisting (Deci & Ryan, 2000; Kagitçibasi, 1996). Kagitçibasi (1996) supports Deci and Ryan's (1985, 2000) theory by asserting that even in cultures that value community more than individualism, autonomy is still central to individual development of positive outcomes. She argued that

individuals are more likely to develop better –social relations for healthy psychological functioning” (p. 180) when they feel they are doing so voluntarily.

Kagitçibasi’s (1996) and Deci and Ryan’s (1985, 2000) argument does not consider the idea that an individual’s connection to his or her community and culture is highly relevant to the norm of autonomy as a basic psychological need (Iyengar & Lepper, 1999; Markus & Kitayama, 1991; Oishi, 2000). In some cultures, the value of autonomy is in opposition to the values described as relatedness (Iyengar & Lepper, 1999; Markus & Kitayama, 1991), which are discussed later. While some researchers made a noble effort to explore cultural variables in SDT, in only one instance did empirical evidence support the impact of cultural values on SDT needs or their relationship to well-being (Chirkov, Ryan, & Willness, 2005).

Empirical Research in Self-Determination, Hedonic Well-Being, and Cultural Values

Overview. This section reviews cross-cultural studies of SDT and related findings. The results of these studies cast doubt on the methodology and measurement used in the study of autonomy, relatedness, and competence. The review shows that levels of these innate psychological needs vary as a function of culture. However, this review presents additional questions regarding the measurement of cultural values in research. Appendix C provides measures used to assess various cultural factors in SDT research.

This review demonstrates that cultural practices and behaviors vary as a function of values (Heine, 2001; Markus & Kitayama, 1999). These differences are significant when comparing Eastern and Western cultures. In a study of Anglo and Asian American children, Iyengar and Lepper (1999) found that children’s enjoyment of an activity was mediated by cultural differences regarding the choice to participate in the activity. Asian

American children showed increased amounts of time spent on an activity, liking of the activity, attempts toward an activity, engagement in difficult activities, and success on the activity when in-group choice directed the behavior in comparison to out-group choice or personal choice. In contrast, Anglo American children exhibited higher levels in the aforementioned areas when the choice was personal. This finding validates the concept that individuals with different cultural value constructions interpret outcomes of participation differently, which further supports the hypothesis that cultural factors moderate psychological needs such as relatedness and competence (Deci, Ryan, Gagne, et al., 2001).

Additionally, relatedness to significant others has been shown to mediate autonomous pursuit of work and professional goals (Guay, Senecal, Gauthier, & Fernet, 2003; Senecal, Vallerand, & Guay, 2001). Levesque et al. (2004) supported this result when they found that even individualistic cultures showed differences in mean levels of autonomy and competence. In their studies, German students reported more autonomy and less competence than students from the United States. These findings suggest differences in mean levels of autonomy and competence between these individualistic cultures (Schwartz, 1994). Additionally, Levesque et al.'s study showed that relatedness, or perceived external responsibility, moderated the impact of autonomy and competence on well-being. When individuals felt connected to others, autonomy and competence were associated with greater subjective well-being.

Sheldon and Bettencourt (2002) further studied hedonic well-being as it relates to group membership on college campuses in the United States. The researchers examined how group membership impacts subjective well-being. These authors hypothesized that

self-concordance affected the acquisition of hedonic well-being. Self-concordance is defined as an individual's pursuit of goals based upon personal interests and values, as opposed to another individual directing one's pursuit of goals (Sheldon, 2002; Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001). Results of the Sheldon and Bettencourt study (2002) indicated that group inclusion and SDT's relatedness psychological need were significantly correlated with positive affect, whereas the autonomy construct was only marginally correlated. Group inclusion was the only construct that was significantly correlated with intrinsic motivation. While this study only examined membership in campus clubs or groups and not cultural differences, it suggests that Deci and Ryan's (1985, 2000) theory may not have application universally.

Sheldon, Elliot, et al. (2004) looked at cultural differences in SDT needs and well-being. These researchers examined SDT and well-being in relation to self-concordance and looked at how that relationship mediates various forms of motivation in three collectivist cultures (South Korea, Taiwan, and China) versus an individualistic culture (the United States). Overall, they found that collectivistic cultures reported lower levels of hedonic well-being. Additionally, self-concordance was directly related to hedonic well-being in all cultural groups (Sheldon, Ryan, et al., 2004). This finding supports the theoretical view that individuals want to feel autonomous in their pursuit of interests, which brings personal validation, whereas imposed goal directives do not facilitate personal validation. This last finding contrasts with the findings suggesting that group goal-directed behavior influences hedonic well-being (Levesque et al., 2004; Sheldon, 2002; Sheldon & Elliot, 1999; Sheldon & Houser-Marko, 2001). Chirkov et al. (2003) supported this idea that personal rather than group goal-directed behavior influences

well-being. They hypothesized that internalization and autonomy conduce toward well-being. They found that individuals may or may not choose to endorse or adhere to their cultural practices or values. The research found that autonomy goals were directly related to well-being and cultural group membership did not mediate the relationship. Therefore, while cultural membership may affect reports of subjective well-being, it did not impact the relationship between subjective well-being and autonomy. One interesting finding was that individuals may or may not choose to endorse or adhere to their cultural practices or values, which gives some support to how volitional autonomy supports relatedness.

Recent research brings further ambiguity to this picture. In a study of Chinese college students and U.S. high school students, Moneta (2004) measured an individual's adherence to his or her cultural values (i.e., dependent and independent self-construal) and the role of SDT in the motivation to pursue two goals. Moneta found some difference between cultures in how SDT impacts certain aspects of life. A direct relationship appeared to exist between adherence to collectivistic values and the role of autonomy, relatedness, and competence. Results indicated that Chinese participants who reported higher levels of interdependent self-construal were more likely to continue activities and find satisfaction when their activities did not conflict with cultural values. Thus, the multitude of research studies examining the mediating and moderating effects of culture seem to call into question the universality of the correlation between SDT constructs and hedonic well-being.

Previous research showed that culture may impact the relevance of autonomy, relatedness, and competence in the acquisition of hedonic well-being. Results reveal that

adherence to cultural values may influence the importance of these psychological needs. However, there is a paucity of research that actually examines the impact of cultural values on the relationship between SDT and hedonic well-being. This topic is reviewed in terms of methodology and measurement of cultural value adherence as a moderating variable in the relationship between autonomy, relatedness, and competence and hedonic well-being.

Methodology of empirical studies. The majority of SDT studies that incorporate culture have compared results cross-nationally (Iyengar & Lepper, 1999; Levesque et al., 2004; Sheldon & Bettencourt, 2002; Sheldon, Elliot, et al., 2004). The exception is a study by Moneta (2004), who examined within-nation differences. Additionally, researchers are using the same methods in cross-cultural and monocultural studies. Authors have examined children (Iyengar & Lepper, 1999), college students (Levesque et al., 2004, Sheldon, Elliot et al., 2004), and workers (Sheldon & Bettencourt, 2002). They have also incorporated self-report measures, which is also consistent with prior research.

Measurement of SDT, hedonic well-being, and cultural values. The measures used in the examination of SDT and hedonic well-being across cultures are consistent with the measures used in prior research (See Appendix C). An interesting difference in this area is the measurement of SDT. Some researchers have used valid and reliable measures of autonomy, relatedness, and competence (Chirkov et al., 2003; Levesque et al., 2004). However, most researchers continued to use selected items from other instruments or self-created questions to measure levels of autonomy, relatedness, and competence without assessing their validity (Moneta, 2004; Sheldon et al., 2004).

Measurement of cultural practices and values has been inconsistent across most studies. Typically, the authors compared cultural groups without measuring adherence to cultural beliefs and values (See Appendix C). The major exception is the work of Chirkov et al. (2003), who incorporated questions from existing measures of cultural practices. This study may have been the first actual attempt to empirically incorporate culture into the research on SDT and hedonic well-being, yet the study continued to focus on practices and not cultural values. Additionally, it used portions of existing scales, which brings into question the validity of their findings. But what are the overall limitations in cross-cultural research on SDT and hedonic well-being?

Potential Shortcomings

The primary shortcoming of SDT research is the lack of research to support its cross-cultural generalizability, which is one of Deci and Ryan's (1985, 2001) principal hypotheses. Relating this research to hedonic well-being, the uncertain cultural universality of the relationship between SDT needs and well-being can be discussed as a limitation of SDT. Cultural practices influence the relationship between autonomy, relatedness, and competence and hedonic well-being. Furthermore, participation in cultural practices is a by-product of cultural value adherence (Levesque et al., 2004). The study of cultural values as a moderator of the relationship between SDT and hedonic well-being reveals further differences among cultural groups in the impact of autonomy, relatedness, and competence needs. Culture's also show differences in the subjective experience of well-being. Additionally, these variables could be culturally-bound, and research examining the cultural generalizability of SDT may be in question. There is a

paucity of research exploring the values of cultures when assessing the role of autonomy, relatedness, and competence in hedonic well-being.

Further, this line of research is limited in terms of the cultures and the populations studied (e.g., Sheldon & Elliot, 1999). When various cultural populations were examined, the cultural components of autonomy were not assessed, and thus the operational definition of autonomy was limited and possibly culturally-bound. Iyengar and Lepper's (1999) research found a discrepancy between the way SDT describes autonomy and the research showing the impact of culture on the need for autonomy. This disparity may foster misleading conclusions about the generalizability of autonomy to all cultural groups.

Sheldon et al. (2004) did not assess cultural values, so little is known about the impact of cultural values on the regulation of self-concordance, well-being, or personal goals. Additionally, Moneta (2004) attributed within-cultural differences to the internalization of cultural values that are directly related to collectivistic ideals, concluding that SDT needs further examination in a multicultural context. This conclusion is important given that the current cultural research argues that cultural differences may impact the relevance of the basic needs of autonomy, relatedness, and competence.

Direct Empirical Research on Self-Determination, Hedonic Well-Being, and Culture

The most comprehensive study of cultural influences on the relationship between SDT and hedonic well-being was done by Chirkov, Ryan, and Willness (2005). They examined whether cultural value adherence impacted the relationship between well-being and SDT's psychological needs by focusing on understanding the role of vertical forms

of collectivism and individualism on hedonic well-being. Adolescents from Canada and Brazil completed a basic psychological needs support scale (BPNS), two similar scales measuring perceived BPNS from parents' and teachers' perspectives, and support for autonomy, competence, and relatedness using items drawn from the Perceptions of Parents Scale (Robbin, 1994)

In addition, Chirkov et al. (2005) had participants report cultural fit using a modified version of Cozzarelli and Karafa's (1998) Connectedness to Cultural Norms Scale. Chirkov et al. found that (a) the internalization of cultural values positively correlated with well-being; (b) autonomy was related to well-being, yet the strength of the relationship varied across cultures; and (c) participants reported higher levels of relative autonomy when they participated in practices that fit within horizontal definitions of collectivism and individualism than within vertical definitions of collectivism and individualism. This suggests that individuals who believe they are volitionally integrating cultural values are more likely to find that practice autonomous.

Chirkov et al.'s (2005) research makes a valuable contribution toward explaining the role of cultural values in the relationship between autonomy and well-being. However, a limitation of the study was that the psychological needs for autonomy, relatedness, and competence were not assessed collectively. Thus, results can only marginally explain the relationship between autonomy and cultural value adherence. Once again, autonomy, relatedness, and competence could vary in their relevance to hedonic well-being as a function of cultural value adherence. For the purposes of this literature review, it appears there is no conclusive empirically-based link between SDT's psychological needs, hedonic well-being, and cultural values.

Integrated Summary

The examination of whether cultural values moderate the relationship between SDT and hedonic well-being needs further exploration. Some research indicated no relationship between these variables in various cultures; other research revealed that cultural values may play a significant role in this relationship. It may be that cultural values influence the significance of autonomy, relatedness, and competence for hedonic well-being. Furthermore, just assuming participants adhere to cultural values does not lend empirical support to the universality of SDT's psychological needs on hedonic well-being. Valid and reliable measurement of these cultural values will provide further clarification of the relationship between these variables. An example measure is the Asian Values Scale – Revised (Kim, Atkinson, Yang, 1999). This scale is a well-developed, valid measure of an individual's adherence to values associated with Asian cultures. An example item is "One should think about one's group before oneself." This item is a good indication that self-in-relation-to-the-group is an important concept in Asian cultures. Items like these can assist in measuring the influence of cultural values on the relationship between SDT's basic psychological needs and hedonic well-being.

Summary

Deci and Ryan (1985, 2000) postulated that the attainment of autonomy, relatedness, and competence is fundamental to the acquisition of hedonic well-being. They asserted that these needs are universal and innate in every individual. However, research indicates that individuals may perceive life differently and find meaning in life based upon their own cultural values and groups. Thus, there is some indication that SDT concepts could be culturally bound to Western ideals.

Conversely, with the exception of one study, prior cultural explorations of SDT have assumed that membership in a cultural group is enough to constitute significant cultural differences. As the research shows, it does not assist in the exploration of differences between and within cultural groups when researchers assume that all participants adhere to their culture's values. For example, individuals may see themselves as valuing collectivistic ideals, which could conflict with volitional autonomy. Therefore, just applying previous research findings to a cultural group is a limitation that brings into question the generalizability of theories from one population to another. In doing so, the assumption is that when examining psychological constructs, individuals will not vary as a function of cultural values. This research examines how adherence to cultural values impacts the relationship of autonomy, relatedness, and competence to hedonic well-being.

Furthermore, these psychological needs were not assessed with standard measures. Deci, Ryan, and their colleagues typically used measures without providing any validity and reliability information about their development. These measures may have internal validity, yet there is no indication that they have construct validity or are externally valid across populations. Thus, this study measured statistical/construct validity of an all-inclusive measure of SDT's basic psychological needs of autonomy, relatedness, and competence.

Overview of Current Study and Statement of Hypotheses

In the current study, I explored the dimensionality and structure of the measures used to assess SDT needs. I also examined cultural mean differences in SDT needs (autonomy, relatedness, and competence), well-being, and Asian cultural values by comparing European Americans, Japanese Americans, and Japanese college students.

Further, I examined whether endorsement of Asian cultural values moderates or impacts the strength of the relationship between SDT's basic needs and hedonic well-being. Finally, I assessed whether cultural differences in well-being can be accounted for by cultural differences in level of fulfillment of SDT needs. Specifically, the following hypotheses were tested based on the review of literature.

Structure and Convergent Validity

Hypothesis 1: Distinct and reliable autonomy, relatedness, and competence dimensions can be identified in the primary SDT measure (BPNS-G) in U.S. and Japanese college students.

Hypothesis 2: The following convergent relationships would be found between the BPNS-G subscales and the measures of related constructs.

(a) Positive correlations between the BPNS-G Autonomy subscale and the Self-Determination Scale Autonomy total and Self-Contact and Choicefulness subscale scores.

(b) A negative correlation between the BPNS-G Relatedness subscale and the Revised UCLA Loneliness Scale scores.

(c) A positive correlation between the BPNS-G Competence subscale and Self-Competence Scale.

Cultural Mean Differences

Hypothesis 3: Autonomy needs will be highest in the European American college population, followed by Japanese American college population, then the Japanese college population.

Hypothesis 4: Relatedness needs will be highest in the Japanese college population and there will be no difference between Japanese Americans and the European American college population.

Hypothesis 5: Competence needs will be highest in the European American college population, followed by the Japanese American college population, then the Japanese college population.

Hypothesis 6: Asian values will be highest in the Japanese college population, followed by the Japanese American college population, then the European American population.

Hypothesis 7: Life satisfaction will be highest in the European American college population, followed by the Japanese American college population, then the Japanese college population.

Within and Between Culture Differences

Hypothesis 8: Within each cultural group, the ability of SDT needs to predict well-being is weaker for individuals who more strongly endorse Asian values.

Hypothesis 9: Cultural group differences in well-being can be accounted for, in part, by cultural differences in SDT needs (i.e., SDT needs are mediators of cultural differences in well-being).

CHAPTER III

Method

This chapter presents the research methodology used in this study. Areas to be described are: the participants, the instruments, the data collection procedures, and the data analysis.

Participants

Data was collected from selected colleges and universities in the United States and Japan. The United States sample ($n = 175$) included university and college students from Washington and Hawaii. The Japanese sample ($n = 339$) consisted of college and university students from Tokyo and Osaka, Japan. The sample was comprised of undergraduate students from population's representative of students in both countries. For example, universities from the United States were selected to include a range of academic and social economic groups (i.e., community colleges, private universities, and public universities in different communities). The United States sample consisted of two different ethnic subgroups, European Americans ($n = 126$) and Japanese Americans ($n = 49$). Therefore, the study included the following groups:

- Group 1: European American college students
- Group 2: Japanese American college students
- Group 3: Japanese college students.

Convenience sampling was used to obtain a sample of European American, Japanese American, and Japanese college students, while making efforts to get a representative sample of the population.

Participants in This Study

The characteristics of the study population are presented in Table 1. These characteristics reveal that the majority of participants in all three college populations were female, especially in the European American sample. This is indicative of the College of Education populations where the participants were obtained. This table also shows that the samples varied in mean age, with the Japanese sample being the youngest followed by the European Americans, then the Japanese Americans. The reported family income in all three groups was similar, and ranged from an average of about \$40,000 to \$75,000. Finally, the average generational status of the Japanese American sample was 3.14, which was slightly higher than third generation.

Table 1 Characteristics of Participants (N= 504; % or M (SD))*

| | Japanese | Japanese American | European Americans |
|--------------------------|-------------|-------------------|--------------------|
| Demographic | (n=329) | (n= 49) | (n=126) |
| Females | 57.1% | 63.3% | 81.6% |
| Japanese Language Spoken | 100% | 9.8% | 0% |
| English Language Spoken | 1.5% | 100% | 100% |
| Age | 19.1 (2.18) | 25.7 (7.41) | 23.34 (5.55) |
| Family Income | 3.16 (.97) | 2.96 (1.08) | 3.08 (1.07) |
| Generational Status | N/A | 3.14 (1.07) | N/A |

* N = 504 is entire population of this study.

Instruments

A graduate-level psychology professional in Japan translated the composite measure into Japanese. A professor of psychology in Japan, who studied in the United States, and is fluent in both English and Japanese, then back-translated the instrument into English. Minor revisions to the Japanese translation were made based on a comparison of the source and backtranslated English versions.

Demographic Characteristics

The demographic questionnaire requested participants' information regarding the following variables: ethnicity, gender, age, generational level (for Japanese Americans only), and household income (See Appendices F and G).

Basic Psychological Needs Scale in General (BPNS-G)

The BPNS-G is a 21-item scale that assesses the extent to which people endorse SDT's three psychological needs (autonomy, relatedness, and competence). There are 7 items for autonomy, 6 items for competence, and 8 items for relatedness. A 7-point Likert-type Scale, with 1 being "not at all true" and 7 being "very true," is used to respond to the questions (Deci et al., 2001).

"The [general BPNS] was a slight adaptation of the BPNS at Work." (E. L. Deci, personal communication, November 11, 2004). Items were directly modified from the work scale to measure basic needs in general. For example, question number 9 on the Basic Psychological Needs at Work (BPNS-W) scale is, "consider the people I work with my friends." In contrast, question number 9 on the Basic Psychological Needs in General (BPNS-G) scale is worded, "consider the people I regularly interact with to be

my friends.” Since no psychometric properties have been reported for the BPNS-G, the psychometric validation of the BPNS-W is presented.

Deci et al. (2001) reported Cronbach’s alpha estimates for the total BPNS-W in two cultures, Bulgaria and the United States. The Bulgarian alpha was .83 and the United States alpha was .89. Alphas for the subscales were .57/.84 for the Relatedness subscale, .81/.73 for the Competence subscale, and .62/.79 for the Autonomy subscale. The lower alpha reliabilities in Bulgaria for the relatedness and competence scales may be the result of differences in item relevance across cultures. Baard et al. found a positive correlation between intrinsic need fulfillment and performance, which provides construct validity for this scale (as cited in Deci et al., 2001).

Satisfaction with Life Scale (SWLS)

The SWLS was used to assess hedonic well-being. The SWLS is a 5-item scale assessing the global judgment of an individual’s satisfaction with life (Diener et al., 1985). The scale measures global satisfaction for life as a whole, rather than specific domains of satisfaction. The SWLS examines individual judgments, while allowing the subject to weigh various domains in terms of their own values (Pavot & Diener, 1993).

Diener et al. (1985) reported both a .87 coefficient alpha for the scale and test-retest reliability of .82. Item factor loadings for the SWLS and item-total correlations across samples suggest the stability of the factor structure of the SWLS (as cited in Pavot and Diener, see, Arrindell et al., 1991; Blais et al., 1989; Pavot et al., 1991). Various research projects examining the positive and negative correlations of the SWLS with measures of positive affect, happiness, and levels of distress provide evidence of

construct validity. For a list of the numerous correlational studies, see Pavot and Diener (1993).

Many research studies have used the SWLS on various populations. A sample of American college students was studied by Diener et al. (1985). Asian populations were studied in other projects (Diener, Suh, Smith, Shao, 1995; Shao & Diener, 1991). These and numerous other studies provide support for the convergent and discriminant validity of the scale. Specifically, these studies validated the use of this scale for Japanese and American college students, who were sampled in the present study.

Asian Values Scale-Revised (AVS-R)

The AVS-R is a revision of the 36-item Asian Values Scale (AVS; Kim, Atkinson, Yang, 1999). The original scale was a 7-point Likert scale measuring the values related to Asian cultural influence. Kim et al. (1999) reported coefficient alphas for the original scale of .81 and .82. Test-retest reliability with a 2-week interval was .83. Content validity of the AVS was supported by a national survey and focus-groups, which were used to identify items that reflect values common across Asian American cultural groups. Items endorsed more by first-generation Asian Americans than second-generation Asian Americans were retained in the AVS. Confirmatory factor analysis indicated that the items defined only one factor. Discriminant validity was confirmed by modest correlations with the Individualism-Collectivism Scale (Triandis, 1995) and the Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA; Suinn, Rickard-Figueroa, Lew, & Vigil, 1987).

In the revised AVS (AVS-R) the 7-point scale was collapsed into a 4-point Likert scale. Eleven items, or 30% of the items, were eliminated for “misfitting” due to

redundancy or ambiguity. The elimination of these items did not impact the reliability of the scale ($\alpha=.80$). Finally, a Rasch model was applied with the final 25-item set and showed that the instrument was good at distinguishing different value levels.

Overall, the AVS-R is a good scale for examining a multitude of values expressed by various Asian cultural groups. Reliability and validity are acceptable. Furthermore, results of the psychometric evaluation indicate that the AVS-R is also a good instrument for differentiating between high and low levels of Asian value adherence.

Self-Determination Scale (SDS)

The SDS were used to examine the convergent validity of the primary measure of autonomy needs (BPNS-Autonomy scale). The SDS was designed to evaluate the extent to which people behave in a self-determined manner (Sheldon, 1995). This scale assesses the trait-like aspect of autonomy in people's personality (Sheldon, Ryan, & Reis, 1996). The scale has 10 items examining two factors: self-contact and choicefulness. The self-contact items examine concepts related to ownership of emotions and beliefs. For example, "My emotions sometimes seem alien to me" versus "My emotions always seem to belong to me." In contrast, the choicefulness items assess to individuals' right to choose. For example, "What I do is often not what I'd choose to do" versus "I am free to do whatever I decide to do." The instrument uses a forced-choice format. That is, participants are forced to choose which statement from each pair of statements is truer for them.

The authors reported alpha coefficients in the U.S. ranging from .85 to .93 (Sheldon et al., 1996). Test-retest reliability ($r=.77$) was obtained over an 8-week period.

Construct validity was reported in terms of the scale's high correlation with other autonomy scales ($r = .66$). No current data is available for Japanese populations.

The Revised UCLA Loneliness Scale (RULS)

The Revised UCLA Loneliness Scale (RULS, Russell et al., 1980) was used to investigate the convergent validity of the primary measure of relatedness needs (BPNS-Relatedness). The RULS is a 20-item measure assessing individual's levels of experienced satisfaction and dissatisfaction with social relationships. Ten items are positively worded and ten items are negatively worded. Russell et al. reported an internal consistency coefficient alpha of .94, which suggests that the instrument is measuring one construct. Concurrent validity evidence suggested that the RULS measures the reported levels of negative moods associated with loneliness (i.e., depression, .62/.55 [Russell et al., 1980, Study 1 and Study 2] and anxiety, .32). An example item from this scale is "I feel part of a group of friends." In addition, the RULS also correlates with feelings associated with abandonment, emptiness, hopelessness, isolation, and a sense of limited socialization (correlation coefficients all above .40) (Russell et al., 1980). Further factor analyses and hierarchical regression analyses indicated that scores on the measure were not confounded by social desirability. Scores on the scale were also found to correlate more highly with other measures of loneliness (i.e., convergent validity) as opposed to measures of mood and personality variables (i.e., discriminant validity). No known studies have used the RULS outside of the United States.

The Self-Competence Scale (SCS)

The Self-Competence Scale (SCS; Tafarodi & Swann, 1995) was used to investigate the convergent validity of the primary measure of SDT competence needs (i.e.,

BPNS-Competence). The SCS is a 10-item subscale of the Self-Liking/Self-Competence Scale (SLSCS). The subscale is comprised of five positively and five negatively worded items that assess competence and self-liking. Items are presented on a 5-point Likert scale with anchors ranging from *strongly agree* to *strongly disagree*. Tafarodi and Swann reported high internal consistency estimates for the subscales of the SLSCS. Cronbach's alpha for the Self-Competence subscale was .89. A sample negatively worded item from the Self-Competence Scale is "I perform inadequately in many important situations." Confirmatory factor analysis confirmed the hypothesized two-factor model of self-liking and self-competence. The Self-Competence Subscale provides a reliable and valid subscale to assess participant subjective perception of competence.

Procedures

Due to the nature of this study, a survey design was utilized. As stated earlier, participants were recruited from colleges and universities in Hawaii, Washington, Osaka, and Tokyo. Institutional Review Board approval (Appendix H) was obtained from Washington State University, which was accepted by all other institutions for data collection. In the consent to participate letter, participants were informed of the purpose of the study and gave signed consent acknowledging their voluntary participation (Appendix D and E). The participants were given instructions about the study and asked to complete either the 91-item survey (U.S. participants) or 61-item survey (Japanese participants). Participants completed the demographic information first. Each participant then completed the *Basic Psychological Needs Scale-General*, the *Satisfaction with Life Scale*, the *Asian Values Scale-Revised*, and the *Self-Determination Scale*. The *UCLA Loneliness Scale* and the *Self Competence Scale* were administered to the European

American and Japanese American students to establish discriminant and concurrent validity of the *Basic Psychological Needs Scale-General*. The lead researcher administered the surveys in a group format, with the assistance of a translator in Japan.

Statistical Analysis

In the present study, the Statistical Package for the Social Sciences (SPSS 16 for Windows) was used to conduct the data analysis. Recommended alpha levels of $p < .05$ were established to test the research hypotheses. Descriptive statistics were calculated for each of the demographic variables, the independent variables (autonomy, relatedness, and competence), the moderator variable (Asian value adherence), and the dependent variable (hedonic well-being [SWLS]). Initial *t*-test analyses determined if there were any significant differences involving the demographic variables of age and family income. Any significant demographic variables were then taken into account as appropriate in subsequent analyses.

Structure and Convergent Validity

Hypothesis 1: Theoretical structure of SDT and its measurement. Principal-axis factor analysis with varimax rotations was conducted on the items of the BPNS-G. An initial solution of three factors was examined to see if autonomy, relatedness, and competence items load on distinct factors in both U.S. and Japanese college students. Alpha reliability coefficients were computed on the resulting scales separately for each sample.

Hypothesis 2: Convergent validity of BPNS-G subscales and related constructs. Pearson product-movement correlations (*r*) were computed among all relevant subscales of autonomy (BPNS-Autonomy and SDS), relatedness (BPNS-Relatedness and RULS),

and competence (BPNS-Competence and SCS) to evaluate the convergent validity of related constructs.

Culture Mean Differences

Hypothesis 3: Group mean differences on SDT needs for European Americans, Japanese Americans, and Japanese college students. A MANOVA was conducted to investigate culture and gender mean differences on autonomy, relatedness, and competence between European American, Japanese American, and Japanese college students. Post hoc univariate results were interpreted as appropriate.

Hypotheses 4-7: Group mean differences in endorsement of Asian values and life satisfaction for European Americans, Japanese Americans, and Japanese college students. Separate ANOVAs were conducted to assess culture and gender differences in AVS-R and global life satisfaction scores between European American, Japanese American, and Japanese college students. Post hoc univariate results were interpreted as appropriate.

Within and Between Culture Differences

Hypothesis 8: Cultural values as a moderator of the relationship between basic psychological needs and hedonic well-being. Hierarchical regression analyses were conducted to determine the ability of cultural value adherence to moderate the relationship between SDT needs and life satisfaction. Life satisfaction was the criterion variable. The BPNS-G need scores (autonomy, relatedness, and competence) were entered at Step 1, the AVS-R scores were entered at Step 2, and the interaction terms for each need with AVS-R scores were entered at Step 3. Significant β weights for the

interaction terms provided evidence of moderator effects. Variables were centered (standardized) prior to analyses.

Hypothesis 9: Mediation of cultural group differences in life satisfaction.

Mediation was assessed by the three-step process recommended by Baron and Kenny (1986). A series of regression models were run to examine whether the cultural group differences in life satisfaction were explained, at least in part, by each of the SDT needs. First, life satisfaction was regressed on cultural groups, using two dummy variables to represent the three groups. Second, autonomy, relatedness, and competence were regressed separately on the dummy variables representing culture. And third, life satisfaction was regressed on both culture and SDT needs. This determined how much of the relationship between culture and life satisfaction was mediated by cultural differences in STD needs.

CHAPTER IV

Results

BPNS-G Item-Level Structure (Hypothesis 1)

To test Hypothesis 1, I conducted a principal-axis factor analysis with varimax rotations on the items of the Basic Psychological Need Scale – General (BPNS-G; Deci et al., 2001). The pattern of eigenvalues (i.e., scree test) suggested that a two-factor solution might be appropriate for the BPNS-G. The first eight eigenvalues were 6.00, 1.90, 1.25, 1.21, 1.14, 1.01, .93, and .88. However, given the a priori theoretical framework and the authors' structure for the scale (Deci et al., 2001), the three-factor model was first examined. The one- and two-factor solutions are also discussed.

The cumulative variance explained by the three-factor model was 35% for the combined U.S. sample and 37% for the Japanese sample. The rotated three-factor model results (see Table 2) indicated that the 21 items of the BPNS-G did not yield clearly distinguishable autonomy, relatedness, or competence factors. These results were consistent across both the U. S. and Japanese samples. Japanese Americans were included in the U. S. sample for this analysis. Only the relatedness items did fairly well at identifying a distinct factor (factor I in both cultural samples). A follow-up factor analysis after ipsatizing the items (i.e., within-individual standardization) did not improve the results and thus is not tabulated here. Factor congruence coefficients computed between the best-matched factors in the two cultures were as follows: relatedness (.84), autonomy (.60), and competence (.44). Thus, a three-factor model did not replicate across cultures nor produce clear SDT need dimensions.

A two-factor model (see Table 3) suggested that, in both cultures, many (although not all) of the Autonomy and Competence subscale items could be combined into a single factor that may be labeled self-met needs. The cumulative variance explained by the two-factor model was 31% for the combined U.S. sample and 32% for the Japanese sample. Factor congruence coefficients between best-matched factors were .92 for the self-met needs factor and .97 for the relational needs factor, indicating good replication across the two cultures. However, some of the items did not load sufficiently in either culture to be used in measuring psychological needs in the United States and Japan.

Table 4 shows the rotated factor matrix for the one-factor. This solution showed that almost all items were measuring one basic psychological need. This factor was also quite replicable across the two cultures (congruence coefficient = .97). Nonetheless, the two-factor model shows that self-met and relationally-met needs can be differentiated.

The results of my study do not support Hypothesis 1. Distinct autonomy, relatedness, and competence dimensions could not be identified in the primary SDT measure (BPNS-G) in either U.S. or Japanese college students. The results of these analyses suggest that further refinement of the BPNS-G items is necessary – especially if the intent is to measure three distinct basic needs. Many items had modest loadings on their respective factors in the three-factor model and some items loaded on more than one factor. Nonetheless, I scored the BPNS-G (Deci et al., 2001) as three distinct basic needs for further examination in this study based upon SDT theory (Deci & Ryan, 1985, 2000).

Table 2

Rotated Factor Loading Matrices in the U. S. and Japan for Items in the Basic Needs Scale: Three-Factor Solution

| Scale and Items | U.S. Sample (N=222) | | | Japan Sample (N=339) | | |
|--|---------------------|------------|------------|----------------------|------------|------------|
| | Relatedness | Autonomy | Competence | Relatedness | Autonomy | Competence |
| | Autonomy Need Items | | | | | |
| 1. I feel like I am free to decide for myself how to live my life. | .34 | .39 | .12 | .09 | .48 | .17 |
| 4. I feel pressured in my life. * | .02 | .54 | -.01 | .10 | -.02 | .40 |
| 8. I generally feel free to express my ideas and opinions. | .44 | .23 | .08 | .10 | .49 | .25 |
| 11. In my daily life, I frequently have to do what I am told. * | .23 | .38 | -.08 | -.01 | .11 | .39 |
| 14. People I interact with on a daily basis tend to take my feelings into | .56 | .31 | .36 | .40 | .61 | .09 |

consideration.

| | | | | | | |
|--|------------|------------|-----|-----|------------|------------|
| 17. I feel like I can pretty much be myself in my daily situations. | .47 | .26 | .09 | .27 | .42 | .26 |
| 20. There is not much opportunity for me to decide for myself how to do things in my daily life. * | .10 | .77 | .08 | .05 | .32 | .47 |

Competence Need Items

| | | | | | | |
|---|------------|------------|-----|------------|------------|------------|
| 3. Often, I do not feel very competent. * | .22 | .59 | .13 | .21 | .10 | .53 |
| 5. People I know tell me I am good at what I do. | .45 | .17 | .02 | .44 | .39 | .06 |
| 10. I have been able to learn interesting new skills recently. | .27 | .17 | .10 | .04 | .51 | .13 |
| 13. Most days I feel a sense of accomplishment from what I do. | .23 | .31 | .24 | .20 | .50 | .16 |
| 15. In my life I do not get much of a | .25 | .53 | .21 | .17 | .17 | .46 |

chance to show how capable I am. *

19. I often do not feel very capable. * .21 **.50** .21 .04 .15 **.53**

Relatedness Need Items

2. I really like the people I interact with. .29 .05 **.63** **.57** **.36** -.01

6. I get along with people I come into contact with. **.52** -.04 .27 **.71** .26 .15

7. I pretty much keep to myself and don't have a lot of social contacts. * **.40** .18 .29 **.62** -.13 **.41**

9. I consider the people I regularly interact with to be my friends. .10 .05 **.82** **.60** **.39** .10

12. People in my life care about me. **.36** .23 **.31** **.38** **.51** -.09

16. There are not many people that I am close to. * **.36** .22 .27 **.75** .07 .24

18. The people I interact with regularly do not seem to like me much. * **.38** **.37** **.41** **.48** .11 **.37**

| | | | | | | |
|---|------------|-----|-----|------------|------------|-----|
| 21. People are generally pretty friendly towards me. | .65 | .07 | .23 | .51 | .37 | .04 |
|---|------------|-----|-----|------------|------------|-----|

* Reversed items have been recoded to have positive loadings. Factor loadings of .30 or higher are shown in bold.

Table 3

*Rotated Factor Loading Matrices in the U. S. and Japan for Items in the Basic Needs**Scale: Two-Factor Solution*

| Scale and Items | U.S. Sample (<i>n</i> =222) | | Japan Sample (<i>n</i> =339) | |
|--|---------------------------------|----------------------------|----------------------------------|----------------------------|
| | Self-Met Needs | Relationally- Met Needs | Self-Met Needs | Relationally- Met Needs |
| Autonomy Need Items | | | | |
| 1. I feel like I am free to decide for myself how to live my life. | .43 | .31 | .18 | .36 |
| 4. I feel pressured in my life. * | .53 | -.02 | .42 | .02 |
| 8. I generally feel free to express my ideas and opinions. | .29 | .36 | .26 | .37 |
| 11. In my daily life, I frequently have to do what I am told. * | .42 | .09 | .38 | .68 |
| 14. People I interact with on a daily basis tend to take my feelings into consideration. | .36 | .64 | .30 | .45 |
| 17. I feel like I can pretty much be myself in my daily situations. | .32 | .38 | .46 | .30 |
| 20. There is not much opportunity for me to decide for myself how to do things in my daily life. * | .76 | .09 | .46 | .22 |

| Competence Need Items | | | | |
|--|------------|------------|------------|------------|
| 3. Often, I do not feel very competent. * | .60 | .21 | .56 | .17 |
| 5. People I know tell me I am good at what I do. | .24 | .32 | .12 | .58 |
| 10. I have been able to learn interesting new skills recently. | .20 | .26 | .14 | .34 |
| 13. Most days I feel a sense of accomplishment from what I do. | .32 | .32 | .19 | .46 |
| 15. In my life I do not get much of a chance to show how capable I am. * | .53 | .30 | .49 | .19 |
| 19. I often do not feel very capable. * | .51 | .27 | .54 | .07 |

| Relatedness Need Items | | | | |
|--|-----|------------|------------|------------|
| 2. I really like the people I interact with. | .04 | .63 | .06 | .66 |
| 6. I get along with people I come into contact with. | .02 | .56 | .24 | .67 |
| 7. I pretty much keep to myself and don't have a lot of social contacts. * | .21 | .49 | .43 | .34 |
| 9. I consider the people I regularly interact with to be my friends. | .03 | .57 | .18 | .70 |
| 12. People in my life care about me. | .25 | .47 | -.04 | .62 |
| 16. There are not many people that I am close to. * | .24 | .44 | .32 | .56 |

| | | | | |
|--|------------|------------|------------|------------|
| 18. The people I interact with regularly do not seem to like me much. * | .38 | .55 | .42 | .39 |
| 21. People are generally pretty friendly towards me. | .16 | .61 | .10 | .63 |

* Reversed items have been recoded to have positive loadings. Factor loadings of .30 or greater are shown in bold.

Table 4

*Rotated Factor Loading Matrices in the U. S. and Japan for Items in the Basic Needs**Scale: One-Factor Solution*

| Scale and Items | U.S. Sample (n=222) | Japan Sample (n=339) |
|--|------------------------|-------------------------|
| Autonomy Need Items | | |
| 1. I feel like I am free to decide for myself how to live my life. | .51 | .40 |
| 4. I feel pressured in my life. * | .32 | .22 |
| 8. I generally feel free to express my ideas and opinions. | .46 | .45 |
| 11. In my daily life, I frequently have to do what I am told. * | .33 | .22 |
| 14. People I interact with on a daily basis tend to take my feelings into consideration. | .72 | .66 |
| 17. I feel like I can pretty much be myself in my daily situations. | .50 | .55 |
| 20. There is not much opportunity for me to decide for myself how to do things in my daily life. * | .53 | .40 |
| Competence Need Items | | |
| 3. Often, I do not feel very competent. * | .54 | .41 |

| | | |
|--|------------|------------|
| 5. People I know tell me I am good at what I do. | .40 | .56 |
| 10. I have been able to learn interesting new skills recently. | .33 | .37 |
| 13. Most days I feel a sense of accomplishment from what I do. | .45 | .50 |
| 15. In my life I do not get much of a chance to show how capable I am. * | .57 | .40 |
| 19. I often do not feel very capable. * | .53 | .31 |

Relatedness Need Items

| | | |
|--|------------|------------|
| 2. I really like the people I interact with. | .50 | .60 |
| 6. I get along with people I come into contact with. | .43 | .71 |
| 7. I pretty much keep to myself and don't have a lot of social contacts. * | .51 | .51 |
| 9. I consider the people I regularly interact with to be my friends. | .45 | .69 |
| 12. People in my life care about me. | .52 | .52 |
| 16. There are not many people that I am close to. * | .50 | .65 |
| 18. The people I interact with regularly do not seem to like me much. * | .67 | .55 |
| 21. People are generally pretty friendly towards me. | .56 | .59 |

* Reversed items have been recoded so they have positive loadings. Factor loadings of .30 or higher are shown in bold.

Convergent Validity of the BNS-G Scales and Related Constructs (Hypothesis 2)

To test hypothesis 2, correlation coefficients were computed among the three BPNS-G subscales (autonomy, relatedness, and competence) and the corresponding measures (SDS, RUCLA [negative correlation], and SCS). The correlations are presented in Table 5, with hypothesized convergent correlations shown in bold. All were statistically significant and .40 or greater. There were high convergent correlations among theoretically related variables. Specifically, as hypothesized, there were positive correlations relating the BPNS-G Autonomy Subscale to the Self-Determination Scale Autonomy total score and Self-Contact and Choicefulness subscale scores. In addition, the Relatedness subscale of the BPNS-G correlated highest (negatively) with the RUCLA scale, and the BPNS-G Competence Subscale correlated highly with SCS. However, discriminant validity was not very good. All the measures were substantially correlated. Thus, Hypothesis 2 was technically supported, but the correlations between all constructs were too high to differentiate them.

The overall results indicate that individuals may have met basic needs, but that the needs co-vary substantially. That is, respondents are endorsing basic needs as one construct and not three separate basic needs of autonomy, relatedness, and competence. These results are consistent with the earlier factor analysis results (e.g., one-factor solution).

Table 5 *Convergent Validity of BNS-G Subscales and Related Constructs*

| | SDS | R UCLA | SCS | SDS – SC | SDS – C | BNS-G – A | BNS-G – C | BNS-G – R | SWLS |
|-----------|------------|-------------|------------|------------|---------|-----------|-----------|-----------|------|
| SDS | — | | | | | | | | |
| R UCLA | -.64 | — | | | | | | | |
| SCS | .62 | -.61 | — | | | | | | |
| SDS – SC | .85 | -.58 | .56 | — | | | | | |
| SDS – C | .87 | -.53 | .51 | .47 | — | | | | |
| BNS-G – A | .66 | -.53 | .57 | .50 | .63 | — | | | |
| BNS-G – C | .57 | -.57 | .62 | .48 | .49 | .67 | — | | |
| BNS-G – R | .47 | -.68 | .42 | .40 | .41 | .57 | .61 | — | |
| SWLS | .55 | -.66 | .63 | .46 | .49 | .59 | .66 | .57 | — |

All correlations significant at $p < .01$; Hypothesized convergent correlations between instruments are shown in bold (see Hypothesis 2). SDS – Self-Determination Scale Autonomy Total; R UCLA – Revised UCLA Loneliness Scale (negative construct); SCS – Self-Competence Scale; SDS-SC – Self-Determination Self-Contact Subscale; SDS-C – Self-Determination Choicefulness Subscale; BNS-G-A – Basic Needs Scale-General – Autonomy Subscale; BNS-G – C – Basic Needs Scale-General – Competence Subscale; BNS-G-R – Basic Needs Scale-General – Relatedness Subscale; SWLS – Satisfaction with Life Scale.

Mean Group differences in SDT Basic Needs (Hypothesis 3 to 5)

T-test results revealed no significant differences for age or family income, so they were not treated as covariates in the statistical analyses. A MANOVA was conducted to investigate cultural and gender differences in autonomy, relatedness, and competence needs among Japanese, Japanese American, and European American college students. Means and standards deviations for each cultural group on all variables are provided in Table 6. Results of the MANOVA revealed that there were significant cultural differences for all three basic needs, but no main or interaction effects involving gender (Table 7). It should be noted that statistical power would be low for the gender effects because of the predominance of female participants.

Post hoc Tukey *t*-tests revealed no significant difference between European and Japanese American college students on the three psychological needs (see superscripts in Table 6). However, the Japanese college students differed significantly from both the European American and Japanese American college students on all three needs. Japanese college students reported feeling less autonomous, competent, and connected to others than the European American and Japanese American college students. These results indicate that Hypotheses 3, 4, and 5 were partially supported. Japanese college students reported less autonomy, relatedness, and competence than Americans, but there were no differences in these reported needs between the two American subgroups.

Table 6 Means and Standard Deviations of Measures by Cultural Group

| Scale | Japanese | | Japanese American | | European American | |
|----------------|--------------------|-----------|--------------------|-----------|--------------------|-----------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| BPNS-G – A | 31.58 ^a | 6.09 | 36.22 ^b | 5.66 | 36.43 ^b | 4.85 |
| BPNS-G – C | 27.12 ^a | 5.70 | 32.12 ^b | 4.27 | 32.38 ^b | 4.83 |
| BPNS-G – R | 41.19 ^a | 7.73 | 45.68 ^b | 4.58 | 47.75 ^b | 5.44 |
| BPNS-G - Total | 99.89 | 16.30 | 114.03 | 11.69 | 116.56 | 12.92 |
| SDS – SC | 18.87 | 3.69 | 20.53 | 3.25 | 20.68 | 3.66 |
| SDS – C | 16.82 | 3.94 | 18.90 | 3.27 | 19.44 | 3.67 |
| SDS – Total | 35.69 | 6.38 | 39.43 | 5.16 | 40.12 | 6.47 |
| AVS-R | 59.07 ^a | 6.53 | 62.88 ^b | 7.37 | 57.61 ^a | 6.94 |
| SWLS | 19.36 ^a | 6.65 | 23.59 ^b | 6.97 | 26.72 ^c | 6.03 |

Note. BPNSG – A – Basic Psychological Needs Scale-General – Autonomy Subscale; BPNS-G – C – Basic Psychological Needs-General – Competence Subscale; BPNS-G – R – Basic Psychological Needs-General – Relatedness Subscale. SDS – SC – Self-Control Subscale; SDS – C – Choicefulness Subscale. Means with different superscripts for a given variable (row) were significantly different in post-hoc Tukey *t*-tests.

Table 7 *Multivariate Analysis of Variance for SDT by Cultural Groups and Gender*

| Effect | Wilks' Λ | F | <i>df</i> | <i>p</i> | Partial η^2 |
|-------------------------|------------------|----------|-----------|----------|------------------|
| Cultural Group | .84 | 15.10 | 2 | .01 | .08 |
| BNS-G Autonomy | | 31.73 | 2 | .01 | .11 |
| BNS-G Competence | | 37.82 | 2 | .01 | .13 |
| BNS-G Relatedness | | 27.01 | 2 | .01 | .10 |
| Gender | .99 | 1.29 | 1 | .28 | .01 |
| BNS-G Autonomy | | .04 | 1 | .85 | .00 |
| BNS-G Competence | | 1.45 | 1 | .23 | .00 |
| BNS-G Relatedness | | 2.60 | 1 | .11 | .01 |
| Cultural Group x Gender | .99 | .47 | 2 | .83 | .00 |
| BNS-G Autonomy | | .50 | 2 | .61 | .00 |
| BNS-G Competence | | .06 | 2 | .94 | .00 |
| BNS-G Relatedness | | .11 | 2 | .89 | .00 |

Mean Group Differences in Asian Values and Life Satisfaction (Hypothesis 6 and 7)

Separate ANOVAs were used to test for cultural and gender differences in AVS-R and global life satisfaction scores (Table 8). Results of the ANOVA revealed significant cultural differences in endorsement of Asian values, $F(2, 501) = 10.84, p = .00$, but not based upon gender differences $F(1,501) = .07, p = .70$. For global life satisfaction, there were both significant cultural differences, $F(2, 501) = 60.15, p = .00$, and gender differences, $F(1, 501) = 16.15, p = .00$. No interaction effects were statistically significant.

A post hoc Tukey *t*-test (see superscripts on Table 6) showed that Japanese American college students endorsed Asian values more than both European American and Japanese college students, whereas the European American and Japanese college students did not differ significantly. Therefore, Hypothesis 6, which predicated that Asian values would be endorsed most by the Japanese, followed by the Japanese Americans, and then the European Americans, was not supported. It may be that the AVS-R is measuring levels of Asian American values as opposed to Asian values in general.

Post hoc analyses Tukey *t*-tests revealed that European American college students expressed higher levels of life satisfaction than both Japanese American and Japanese college students (see superscripts in Table 6). In addition, Japanese American college students reported higher levels of global life satisfaction than Japanese college students. These results were completely consistent with Hypothesis 7. These differences may indicate that some aspect of Japanese culture inhibits individuals' sense of well-being.

Table 8 *Univariate Analysis of Variance for Asian Values Endorsement and Life Satisfaction by Gender and Cultural Groups*

| Measure | F | <i>df</i> | <i>p</i> |
|-----------------|----------|-----------|----------|
| Gender | | | |
| AVS-R | .07 | 1 | .70 |
| SWLS | 16.15 | 1 | .00 |
| Cultural Groups | | | |
| AVS-R | 10.84 | 2 | .00 |
| SWLS | 60.15 | 2 | .00 |

Note. There were no gender x cultural interaction effects.

Cultural Values as a Moderator of the Relationship between Basic Psychological Needs and Hedonic Well-being (Hypothesis 8)

Hierarchical regression analyses were conducted to determine the ability of Asian values adherence to moderate the relationship between SDT needs and life satisfaction within cultures. Results are provided in Table 9. The combination of SDT needs and Asian values endorsement had a significant impact on life satisfaction for both the U. S. sample, $F(7, 222) = 20.30, p < .01$ and the Japanese sample, $F(7, 339) = 35.27, p < .01$. However, results further indicated that SDT needs alone accounted for 43% of the variance in the U.S. sample and 42% of the variance in the Japanese sample, whereas Asian values only accounted for an additional 1% of variance in reported life satisfaction in both sample groups. This 1% was significant (albeit modestly) for the Japanese sample and not significant for the U.S. sample. Finally, the interaction between SDT basic needs and Asian values endorsement accounted for only an additional 1% (Japan) and 2% (United States) of the variance in life satisfaction. The change in R^2 for Step 3 was not statistically significant in either culture, although the modest β -weight for one interaction term was significant. However, contrary to Hypothesis 8, this β -weight indicates that the relationship between the SDT competence need and life satisfaction was stronger, not weaker, for those who more strongly endorsed Asian values in Japan.

Table 9 *Hierarchical Regression Examining Asian Cultural Values as a Moderator of the Relationship between SDT Needs and Hedonic Well-Being*

| Variable | Life Satisfaction | | | | | |
|----------------------------|-------------------|-------------------------|--------------------------|-----------------|-------------------------|--------------------------|
| | U.S. Sample | | | Japanese Sample | | |
| | <i>B</i> | Total R ² | R ² Change | <i>B</i> | Total R ² | R ² Change |
| Step 1: SDT Needs | | .43** | .43** | | .42** | .42** |
| BPNS-G Autonomy | .43** | | | .33** | | |
| BPNS-G Competence | .18* | | | .20** | | |
| BPNS-G Relatedness | .15* | | | .24** | | |
| Step 2: Asian Values | | .44** | .01 | | .43** | .01* |
| AVS-R | .06 | | | .09* | | |
| Step 3: SDT x Asian Values | | .46** | .02 | | .44** | .01 |
| BPNS-G A x AVS-R | -.07 | | | -.01 | | |
| BPNS-G C x AVS-R | .08 | | | .13* | | |
| BPNS-G R x AVS-R | .13 | | | -.06 | | |

Note. ** $p < .01$; * $p < .05$

Mediation of Cultural Group Differences in Life Satisfaction (Hypothesis 9)

Mediation was tested through a series of regression models to examine whether the cultural group differences in life satisfaction were explained, at least in part, by SDT needs. First, life satisfaction was regressed on cultural groups, using two dummy variables to represent the three groups. The results again revealed differences in life satisfaction between the three cultural groups. The β -weight for the Japanese American dummy variable (with European Americans as the reference group) was statistically significant ($\beta = -.13, p < .01$), indicating that Japanese Americans reported lower life satisfaction than European Americans. The β -weight for the Japanese dummy variable (with European Americans as the reference group) was statistically significant ($\beta = -.49, p < .01$), indicating that Japanese Americans reported less life satisfaction than European Americans.

Second, in separate regression analyses, autonomy, relatedness, and competence were each regressed on the dummy variables representing culture to determine if culture predicted each of the three needs. The results for the Japanese dummy variables indicated that there is a significant difference between European American and Japanese college students on the three basic needs of autonomy ($\beta = -.37, p < .01$), relatedness ($\beta = -.42, p < .01$), and competence ($\beta = -.43, p < .01$). However, the results for the Japanese American dummy variable indicated that there were no significant differences between the Japanese American and European American samples in reported autonomy ($\beta = -.01, ns$), relatedness ($\beta = -.08, ns$), and competence ($\beta = -.02, ns$). Therefore, mediation could only be tested for the Japanese versus European American comparison.

Finally, life satisfaction was regressed on the Japanese dummy variable and SDT needs simultaneously. In this regression equation, the β -weights for the SDT needs were all statistically significant – autonomy ($\beta = -.30, p < .01$); relatedness ($\beta = -.29, p < .01$); and competence ($\beta = -.24, p < .01$). Furthermore, the β -weight for the Japanese (vs. European American) dummy variable was now $-.18 (p < .01)$, as compared to the original β -weight of $-.49 (p < .01)$. This supports partial mediation of Japanese versus European American differences in life satisfaction by cultural differences in SDT needs.

CHAPTER FIVE

Discussion

The need to understand psychological needs as they relate to daily functioning is important in understanding how individuals relate to the world and participate in their lives. Specifically, creating a culturally sensitive and encompassing theory of psychological needs will assist researchers and practitioners in developing ways to help individuals find meaning in their lives and alternatives when they become unsatisfied with current ways of living. My study provides a better understanding of a current theory of psychological needs – Self-Determination Theory (Deci & Ryan, 1985, 2000) – and its applicability across two cultures: Japan and the United States.

Structure and Convergent Validity of BPNS-G

The results of my study did not support Hypothesis 1. Distinct autonomy, relatedness, and competence dimensions could not be identified in the primary SDT measure (BPNS-G) in U.S. or Japanese college students. The convergent validity with similar measures predicted in Hypothesis 2 was supported, yet the high correlations between different constructs indicated that discriminant validity was marginal.

Developing a scale to measure SDT's basic psychological needs is important. This would provide researchers a tool to assess Deci and Ryan's (1985, 2000) hypotheses in a reliable and valid manner. However, in its current version, the BPNS-G does not appear to measure autonomy, competence, and relatedness as three distinct psychological needs, with the exception of the relatedness need. Further refinement of this instrument would assist researchers and clinicians in understanding the role psychological needs have in positive outcomes such as motivation, athletic performance, and well-being. At best, the

current results indicate that the BPNS-G measures two forms of needs: self-met and relationally-met needs. On the other hand, the high factor congruence coefficients indicated that factor structures comprised of one and two factors replicated well across the two cultures, indicating some cross-cultural comparability in how the psychological needs items were perceived and organized.

The correlation coefficients among the three needs were also high, particularly between autonomy and competence. These results supported the factor analysis findings, which indicated that there are at most two psychological needs being measured. This is not to say that Deci and Ryan's theory is invalid, but there is a need to better differentiate the constructs in their measure.

Culture Mean Differences in Autonomy, Competence, and Relatedness

My results indicated that Hypothesis 3, 4, and 5 were partially supported. There were differences between Japanese college students and the two other groups (Japanese Americans and European Americans) on reported autonomy, relatedness, and competence, but not between the latter two groups. Of course, these comparisons were limited by the uncertain measurement equivalence and limited distinctiveness of the three dimensions across cultures. The possibility that the lower Japanese scores on all three needs were due to a response style artifact needs to be considered. However, the lower Japanese mean scores on both the Likert-type (BPNS-G Autonomy) scale and the forced-choice (SDS) scale reduce the likelihood of a response style (e.g., acquiescence) interpretation of the cultural differences. Thus, American college students apparently endorse higher levels of autonomy, competence, and relatedness than Japanese college students. An explanation for this cultural difference can be explained through the need for

Japanese modesty bias and group cohesion. Japanese have the tendency to not focus on the self and understanding their role in social and work contexts, which seems opposite to autonomy. The best support for the universality of autonomy, relatedness, and competence need and their correlations in both cultures with life satisfaction. However, other psychological needs or factors may also be relevant across and within these cultures. Further research may include psychological needs previously hypothesized by Oishi (2000) in order to develop a more comprehensive set of psychological needs for cultural comparisons.

Cultural Mean Differences in Asian Values and Life Satisfaction

The results of my study failed to support Hypothesis 6, which predicted that Asian values would be highest in the Japanese, followed by Japanese Americans, then European Americans. Hypothesis 7 was supported because life satisfaction was highest in the European Americans, followed by Japanese Americans, and then the Japanese.

Results of this study suggested a unique interpretation or distinction in Asian value endorsement. Japanese Americans endorsed Asian values on the AVS-R more than either the European Americans or Japanese. These results do not support the AVS-R as a measure of general Asian values. If it was, it would be expected that Japanese Americans endorse higher levels of Asian values than European Americans, as they did. However, it would also be expected that Japanese would score higher on the Asian values scale than the Japanese Americans. This was not the case. Thus, it appears that the AVS-R may measure Asian American values and not Asian values. Perhaps this is not surprising, given that the instrument was originally developed for Asian Americans.

My study also revealed concerns regarding item wording on the AVS-R. Many respondents were confused by some of the items. For example, items like “One need not achieve academically in order to make one’s parents proud” and “One should not make waves” caused some confusion. Participants frequently asked the meaning of many items that resembled double negatives (e.g., the first item), which could indicate potential invalid responses. Additionally, participants often did not know what the colloquium “make waves” meant and it needed an explanation. A more specific measure of Asian values, tailored for Japanese might have led to different results.

Cultural differences in SWLS scores are typical in cross-cultural studies. The results of my study are consistent with prior studies suggesting that Asian individuals have lower well-being scores than individuals in the United States (Diener et al., 1991). This difference may be related to true cultural differences in well-being, or it may be an artifact of cultural differences of what actually constitutes well-being. Individuals with interdependent self-construal seem less likely to value an independent point-of-view and focus on what may increase their sense of self in relation to others. This is also supported by the mediation results of my study, which indicated that individuals from Japan were less likely to endorse SDT needs and well-being.

In addition, recent concerns have been addressed regarding the types of well-being researchers are measuring (Abad & Sheldon, 2008). A more appropriate way of measuring well-being in studies is to combine multiple measures of both hedonic and eudaimonic well-being. An example could be to combine the SWLS (Diener et al., 1985) with the PANAS (Watson et al., 1988), providing a better understanding of the role of autonomy, relatedness, and competence in both affective and cognitive well-being.

Therefore, this study's results can only suggest cultural differences in life satisfaction as measured by the SWLS.

Cultural Values as a Moderator of the Relationship between Basic Psychological Needs and Hedonic Well-being

Hypothesis 8 was largely rejected because within each cultural group, the ability of SDT needs to predict well-being was not generally moderated by endorsement of Asian values. A possible (albeit modest) exception was the following: in Japan, the relationship between competence needs and well-being was stronger for those who endorsed Asian values. This relationship might be consistent with prior research suggesting that responsibility to the collective may lead to well-being in certain cultural groups (Heine, 2001). However, adherence to Asian values did not moderate the relationship between autonomy or relatedness needs and well-being. Thus, questions remain, some of which were answered through the examination of mediation effects.

Mediation of Cultural Group Differences in Life Satisfaction

Hypothesis 9 was supported. American versus Japanese differences in well-being were accounted for, in part, by cultural differences in SDT needs. The results indicate that lower life satisfaction can be attributed to cultural differences in SDT needs. The overall results of this study support the universality of SDT needs as a predictor of well-being, yet questions arose regarding the three needs' measurement.

Limitations

A limitation of the current study is its generalizability. This research was conducted on a convenience sample of college students in Washington, Hawaii, and Japan. It would not be appropriate to suggest that these results are relevant for other

groups outside these populations or even within these cultures in another setting.

Additionally, the Japanese American sample in this study consisted of only 49 participants. This low number could compromise the generalizability of the results.

There were also concerns regarding the appropriateness of some of the measures used in the study. Results of the factor analysis suggested that the measure of autonomy, relatedness, and competence needs requires further refinement. In the current version of the BPNS-G, only self-met and relational needs could be differentiated. Furthermore, there appear to be problems with the AVS-R's ability to differentiate Asian and Asian American values. Additional research may consider an improved measure of Asian values for which Asian groups endorse the items at a greater rate than Asian Americans. This type of measure would provide an opportunity for increased understanding of value differences as a moderator or mediator of the relationship between SDT needs and well-being.

There may also be limitations associated with using a self-report measure when studying the constructs of psychological needs and well-being. Potentially, participants may have responded in a socially desirable way, or in a manner reflecting other response biases such as acquiescence or moderacy bias. For example, research tells us that individuals in research studies may portray themselves in a positive light and avoid disclosing negative information (Crowne & Marlowe, 1960). In my study, this response style could have led to an overly favorable assessment of well-being and psychological needs, particularly in the United States, where greater self-enhancement tendencies have been observed (Heine & Lehman, 1997).

Future Research

Future research is needed in Japan and in other cultures that value collective ideals. By expanding this research on the relationship between psychological needs and well-being across cultures, we may be able to develop better therapeutic practices and more understanding of human needs and functioning. For example, some aspect of Japanese culture could impact reports of well-being, or there may be a cultural difference in the actual well-being construct. Psychologists and other helping professionals must understand individuals in the context of their own value systems and beliefs, rather than assuming all individuals possess the same basic approach to life and well-being. Individual and cultural differences are unique factors impacting how certain psychological variables lead to positive and productive outcomes. To assume that values, beliefs, and practices do not impact these outcomes only limits our understanding of human experience. This knowledge improves our understanding of how individuals across cultures develop motivation, performance, and overall well-being within their relationships and within themselves.

Finally, further cross-cultural research in well-being will provide a better theoretical framework for psychological needs. Currently, the most researched approach to psychological needs is the work of Deci and Ryan (1985, 2000) and their colleagues. The major contribution of this study is that we now know that we must develop a more comprehensive understanding of psychological needs from a cross-cultural perspective in order to assist both clinicians and researchers to better understand the worldview of diverse clients.

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Appendix A

Measures Used in the Study of Self-Determination Theory

| Scale and Author | Study | Reliability | Validity |
|--|---|------------------------------|--------------------------------------|
| Adult Attachment Styles Inventory (Simpson, 1990) | <ul style="list-style-type: none"> • Ryan et al. (2005) | .81 | Discriminant |
| Connectedness Scale (Mikulincer et al., 1990) | <ul style="list-style-type: none"> • Reis et al. (2000) | .32, .67, .77 (Subscales) | Concurrent/ Construct |
| Global Needs Satisfaction Scale (Ryan & Connell, 1989) | <ul style="list-style-type: none"> • Hagger et al. (2006) • Levesque et al. (2004) • Hagger et al. (2003) • Ryan & Connell (1989) | .62 - .82 | Internal, Construct (Autonomy) |
| Measure of Situational-Level Attitudes (Ajzen, 1991) | <ul style="list-style-type: none"> • Hagger et al. (2006) | N/A | N/A |
| Multidimensional Self-Esteem Inventory (O'Brien & Epstein, 1988) | <ul style="list-style-type: none"> • Ryan & Deci (2001) • Sheldon et al. (1996) | .86 | Internal |
| Need Satisfaction Scale (Deci & Ryan, 1991) | <ul style="list-style-type: none"> • Deci & Ryan (1991) | N/A | N/A |

Appendix A (Continued)

| | | | |
|--|--|--------------------|---|
| Need Satisfaction Scale (LaGuardia et al., 2000) | <ul style="list-style-type: none"> • Ryan et al. (2005) | .85-.92 | N/A |
| Perceptions of Parents Scale (Robbins, 1994) | <ul style="list-style-type: none"> • Chirkov et al. (2005) • Ryan et al. (2005) | .87 | Internal, Statistical |
| Self-Determination Scale (Sheldon et al., 1996) | <ul style="list-style-type: none"> • Sheldon et al. (1996) | .85-.93 .77 | Internal |
| | | | Test/retest |
| The Basic Needs at Work Scale (Connell, 2001) | <ul style="list-style-type: none"> • Baard et al. (2004) • Deci et al. (2001) | N/A | N/A |
| UCLA Loneliness Scale (Russell et al., 1980) | <ul style="list-style-type: none"> • Reis et al. (2000) | .75 | Concurrent/ Discriminant/ Construct |
| Work Preference Inventory (Amabile et al., 1994) | <ul style="list-style-type: none"> • Moneta (2004) | .70 & .73 | Construct |
| Self-Report | <ul style="list-style-type: none"> • Hagger et al. (2006) • Sheldon & Bettencourt (2002) • Reis et al. (2000) | N/A | N/A |

Appendix B

Measures Used in the Study of Hedonic Well-Being and Self-Determination Theory

| Scales and Author | Study | Reliability | Validity |
|---------------------------|------------------------------|-----------------|---------------|
| Center for | • Chirkov et al. (2003) | .84-.90 | Construct/ |
| Epistemological Studies – | • Chirkov et al. (2005) | .57 Test/Retest | Discriminant/ |
| Depression Inventory | | | Statistical/ |
| (Radloff, 1977) | | | Concurrent |
| Life Satisfaction Scale | • Ryan et al. (2005) | .61-.84 | Construct/ |
| (Diener et al., 1985) | • Chirkov et al. (2005) | | Discriminant/ |
| | • Sheldon et al. (2004) | | Statistical/ |
| | • Chirkov et al. (2003) | | Concurrent/ |
| | • Sheldon & Elliot (1999) | | Internal |
| Multiple Affect Adjective | • Craighead et al. (1979) | N/A | N/A |
| Check List (Zuckerman & | | | |
| Lubin, 1965) | | | |
| PANAS | • Sheldon et al. (2004) | .84-.90 | Convergent/ |
| (Watson et al., 1988) | • Sheldon et al. (2001) | .39-.71 | Discriminant/ |
| | • Sheldon & Elliot (1999) | Test/Retest | Internal |

Appendix B (Continued)

| | | | |
|---|---|------------|---|
| Rosenberg Self-Esteem Scale (Rosenberg et al., 1989) | <ul style="list-style-type: none"> • Chirkov et al. (2003) • Levesque et al. (2004) | .56 | Construct/ Discriminant/ Concurrent |
| Scale of Life Satisfaction (Pavot & Diener, 1993) | <ul style="list-style-type: none"> • Ryan et al. (2005) • Sheldon & Elliot (1999) • Sheldon, Elliot, et al. (2004) | .79-.89 | Construct/ Discriminant/ Statistical/ Concurrent/ Internal |
| Short Index of Self-Actualization (Jones & Crandal, 1986) | <ul style="list-style-type: none"> • Chirkov et al. (2003) • Chirkov et al. (2005) | .65 .69 | Construct/ Discriminant/ Test/Retest Statistical/ Concurrent/ Internal |
| State Affect Scale (Larson et al., 2002) | <ul style="list-style-type: none"> • Moneta (2004) | .49-.75 | Construct |
| The Work Climate Survey (Deci et al. (1989)) | <ul style="list-style-type: none"> • Deci et al. (1989) | .75 | Construct/ Internal |

Appendix C

Measures Used in the Study of Culture and Self-Determination Theory

| Scales and Author | Study | Reliability | Validity |
|--|-------------------------|--|-----------------------------|
| Pairwise Comparison Values Survey (Oishi et al., 1998) | • Sheldon et al. (2001) | .54-.82 Within Item Correlations | Convergent/ Discriminant |
| Cultural Estrangement Inventory (Cozzarelli & Karafa, 1998) | • Chirkov et al. (2005) | .70 & .79 Subscales .81 Total Scale | Convergent/ Discriminant |
| Regulatory Questionnaire of Cultural Practices (Chirkov et al. 2003) | • Chirkov et al. (2003) | .50-.88 | Internal/ Construct |

Appendix D

**CONSENT FORM**

**THE CROSS-CULTURAL CONTEXT OF
SELF-DETERMINATION IN COLLEGE STUDENTS**

You have been asked to participate in this study as a Japanese, Japanese American, or general college-aged individual. This study is designed to provide some information for researchers, teachers, and others to better understand how Japanese and Japanese Americans find meaning and satisfaction with life and how it differs from the general United States population.

The purpose of this letter is to give you the information you will need to help you decide whether to participate in this study.

Please sign and date this form if you decide to participate in this study.

Please read this information carefully. Please call any of the researchers named at the end of this form if you have any questions. You may ask questions about the purpose of the research, what we are asking you to do, the possible risks and benefits, your rights as a volunteer, and anything else that you would like more information about. When we have answered all your questions, you can decide if you want to participate in the study. This process is called “informed consent.” You may request a copy of this letter for your records.

**WHY THIS STUDY IS IMPORTANT
PURPOSE AND BENEFITS OF PARTICIPATING IN THIS STUDY**

The purpose of this study is to investigate cultural differences in psychological needs for the development of life satisfaction among college students and the factors relevant to the development of life satisfaction.

The benefits of this study include a culturally relevant understanding of self-determination and how cultural components can influence specific needs for life satisfaction.

WHAT ARE WE ASKING YOU TO DO

1. We are asking you to complete a series of surveys: *The Basic Psychological Needs Scale*, *The Satisfaction with Life Scale*, *The Asian Values Scale-Revised*, *The UCLA Loneliness Scale*, *The Self-Competence Scale* and *The Self-Determination Scale*.
Completion of these surveys will require approximately 30 minutes of your time.
2. We are also asking for you to give some general information about your ethnicity, gender, age, generational level, and family income. One of the things we want to know is how these factors play a role in the development of self-determination.

You may choose not to answer any item(s) on any of the surveys. All information obtained in this study will remain confidential. Only the researchers will have access to the information, but it will not be associated with your name. The results of this study may be published, however, no identifying information were published.

ALL ANSWERS ARE STRICTLY CONFIDENTIAL! If you need any assistance or accommodations in order to participate, please see John Gruenewald (his contact information is at the bottom of this form).

POSSIBLE RISKS OF PARTICIPATION

We anticipate minimal risk to participants and there will be no direct benefit.

Potential risks could include use of personal time that may impede study time.

You may refuse to participate or withdraw from the study at any time without penalty or loss of benefits to which you are otherwise entitled.

If you have questions or concerns regarding the study, participants may contact the Washington State University Institutional Review Board at 1-509-335-9661 or irb@wsu.edu.

If after completing the surveys, you want to talk with someone about your answers you may contact the researcher below.

THANK YOU FOR YOUR CONSIDERATION

SUBJECT'S STATEMENT

This study has been explained to me. I volunteer to take part in this research. I have had a chance to ask questions. If I have any questions regarding my rights as a participant, I can call the Washington State University Review Board (WSU IRB) at 1-509-335-9661 or irb@wsu.edu. This project has been reviewed and approved for human participation by the WSU IRB.

If I would like a copy of this consent form, I understand that I can ask for a copy.

By signing below, I consent to participate in this study.

Signature

Print Name

University Attended

**IF YOU AVE ANY QUESTIONS OR COMMENTS PLEASE
CONTACT US**

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Appendix E



ワシントン州立大学
同意書
大学生における自己決断力の異文化的背景

この調査は、日本人や日系アメリカ人が人生の意味や満足感をどのように見出すかをよりよく理解し、研究者、教員などに情報を与えるために作成されています。あなたは日本人、あるいは日系アメリカ人としてこの調査に協力して頂くようお願いいたします。

この同意書の目的は、あなたがこの研究に参加するかどうかを決める際に、手助けになる情報を、あなたに提供することです。もしあなたがこの研究に参加することを決めたら、この申込み用紙にサインと日付を記入してください。

まず、この文書を注意深く読んでください。もし質問があれば、この場で質問するか、申込み用紙の最後に名前が載っている研究者に E-mail でお尋ねください。あなたは、この研究の目的、我々があなたに依頼していること、起こりうるリスクと利益、ボランティアとしてのあなたの権利、あなたが望む他の情報について質問することができます。回答を聞いた後で、あなたはこの研究に参加するかどうかを決めてください。この過程を「インフォームド・コンセント」と呼びます。あなたのご自分の記録として残したいなら、この同意書のコピーをしてお渡しします。

なぜこの研究は重要なのか
この研究に参加することの目的と利益

この研究の目的は、大学生が人生満足感を発達させる際の心理的ニーズにおける文化の違いと、人生満足感の発達に関連する要素を調査することです。

この研究の予想される成果は、文化的要素が自己決定や人生の満足感にどのように影響を与えるかということです。

我々があなたに協力して頂きたいこと

1. 我々は、あなたに一連の調査（基本的ニーズについての調査、人生満足感についての調査、アジア人の価値観についての調査（改訂版）、自己決断力についての調査）を完成して頂きたいと思います。これらの調査を完成するのにおよそ15分かかるでしょう。
2. 我々はまた、あなたの人種、性別、年齢、世代、家族の収入についての一般的な情報を求めます。我々が知りたいことのひとつは、これらの要素が自己決断力の発達においてどのような役割を果たすかということです。

あなたは、どの調査においても、回答したくない項目には回答しなくても構いません。この調査において得られたすべての情報は秘密情報として扱われます。研究者だけが情報を得ることになりますが、あなたの名前が研究者に漏れることはありません。この研究の結果は出版されるかもしれませんが、特定の個人を知りうる情報は出版されません。

すべての回答は厳密に秘密情報として扱われます！

参加することにより起こりうるリスク

参加者には最小限度のリスクがあると思われます。直接的な利益はないでしょう。起こりうるリスクは、勉強にあてることのできる時間を使うということです。調査に参加することを拒否したり、あるいは途中で辞退しても、罰金を払ったり、利益を失うということはありません。

この調査によって、ストレス、あるいは不快感があった場合は、ワシントン州立大学研究所再調査委員会（001-0041-509-335-9661）または、irb@wsu.edu に連絡してください。

もしこの調査を完成したあとで、自分の回答について調査者と話し合いたければ、別紙の研究者に連絡をとることができます。

ご理解とご協力ありがとうございます。

被験者の同意書

私はこの研究についての説明を受けており、任意でこの研究に参加することに合意します。私はすでにこの研究に関する質問をする機会を与えられており、もし私の被験者としての権利について何か質問がある場合、ワシントン州立大学の審理委員会（WSU-IRB）に連絡することができるということを理解しています（連絡先：irb@wsu.edu） この研究はWSU-IRBによる審査を受け、人間による参加に対する認可をすでに受けています。

もしこの合意書のコピーを入手したい場合、それを申し出ることができるということを理解しています。

下記に署名することにより、私はこの研究に参加することに合意します。

署名 _____

日付 _____ 年 _____ 月 _____ 日

大学名 _____

もしご質問、ご意見がありましたらご連絡ください。

ジョン M. グルネワルド(John M Gruenewald), (教育学修士)
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ワシントン州立大学 Assistant Professor

Appendix F

Basic Needs and Life Satisfaction Survey

Thank you for participating in the Basic Needs and Life Satisfaction Survey. We will be asking several questions pertaining to your cultural and personal characteristics, your general feelings of happiness or satisfaction with life, some questions regarding basic needs in your life, and your relationship to cultural values. The outcomes will be evaluated based on group functions so your identity will remain confidential. Please answer each question according to how you identify yourself, not how others would identify you. Please be honest and straightforward with your responses. This survey will not take you very long to complete.

Ethnicity (Racial) Background: (Mark all that apply)

| | |
|---|---|
| <input type="checkbox"/> Japanese | <input type="checkbox"/> Hawaiian |
| <input type="checkbox"/> Chinese | <input type="checkbox"/> Caucasian |
| <input type="checkbox"/> Filipino | <input type="checkbox"/> Portuguese |
| <input type="checkbox"/> Korean | <input type="checkbox"/> Hispanic |
| <input type="checkbox"/> Samoan | <input type="checkbox"/> Tongan |
| <input type="checkbox"/> Black/African American | <input type="checkbox"/> American Indian/Alaskan Native |
| <input type="checkbox"/> Puerto Rican | <input type="checkbox"/> don't know |
| <input type="checkbox"/> Other _____ (Specify) | |

Gender: _____

Female: _____

Male: _____

Age: _____

Please indicate your family income:

\$10,000–25,000 _____

\$25,000–40,000 _____

\$40,000–75,000 _____

Over \$75,000 _____

JAPANESE AMERICANS ONLY**Generation Level:** (Indicate in terms of family immigration)

- 1st Generation ___ You immigrated to U.S.
2nd Generation ___ Your parents immigrated to U.S.
3rd Generation ___ Your grandparents immigrated to U.S.
4th Generation ___ Your great grandparents immigrated to U.S.
5th Generation ___ Your great, great immigrated to U.S.
6th Generation ___ Your great, great, great immigrated to U.S.

Language (Mark all that apply)

English _____

Japanese _____

Other _____ (Specify)

Appendix G

基本的ニーズと人生満足感についての調査

基本的ニーズと人生満足感についての調査にご参加頂き、ありがとうございます。我々は、あなたの文化的・個人的特徴、人生の幸福感や満足感についての一般的な感情に関する質問をします。また、あなたの人生における基本的ニーズと、文化的価値観に関する質問もします。結果は、コンピューターで統計的に処理され、あなたの個人情報外部にもれることはありません。他の人があなたをどのように評価するかではなくて、あなたが自分自身をどのように評価するかにしたがって、それぞれの質問に答えてください。感じたとおりのままに回答してください。

あてはまるものに○をつけてください。

民族（人種）：

_____ 日本人
 _____ その他 _____（具体的に記述してください）

性：

女性： _____

男性： _____

年齢： _____

あなたの家族の年収を示してください：

100万円—250万円 _____

250万円—400万円 _____

400万円—750万円 _____

750万円以上 _____

話す言語：

英語 _____

日本語 _____

Appendix H

Human Subjects Form

SECTION 1

PLEASE TYPE. If you use an electronic version of this form, use a different font for your responses. DO NOT leave a question blank. If a question does not apply to your protocol write "n/a."

Principal Investigator(s) (PI): John M. Gruenewald

Department: ELCP Campus: Pullman

Campus Zip: 99164

Campus Building & Room #: Cleveland 351

Status: Faculty Adjunct Faculty Staff Graduate Student X Undergraduate

Contact Phone Number: XXX-XXX-XXXX Contact Email

Address: XXX@wsu.edu

Mail Correspondence To: John Gruenewald, XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Project Title: Self-Determination and Hedonic Well-Being in a Cross Cultural Perspective

TYPE OF REVIEW: EXEMPT X EXPEDITED FULL BOARD

Estimated project start date: November 9th, 2007 Estimated data collection completion date: February, 2008

Is there, or will there be extramural funding that directly supports this research? YES NO X

If yes, funding agency (s): PI on grant: OGRD#

ABSTRACT: Describe the purpose, research design and procedures. Clearly specify what the subjects will do.

The purpose of this research is to examine the relationship among three important constructs: self-determination, subjective well-being, and cultural values. The research investigates the relationship between Self-Determination Theory's basic psychological needs of autonomy, relatedness, and competence and hedonic well-being. Furthermore, this research will examine the relationship of these variables as moderated by cultural values in two countries: the United States and Japan. Participants from universities in two states (Washington and Hawaii) and Japan will be asked to voluntarily complete surveys related to Self-Determination Theory (The Self-Determination Scale, The Basic Psychological Needs Scale-General, The UCLA Loneliness Scale [In U.S.], The Self-Competence Scale [In U.S.]), hedonic Well-being (The Satisfaction with Life Scale), and adherence to Asian cultural values (The Asian Values Scale-Revised). Measures will be administered in participant's native language. Japanese administration will be done by the principal investigator and assisted by a graduate student fluent in both Japanese and English. Administration will take approximately 30 minutes and not interfere with normal daily functioning.

I. DATA COLLECTION

A. Check the method(s) to be used (**underline all items in the columns on the right that apply**):

Survey: Administered by: investigator subject mail phone in person
internet/email
 Interview: one-on-one focus group oral history other

If you are using a survey or doing interviews, submit a copy of the survey items/ interview questions

Observation of Public Behavior: in classroom at public meetings other
 Examination of Archived Data or Records: academic medical legal
other (briefly describe) _____
 Taste/Sensory Evaluation: food tasting olfactory
 Examination of Pathological or Diagnostic Tissue Specimens
 Therapeutic: biomedical psychological
physical therapy
 Experimental: biomedical psychological other
 Other: Briefly Describe _____

B. Data: Anonymous Confidential Intentionally identified (**Please See Definitions, Section 5**).

C. What form of consent will be obtained? (**Please see Section 6 for sample consent and assent templates**)

- a. Implied (Please attach cover letter or describe terms.)
b. Verbal (Please attach consent script.)
c. Written (Please attach consent form.)
d. Seeking Waiver of Consent (Contact the IRB for further information.)
e. Consent Not Applicable (On a separate page explain why not.)

D. If anonymous or confidential, describe how anonymity or confidentiality will be maintained (e.g., coded to a master list and separated from data, locked cabinet, office, restricted computer, etc.). List all sites where data might be stored.

Will receive consent forms and code answer sheets based upon number on consent for. Survey's will be kept in a locked cabinet

E. Who will have access to the data? Please be specific. Principal Investigator and Academic Advisor

F. Will video tapes audio tapes photographs be taken? YES NO
If yes, where will tapes or photographs be stored?

G. When will all research materials be destroyed? Seven years after completion of data collection.

II. DESCRIPTION OF THE POPULATION (See Definitions, Section 5, Page 9)

1. Approximate number: 600 Age Range: 18-60
How will subjects be selected or recruited and how will subjects be approached (or contacted)?

Subjects will be recruited in academic courses on WSU Pullman campus, University of Hawaii campus, Meiji University Campus (Tokyo, Japan), Ochanomizu University (Tokyo, Japan), and Osaka Gakuin Daigaku (Osaka, Japan). Subjects will be asked to voluntarily complete survey.

2. Will subjects be compensated* (include extra credit)? YES ____ NO X____
If yes, how much, when and how. Must they complete the project to be paid?

*NOTE: If students will be receiving extra credit for participation, they must be able to complete an alternative assignment for extra credit should they choose not to participate. This assignment must be comparable, with respect to time and effort, as participation in the research.

3. Are any subjects under 18 years of age? YES ____ NO X____

4. Are any subjects not legally competent to give consent? YES ____ NO X____
If yes, how will consent be obtained? From whom? Are there procedures for gaining assent? (Please attach assent form.)

5. Will any ethnic group or gender be excluded from the study pool? YES ____ NO X____
If yes, please justify the exclusion.

6. Is this study likely to involve any subjects who are not fluent in English? YES X NO ____
If yes, please submit both the English and translated versions of consent forms and surveys, if applicable.

7. Does this study involve subjects located outside of the United States? YES X NO ____
If yes, on an attached page please explain exactly "who the subjects are," and the identities (if possible) and responsibilities of any additional investigators. SEE ATTACHED

8. Does this study involve the use or creation of protected health information? YES ____ NO X____
(See Section 5 for a definition of protected health information.) If yes, complete and submit HIPAA Appendix A, the HIPAA Authorization Form along with the completed human subjects application.

III. DECEPTION (See Definitions, Section 5, Page 9)

If any deception is required for the validity of this activity, explain why this is necessary. Please include a description of when and how subjects will be debriefed regarding the deception, and **attach a debriefing script**.

N/A

IV. RISKS AND BENEFITS (See Definitions, Section 5, Page 8)

A. Describe any potential risks to the subjects, and describe how you will minimize these risks. These include stress, discomfort, social risks (e.g., embarrassment), legal risks, invasion of privacy, and side effects.

Some social discomfort and stress may result from completion of survey as result of examining cultural values and their association with well-being. Participants will be encouraged that their responses will not be in any way associated with their names. Participants will also be advised that only compiled scores will be reported and no identifying information will be available to any institution, social or government agency.

B. In the event that any of these potential risks occur, how will it be handled (e.g., compensation, counseling, etc.)?

Under these circumstances, a trained counselor (either Principal Investigator or graduate student in Japan) will provide immediate services to reduce stress resulting from survey completion.

C. Will this study interfere with any subjects' normal routine? YES___ NO_X__

D. Describe the expected benefits to the individual subjects and those to society.

This study can provide an understanding of how psychological variables affect individual well-being and how those variables may differ across cultures. This can assist in developing therapeutic interventions aimed at increasing well-being based on cultural values.

E. If blood or other biological specimens will be taken please address the following.

Brief Description of Sampled Tissue(s):_____

Describe the personnel involved and procedure(s) for obtaining the specimen(s). Note that the IRB requires that only trained certified or licensed persons may draw blood. Contact the IRB for more details on this topic.

V. USE OF DATA COLLECTED (Check all that apply)

1. Thesis/Dissertation
 2. Journal Article/Publication/Presentation
 3. Grant Activities
 4. Other : Briefly Describe:_____
-

VI. PROJECT CHECKLIST (Attach additional pages as necessary.)

A. Will any investigational new drug (IND) be used? YES___ NO_X__

B. Will any other drugs be used? YES___ NO_X__

If yes to A or B, on a separate page, list for each drug:

1. the name and manufacturer of the drug,
2. the IND number,
3. the dosage,
4. any side effects or toxicity, and
5. how and by whom it will be administered.

C. Will alcohol be ingested by the subjects? YES___ NO_X__

If yes, on a separate page, describe what type and how will it be administered. Refer to the guidelines for administration of ethyl alcohol in human experimentation (OGRD Memo No. 18 available at OGRD).

D. Will the proposed research activity be conducted at an outside (non WSU) facility or entity (such as hospitals, clinics, schools, school districts, factories, offices, etc...)?

YES_X__ NO___

If yes, the researcher has an obligation to ensure that the outside entity is aware of the proposed research activity and has no objections (i.e. agrees to participate). By signing this application, the researcher indicates that they will comply with this requirement.

In order to respect the sovereign governments, research to be conducted on Native American tribal lands will require a letter from the Tribal Council (or equivalent authorized signatory) to the WSU IRB acknowledging the research activity and their willingness to allow the proposed activity.

FINANCIAL CONFLICT OF INTEREST

Does the researcher or any other person responsible for the design, conduct, or reporting of this research have an economic interest in or act as an officer or director of any outside entity whose financial interest would reasonably appear to be affected by the research?

YES ___ NO X

If yes, please answer the following:

If the economic interest involved is a "significant economic interest" as defined in WSU's Conflict of Interest Policy, has a plan for managing, reducing or eliminating any conflict been established by the Conflict of Interest committee?

YES ___ NO ___

SECTION 2**Is your project EXEMPT?****Exempt Reviews**

Federal regulations specify that certain types of research pose very low risks to subjects, and therefore requires minimal review from the IRB. To determine if your project is exempt, answer the following questions.

- | | |
|---|-------------|
| 1. Will subjects be asked to report their own or others' sexual experiences, alcohol or drug use, <u>and</u> will their identities be known to you? | YES__ NO_X_ |
| 2. Are the subjects' data directly or indirectly identifiable, <u>and</u> could these data place subjects at risk (criminal or civil liability), <u>or</u> might they be damaging to subjects' financial standing, employability or reputation? | YES__ NO_X_ |
| 3. Are any subjects confined in a correctional or detention facility? | YES__ NO_X_ |
| 4. Are subjects used who may not be legally competent? | YES__ NO_X_ |
| 5. Are personal records (medical, academic, etc.) used with identifiers <u>and</u> without written consent? | YES__ NO_X_ |
| 6. Will alcohol or drugs be administered? | YES__ NO_X_ |
| 7. Will blood/body fluids be drawn? | YES__ NO_X_ |
| 8. Will specimens obtained from an autopsy be used? | YES__ NO_X_ |
| 9. Will you be using pregnant women <u>by design</u> ? | YES__ NO_X_ |
| 10. Are live fetuses subjects in this research? | YES__ NO_X_ |

If you answered YES to any of the questions above, then your project is NOT exempt, but may still qualify for expedited review (see Section 3, Page 7).

If you answered NO to the questions, your research might be EXEMPT if it fits into one of the following categories.

(Circle or Underline all that apply)

1. **Educational Research:** Research conducted in established or commonly accepted educational settings, involving normal educational practices. This is for research that is concerned with improving educational practice.
2. **Surveys, Questionnaires, Interviews, or Observation of Public Behavior.** To meet this exemption, the subject matter must not involve "sensitive" topics, such as criminal or sexual behavior, alcohol or drug use on the part of the subjects, unless they are conducted in a manner that guarantees anonymity for the subjects.
3. **Surveys, Questionnaires, Interviews or Observation of Public Behavior.** Surveys that involve sensitive information and subjects' identities are known to the researcher may still be exempt if: (1) the subjects are elected to appointed public officials or candidates for public office; or (2) federal statute(s) specify without exception that confidentiality will be maintained throughout the research and thereafter.
4. **Archival Research.** Research involving the collection or study of existing data, documents, records, pathological or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. These data/samples must be preexisting, which means they were collected prior to the current project.
5. **Research Examining Public Benefit or Public Service Programs.** To qualify for this exemption, the research must also be conducted by or subject to review by an authorized representative of the program in question. Studies in this category are still exempt if they use pregnant women by design and their purpose is to examine benefit programs specifically for pregnant women.
6. **Taste Evaluation Research.** Studies of taste and food quality evaluation. Studies of taste evaluation qualify for this exemption only if (1) wholesome foods without additives are consumed;

or (2) if a food is consumed that contains a food ingredient at or below the level of and for a use found to be safe.

FINAL QUESTION: Are any subjects under 18 years of age? YES__ NO_X_

If your study uses subjects under 18 years of age, and you plan to use surveys, questionnaires or do interviews, then your project is NOT exempt. All other exemptions apply even if subjects are under the age of 18.

If you answered NO to the questions and your study fits into one of the six categories, then your project is EXEMPT.