DISSERTATION

A CONTINUING PSYCHOMETRIC & CROSS-CULTURAL EVALUATION OF THE MILLER NEEDS ASSESSMENT-2

Submitted by

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WE HEREBY RECOMMEND THAT THE DISSERTATION PREPARED UNDER OUR SUPERVISION BY KIMBERLY A. MILLER ENTITLED [A CONTINUING PSYCHOMETRIC & CROSS-CULTURAL EVALUATION OF THE MILLER NEEDS ASSESSMENT-2] BE ACCEPTED AS FULFILLING IN PART REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY.

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ABSTRACT OF DISSERTATION

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Study one focused on establishing further evidence for the reliability and validity of the Miller Needs Assessment-2 and involved data collection from 1,540 individuals in both clinical and non-clinical settings. Results provided support for concurrent, discriminant, and construct validity of the Miller Needs Assessment-2 and internal consistency coefficients were also moderate to high. The factor structure was also fairly consistent across groups, suggesting the measure might be invariant across groups. Finally, the Miller Needs Assessment-2 was able to correctly classify 80% of participants into their respective groups, indicating this measure is able to determine the relative mental health of individuals completing it. Implications the results have for clinical and non-clinical sites are explored, along with a discussion of strengths, limitations, and directions for future research.

Study two involved a cross-cultural validation of the Miller Needs Assessment-2 with five American Indian elders. Results indicated with a few minor modifications the Miller Needs Assessment-2 could prove to be a culturally sensitive measure of psychological well-being. Strengths, limitations, and suggestions for future research are discussed.

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DEDICATION

Any project of this magnitude would not have been possible without the support of a significant number of individuals. Most importantly, I cannot begin to express enough gratitude to Dr. Ernie Chavez, who has served as my mentor and chair for the last four years. His unwavering support and encouragement helped me set realistic expectations, navigate difficult situations, and complete a project that continues to have a positive impact on many organizations in both Indiana and Colorado. It has truly been a privilege to have him as a mentor and I look forward to our future collaborations.

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TABLE OF CONTENTS

CHAPTER I

Purposes of Study & Literature Review

The purpose of this dissertation is to continue to assess the psychometric properties of the Miller Needs Assessment-2 (MNA-2) (Miller, 2005) with a diverse group of individuals. As a part of this process, two separate studies were conducted. The first study focused on the continued exploration of the MNA-2's (Miller) utility across various groups (i.e., male, female, law enforcement, clinical, non-clinical, and ethnic). Of these groups, a particular population of interest in this study is the law enforcement community because of high rates of substance abuse and low rates of seeking mental health treatment. Analyses will determine if there is a consistent factor structure and internal consistency coefficients across groups, how ethnic identity influences scores on the measures used in this study, and continuing to establish evidence of validity for the MNA-2 (Miller).

The second study focused entirely on a cross-cultural validation of the MNA-2 (Miller, 2005) with American Indians. This project involved conducting a pilot study with elders in order to determine what modifications are needed to make this measure culturally appropriate for use in this population. The pilot study also examined the cultural appropriateness of using several other measures (i.e., self-esteem, ethnic identity, satisfaction with life, perceived social support, and job satisfaction) with American Indian individuals. Qualitative data analysis compared feedback across elders in order to determine if there is consensus across participants or if specific tribal modifications are

warranted. Detailed explanations for the importance of conducting both of these studies and reasons why these particular groups were selected for inclusion are outlined in the following literature review.

Study I

Literature Review

The origins of this project began in 1994 while the author was providing counseling services to lower SES African American men in an addictions treatment facility. During the course of this work clients continually discussed a feeling of emptiness that no amount of their drug of choice (e.g., drugs, alcohol, sex, gambling, food, shopping) could fill. It made sense at the time that if this emptiness could be named then there would be a better chance of treating it effectively. Thus, the author began assisting clients in naming the emptiness during the psychoeducational classes she taught. As a result of these classes, five common aspects (autonomy, competence, relatedness, meaning in life, and physical needs) emerged as critical components of the emptiness the clients experienced. After these areas were identified and were targeted in therapy and psychoeducational classes, clients reported experiencing fewer relapses and cravings, increased self-esteem, enhanced psychological well-being, and an increase in motivation to build a more effective life.

Although the changes noted in clients provided only anecdotal evidence for the importance of addressing these five factors in therapy, this experience led the author to explore research on human motivation to determine if these factors were linked to manifestations of psychological distress. A part of this exploration involved an examination of theories of human motivation and psychological well-being to determine

if commonalities existed across theories and the extent to which the theories were empirically supported.

[The following review of major need theories was taken from Miller (2005)]

Thomas

In 1917 one of the early motivational researchers, William Isaac Thomas, came up with the concept of the "four wishes" (new experience, security, response, and recognition). New experience refers to engaging in exciting and adventurous activities. Security means opposing new experience and focusing on maintaining the status quo (avoiding the new and unknown). Response involves a desire to express and receive affection and appreciation from others, and recognition involves a desire to achieve competence and a high status in one's community.

Thomas considered these wishes to be the variables that link behaviors with the demands and potentialities of every human being (Volkart, 1951). He also believed these wishes are innate and their fulfillment is necessary for psychological health (Volkart). However, Thomas believed that in the quest for wish fulfillment individuals can end up choosing inappropriate replacements (e.g. food, alcohol, sexual acting out) for those unmet wishes, which suggests wishes can be unconscious. Because psychological distress could be due to lack of wish fulfillment, Thomas believed individuals who seek counseling should be thoroughly assessed in order to determine which wishes are not being fulfilled appropriately. He suggested this assessment should focus on gaining a holistic picture of an individual by considering his or her behavior, the context in which it occurred, and the consequences that follow the behavior. By taking this view one can

gain an understanding of the individual's amount of adjustment or maladjustment and therefore prescribe the most effective forms of treatment (Volkart).

Murray

Since Thomas' theory was developed, there have been many researchers who have continued to research psychological needs, Henry Alexander Murray being one of the most famous. Murray (1938) defined a need as a "construct which motivates behavior to resolve an unsatisfying situation" (p. 124). He believed all humans have 40 needs, which he divided into 13 viscerogenic needs (physical satisfiers) and 27 psychogenic needs (mental/emotional satisfiers).

Murray's (1938) assessment of human needs is similar to Thomas in four ways. First, he agreed that without the satisfaction of needs an individual's psychological health will be compromised. Second, individuals often attempt to meet their needs in unhealthy ways (e.g. drinking, drugs, sexual acting out). Third, needs are often unconscious to the individual, which can lead to a feeling of emptiness or discontent. Finally, the best way to understand and assist an individual experiencing psychological distress is to understand which needs are not being met.

However, unlike Thomas, Murray (1938) believed individuals are aware of what they want, but are not aware of what they need and must be educated about the difference between the superficiality of wants and the deep satisfaction gained from fulfilling needs. Therefore, Murray believed psychological treatment should focus on educating clients about their needs and how to best fulfill them. Although Murray deserves much credit for bringing awareness of human needs to the forefront of psychology, critics state his list of

needs is too long and some of his concepts (achievements, recognition, and exhibition) are too "westernized" to be considered truly universal (Klineberg, 1980).

Maslow

Another researcher who significantly influenced the study of human needs was Abraham Maslow. Maslow (1943) believed human motivation is fueled by the existence of unmet needs and the desire to develop an optimum level of functioning. Maslow believed these needs are arranged in a hierarchy and that higher needs emerge only after lower level needs have been somewhat satisfied. The first level of the hierarchy contains the physiological needs (hunger, sex, food, rest, and thirst). The needs for safety and security (protection, stability, freedom from fear and chaos) reside on the second level and the needs for love and belongininingness (intimacy, attention, and affiliation with a group) occupy the third. The fourth level of the hierarchy is the location of self-esteem needs (consistent high view of self and respect for the esteem of others), and the self-actualization needs (achieving the highest personal potential) occupy the highest level of the hierarchy.

Although Maslow (1943) viewed these needs to exist and be satisfied according to a hierarchical model, he does note some exceptions to this rule. Maslow believed there could be a reversal of the order of needs in the hierarchy if an individual views one need to be more important than another (e.g. self-esteem more important than love and belongingness). In this case, the need for self-esteem would require fulfillment before the love/belongingness need would emerge. A second example exists when a lower level need has been satisfied for a long period of time (e.g. an individual has never experienced chronic hunger), it may become undervalued (due to the focus on higher order needs) and

could result in lack of fulfillment. In this case, although an individual may experience hunger, he or she is not fully aware of this need, and therefore does not focus on its satisfaction. A third example of non-hierarchical need fulfillment occurs when an individual has no desire for a certain need or has never experienced need fulfillment in a particular area (e.g. lack of love/attention during childhood), and therefore has no desire or understanding of that need. A final exception to Maslow's hierarchy of need fulfillment occurs when individuals act as martyrs (giving up having their needs met for a higher cause). In this case, although these individuals are aware of the needs they are sacrificing, they are more focused on the cause for which they are sacrificing, rather than the needs themselves.

Maslow's viewpoint on the necessity of having needs met is consistent with the views of Thomas and Murray. Maslow believed thwarting need fulfillment leads to psychological distress, and therefore it is the assessment of need fulfillment or lack thereof which should be the focus of psychotherapy. In addition, Maslow agreed human needs are universal, can be unconscious, and many people choose inappropriate routes (drinking, drugs, overeating, sexual acting out) to need fulfillment (Maslow, 1943). In addition to sharing similar views on needs and their fulfillment, Maslow's theory shares some of the same criticisms as Murray's (too many needs, lack of universality) as well as criticisms unique to his theory (lack of evidence for hierarchy, difficulty operationalizing his concepts) (Alderfer, 1969; Galtung, 1980; Goodman, 1968; Klineberg, 1980; Lawler & Suttle, 1972; Lederer, 1980; Locke, 2002; Rauschenberger, Schmitt, & Hunter, 1980; Snyder, 1994; Wahba & Bridwell, 1976).

Alderfer

Alderfer (1969) proposed an alternative to Maslow's (1943) hierarchy called the E.R.G. theory. E.R.G. stands for the three needs Alderfer suggest exist in all human beings (existence, relatedness, and growth). Existence needs are the physical needs of an individual (air, water, food, shelter, pay, fringe benefits, working conditions), relatedness needs refer to establishing satisfying supportive relationships with others, and growth needs refer to being able to use one's talents and to develop areas of competencies or interests. Alderfer believed in order for one to label something a need, one has to demonstrate that some degree of satisfaction of that need is necessary for the survival and healthy functioning of the individual.

Although aspects of Alderfer's (1969) theory mirror Maslow's, there are three distinct ways the theories are different. First, Alderfer's (1969) theory subsumes some of Maslow's (1943) needs under his three categories. Alderfer believed that there is some overlap in the safety and esteem needs of Maslow's theory. He deals with this by including needs that deal with physical or material needs in the existence category and those that deal with interpersonal needs in the relatedness category. This same concept applies to Maslow's esteem needs. The needs that involve interactions with others were included in Alderfer's relatedness category and those that deal with autonomy or self-improvement are included in the growth category. By combining these aspects of Maslow's need theory, Alderfer ends up with a more parsimonious model of human needs. Second, Alderfer's (1969) hierarchy of needs was not strictly ordered with lower level needs taking a priority over higher needs. This means a lower need does not require

fulfillment before a higher need can serve as a motivator for behavior. For example, an individual who is chronically hungry would not be so dominated by this existence need that he could not recognize if he is connected with others or has areas of competence. Third, Alderfer (1972) argued although generally lower needs decrease in importance once they are satisfied, they can become a motivator if a higher need is not being met. This concept suggests individuals who are unable to satisfy higher needs will focus more on attaining fulfillment of lower needs, which is a reversal of Maslow's hierarchy concept. Alderfer gave two examples of this phenomenon: "The less relatedness needs are satisfied, the more existence needs will be desired, and the less growth needs are satisfied, the more relatedness needs will be desired" (p. 27). The concept of need substitution was not allowed in Maslow's theory because his hierarchy was strictly ordered and he believed once a need is satisfied it could no longer serve as a motivator for behavior.

Consistent with previous researchers, Alderfer (1969) believed human needs are universal and fulfillment of those needs leads to psychological well-being, whereas thwarting of needs leads to psychological distress. Individuals lacking in need fulfillment may seek out inappropriate ways to fulfill their needs. However, like Murray (1938) and Maslow (1943), Alderfer's (1969) theory has also been subject to criticism. Several authors who tested his theory found no evidence of a hierarchy and no evidence lower level needs decrease in importance once they have been satisfied (Hall & Nougaim, 1968; Lawler & Suttle, 1972; Mobley & Locke, 1970; Rauschenberger et al., 1980). In addition to these criticisms, I note that his E.R.G. theory has only been tested in occupational

settings, which limits the generalizability of his theory of need fulfillment to other populations.

Deci & Ryan

One modern theory on human needs is Self Determination Theory (SDT), which was proposed by Deci and Ryan (1985). Deci and Ryan believe in order for something to qualify as a need it must be directly related to the well-being of the individual, and therefore they define needs as "the nutriments or conditions that are essential to an entity's growth and integrity" (Ryan, 1995, p. 410). SDT posits there are three universal human needs (autonomy, competence, relatedness), which are essential for optimal functioning. Autonomy refers to an individual's feeling he or she is the originator of his or her behaviors (Deci & Ryan). However, Deci and Ryan emphasize autonomy should not be considered the same as independence because autonomy would encourage interactions and support of others where independence would not. Relatedness refers to being connected with others and the community at large in an environment of mutual support and caring. Competence involves feelings of effectiveness and skill in one's interactions (individual or community) and having opportunities to express one's aptitude (Deci & Ryan).

The needs for autonomy, competence, and relatedness posited by SDT have been empirically validated through numerous studies. The existence of autonomy as a basic human need has been demonstrated with adults in university settings (Bettencourt & Sheldon, 2001; Chirkov, Ryan, Kim, & Kaplan, 2003; Gagne, 2003; Hodgins, Koestner, & Duncan, 1996; Levesque, Zuehlke, Stanek, & Ryan, 2004; Sheldon & Bettencourt, 2002; Sheldon, Ryan, Deci, & Kasser, 2004; Sheldon, Ryan, & Reis, 1996), work setting

(Gagne), medical settings (Kasser & Ryan, 1999; Williams, Frankel, Campbell, & Deci, 2000; Williams, Grow, Freedman, Ryan, & Deci, 1996; Williams, Rodin, Ryan, Grolnick, & Deci, 1998) and with adolescents and children (Hayamizu, 1997; Ryan & Lynch, 1989; Yamauchi & Tanaka, 1998). Support for competence has been demonstrated in university settings (Levesque et al., 2004; Sheldon et al. 1996) and with children and adolescents (Chirkov & Ryan, 2001; Hayamizu, 1997; Yamauchi & Tanaka, 1998). Empirical support for relatedness has been demonstrated in a medical population (Kasser & Ryan, 1999) and in university settings (Bettencourt & Sheldon; Hodgins et al.; Ryan et al., 1999; Sheldon, & Bettencourt). Support for the complete model (autonomy, competence, and relatedness) has been demonstrated in university settings (La Guardia, Ryan, Couchman, & Deci, 2000; Reis, Sheldon, Gable, Roscoe, & Ryan, 2000; Sheldon & Elliot, 1999; Sheldon, Elliot, Kim, & Kasser, 2001) work settings (Baard, Deci, & Ryan, 2000, cited in Baard, 2002; Deci, Ryan, Gagne, Leone, Usunov, & Kornazheva, 2001; Ilardi, Leone, Kasser, & Ryan, 1993; Kasser, Davey, & Ryan, 1992), and with a sample of adults (Kasser & Ryan, 1996).

Although the numerous studies listed above give tremendous support for the existence of autonomy, competence, and relatedness as psychological needs, there has been little consistent measurement of these constructs across studies. Of the studies mentioned above, thirteen developed their own instrument to measure needs, ten used measures of similar constructs (e.g. self-esteem, well-being), four used the basic Need Satisfaction at Work scale (formerly called the *Work Motivation Form)* (Ilardi et al., 1993), and only one used the general need satisfaction scale, which was created from the need satisfaction at work scale (Deci et al., 2001). While theoretically, most definitions of

autonomy, competence, and relatedness should measure similar constructs, without consistent operational definitions that account for individual differences, it becomes more challenging to generalize results across populations. For example, although Deci & Ryan's (1985) belief that basic human needs are universal has received much support from studies in Turkey, Russia, Korea, Japan, and Germany, respectively (Chirkov & Ryan, 2001; Chirkov et al., 2003; Deci et al., 2001; Hayamizu, 1997; Levesque et al., 2004; Ryan et al., 1999; Sheldon et al., 2001; Yamauchi & Tanaka, 1998), consistent measurement would provide more support for the universality of needs. R. M. Ryan (personal communication, July 29, 2004) stated one reason there has been little consistent measurement of needs is because SDT looks at need fulfillment as "setting specific" (work, school, etc.) and not "in general"; therefore, many researchers develop their instrument to measure need fulfillment in a particular setting, rather than as a general construct. However, Ryan stated that the development of a general measure of need fulfillment would be a valuable tool to measure overall psychological well-being.

Deci & Ryan's (1985) theory of human needs shares both similarities and differences with the prior need theories. All the theories discussed previously posit relatedness as a need, Murray (1938) supports the need for autonomy, and Maslow (1943) and Alderfer (1969) include competence (although they define it differently). Like other researchers, Deci & Ryan support the universality of needs, the potential unconsciousness of needs, agree individuals may seek out fulfillment of needs in inappropriate ways (e.g., eating disorder, addiction, behavioral problems), and agree thwarting of need fulfillment leads to psychological distress. However, Deci and Ryan's theory differs from the previous theories by not using a hierarchy and not including physical, self-esteem, or

sense of purpose/meaning needs. R. M. Ryan (personal communication, July 29, 2004) stated SDT has not focused attention on the physical needs because there was no reason to assume in the population they were studying that the physical needs were unmet. However, Ryan believes when studying a clinical population, those below the poverty line, or individuals in developing countries, it is essential to measure the fulfillment of physical needs because these populations are often lacking need fulfillment in this area, which has a deleterious effect on psychological functioning.

Ryan and Deci (2000a) chose not to include self-esteem in their model because they believe it to be an outcome measure of having the other three needs fulfilled. Sheldon et al. (2001) tested this hypothesis by adding self-esteem to Deci and Ryan's model of basic needs and concluded self-esteem could be viewed either an outcome measure or as its own separate need. Based upon Deci and Ryan's hypothesis, and the results of Sheldon et al's study, it is clear more research is necessary in order to gain a better understanding of how self-esteem is best classified.

Another need not included in SDT is purpose or meaning in life. Ryan and Deci (2000a) view meaning, like self-esteem, to be an outcome measure of having the needs of autonomy, competence, and relatedness met. However, not including sense of purpose/meaning as a need seems to be a more questionable choice. Perhaps they chose to not include this as a need because of the populations their theory is most frequently tested on (college students, organizational settings). In these populations it would be logical to assume that sense of purpose is in part derived from work accomplished in school or on the job. However, how can this same construct be assessed in individuals who are unemployed, retired, physically unable to work, or have other reasons for not

working (e.g. family responsibilities)? Furthermore, it is not unheard of for an individual with a good job, sense of autonomy, and relatedness to still feel something is missing from his or her life. I posit this emptiness reflects a lack of purpose/meaning in one's life.

There are several other researchers who agree with this position and view meaning (defined as mastery, self-actualization, or growth) as an essential human need that exists separate and apart from other needs (Alderfer, 1969; Galtung, 1980; Mallmann, 1980; Maslow, 1943; Ryff, 1989; Volkart, 1951). Furthermore, many existentialists believe the search for meaning or purpose in life is the greatest need that exists in humanity (Binswanger, 1975; Buber, 1968; Frankl, 1984; Heidegger, 1962; Kierkegaard, 1989; Maddi, 1970; Sartre, 1957; Tillich, 1952; Wong, 1998; Yalom, 1980). Due to the overwhelming support for sense of purpose or meaning as a psychological need, and because R. M. Ryan (personal communication, July 29, 2004) reports this need has not yet been tested as a need rather than an outcome measure, sense of purpose warrants further investigation.

While Deci and Ryan's (1985) theory has in general received extensive empirical support, they have been criticized for having too general of a model (Pyszczynski, Greenberg, & Solomon, 2000). In addition to this criticism, I have some criticisms of their theory. First, neglecting to include the physical needs, when the majority of researchers (Alderfer, 1969; Ryan &Deci, 2000b; Galtung, 1980; Hull, 1961; Klineberg, 1980; Lederer, 1980; Mallmann, 1980; Maslow, 1943; Murray, 1938; Volkart, 1951) agree physical needs are essential for the survival of the human race, eliminates the possibility of gaining a holistic view of individuals who are severely lacking in this area. Second, viewing sense of purpose/meaning as an outcome measure without empirically

validating this hypothesis suggests this could be another need state which is unassessed. Third, validating their theory on students and professionals while neglecting the more clinical populations, those who are retired, physically unable to work, unemployed, or who have other reasons for not working, limits the generalizability of their conclusions to these populations. Fourth, although the majority of research supports the existence of their three needs, the lack of consistent measurement of those needs could affect the generalizability of the findings to other populations.

Ryff

Ryff (1989) proposed another modern theory of human needs; however, she defined it as a theory of well-being. This theory is presented because her conceptualizations of well-being mirror the need concepts presented in previous theories. Ryff posits the key components of well-being are self-acceptance (positive attitude toward the self), positive relationships with others (reciprocal and supportive), autonomy (self-determined and independent), environmental mastery (sense of mastery and competence), purpose in life (goals and sense of direction), and personal growth (aspiring to continually develop). Her conceptualization of the dimensions of well-being came from a compilation of constructs proposed by previous researchers (Allport, Rogers, Neugarten, Buhler, Erikson, Birren, Jahoda, Jung, and Maslow), and she believes that these encompass an individual's total well-being.

In addition to sharing similar theoretical components, Ryff (1989) also agrees lacking components of well-being can create psychological manifestations of depression, anxiety, and addictive behaviors. This suggests that Ryff (1989 & 1995), like the need theorists, believe fulfillment of these dimensions is essential for optimal functioning. In

addition, Ryff (1989 & 1995) posits that these dimensions of well-being are universal even though their expression may be culturally dependent, which is the consistent with the aforementioned need theorists.

Ryff's (1989) theory has undergone testing and several studies demonstrate her conceptualization of well-being is empirically sound. Research has supported the existence of her six dimensions of well-being in samples of non-institutionalized adults over 25 years of age (Keyes, Shmotkin, & Ryff, 2002; Ryff & Keyes, 1995), women over the age of 55 (Kling, Seltzer, & Ryff, 1997; Kwan, Love, Ryff, & Essex, 2003), and in middle aged adults (Ryff, Schmutte, & Lee, 1996; Schmutte & Ryff, 1997). Although Ryff's (1989) scale of Psychological Well-Being (PWB) was used in all the studies mentioned above, the instrument was modified in every study, providing only tentative support for her operationally defined theory.

In addition to the research that supports her theory, Ryff should be praised for her forward thinking about the components and measurement of well-being, and suggestions about how to treat psychological distress. Ryff (1995) believes in order for treatment to be effective, one has to "identify what is missing in people's lives" (p. 103) rather than pathologizing the individual. By identifying the parts that are missing, treatment can focus on filling these voids in appropriate ways rather than focusing solely on symptom management.

Although Ryff's (1989) theory is based upon arguably the "best" aspects of prior theories and subsequent research has supported both her theory and scale of well-being, there are some questionable aspects of her conceptualization of holistic well-being. First, although not considered to be a psychological variable, physical needs certainly

contribute to well-being and therefore should be included in a holistic analysis of any individual. Ryff does not state why the physical component was not included in her model, but perhaps like Deci and Ryan (1985), Ryff is aware of the importance of physical needs but does not focus on its assessment. Second, personal growth may not be a unique dimension of well-being because of its likely connection to purpose in life. Although Ryff defines these two variables differently, she does not explain why they are separated. In addition, there could be many situations where because someone has purpose in life they are experiencing growth (e.g. parenting, teaching). Third, I argue her dimension of self-acceptance is similar to the self-esteem need, and research has not been able to determine whether it is a need or an outcome of having needs met. Without providing evidence of why she believes self-esteem is a separate need, it is difficult to support her use of it as one. Finally, I suggest another limitation of including personal growth and self-acceptance into the well-being dimension is that these constructs are difficult to objectify. While positive relations with others (relatedness), autonomy, environmental mastery (competence), and purpose in life could all be confirmed by collateral data, personal growth and self-acceptance are purely subjective and therefore more difficult to verify.

In summary, there is some agreement among the aforementioned theorists. Alderfer, Deci and Ryan (when considering clinical populations), Maslow, and Murray agree physical needs are critical to the well-being of individuals. Support for relatedness is given through the theories of Alderfer, Deci and Ryan, Maslow, and Thomas. The concept of competence is supported by Alderfer, Deci and Ryan, Ryff, and Thomas. Autonomy is supported by Deci and Ryan and Ryff, and purpose is supported by Alderfer,

Maslow, and Ryff. Thus, the most theoretically supported need constructs are relatedness, competence, and physical needs, with the majority of researchers mentioned supporting their existence. The two more tentative need categories are autonomy and purpose. Autonomy is only seen as a need by two theorists and purpose is only seen as a need by three. In addition to this lack of general support for these two needs, there is still controversy over how needs are defined, how many needs exist, and whether self-esteem should be considered a need.

After reviewing these theories, it appeared that there was support in the literature for a five factor (autonomy, competence, relatedness, meaning in life, and physical needs) structure similar to the one clients had identified years earlier. This led to a review of research that linked the presence or absence of these needs with addictions.

[A portion of the literature below was taken from Miller, 2005]

Consequences of Lack of Need Fulfillment in Clinical Populations

Research in the field of addictions has suggested that having one's needs met protects against substance abuse, while lacking need fulfillment increases the likelihood of engaging in addictive behavior. For example positive interpersonal relationships and social support were found to be related to lower rates of drug and alcohol use in samples of African American adults (El-Bassel, Chen, & Cooper, 1998; Friedman & Glassman, 2000; Haight, 1999; Klonoff & Landrine, 2000; Laudet, Morgen, & White, 2006; Newcomb, Bentler, & Collins, 1986; Schiele, 1999) and African American women in treatment for substance abuse (Brome, Owens, Allen, & Vevaina, 2000; Curtis-Boles, & Jackson-Monroe, 2000; Sanders-Phillips, 1998). In European American adults, positive relationships and social support were positively correlated with recovery from substance

abuse (Laudet, Morgen, & White, 2006). Two other studies that did not report the ethnicity of participants found positive relationships and social support were correlated with high rates of abstinence (Beattie & Longabaugh, 1997) and were cited by clients as critical aspects in their recovery from cocaine addiction (Flynn, Joe, Broome, Simpson, & Brown, 2003).

Deficits in social support and positive relationships were found to be related to higher rates of substance abuse in African American women (Bendersky, Alessandri, Gilbert, & Lewis, 1996; El-Bassel, et al., 1996; Tucker, 1982; Weaver, Turner, & O'Dell, 2000) and European American adults (Arthur & Blizt, 2000; Beckman, 1980; Bruns & Geist, 1984; Hart & Stueland, 1992; Jessor, Carman, & Grossman, 1968; Newcomb, Bentler, and Collins, 1986).

The presence of meaning in life has been positively related to lower rates of substance abuse in African American alcoholics (Gary & Gary, 1985; Knox, 1985), African American women in recovery (Brome, Owens, Allen, & Vevaina, 2000; Sanders-Phillips, 1998; Taylor & Jackson, 1990), and samples of African American and European American adults (Klonoff & Landrine, 2000; Laudet, Morgen, & White, 2006). Similarly, Arnold, Avants, Margolin, & Marcotte (2002) noted that spiritual meaning is critical to the recovery of African American, Latino, and European American adults. Other researchers concluded a sense of spiritual meaning is a protective factor against substance use in the African American community (Akbar, 1991; Haight, 1998; Myers, 1988; Phillips, 1990). Conversely, the lack of meaning has been found to be related to higher rates of substance use in African American women (Curtis-Boles & Jackson-Monroe, 2000) and European American adults (Sadava, Thistle, & Forsyth, 1978). A final study

that did not provide the ethnicity of participants concluded lower meaning in life is associated with higher rates of substance abuse in adults (Marsh, Smith, Piek, & Saunders, 2003).

Researchers have concluded having a sense of competence is a protective factor against substance abuse in both African American and European American adolescents (Mizell, 1999; Scheier & Botvin, 1998), while lacking competence has been related to increased drug use in both African American (Lifrak, McKay, Rostain, Alterman, & O'Brien, 1997; Miller, 1999; Mizell, 1999; Scheier & Botvin, 1998) and European American adult samples (Arthur & Blitz, 2000; Beckman, 1980; Bruns & Geist, 1984; Hull, 1981; Jessor, Carman, & Grossman, 1968; Pearlin & Radabaugh, 1976).

Effective coping skills are positively related to lower rates of drug and alcohol use in African American and European American inpatient substance abusers (Moggi, Ouimette, Moos, & Finney, 1999), African American women in recovery (Brome, Owens, Allen, & Vevaina, 2000), African American and European American men (Forys, McKellar, & Moos, in press; Ito & Donovan, 1990), and in a sample of veterans (Rosenberg, 1983). Conversely, the inability to cope effectively with stressors has been found to be positively related to higher rates of substance abuse and relapse in samples of European American and African American women (Moggi, Ouimette, Moos, & Finney, 1999; Weaver, Turner, & O'Dell, 2000), African American and Latina women addicted to crack cocaine (El-Bassel et al., 1996), European American and African American undergraduates (Hussong, 2003; McNally, Palfai, Levine, & Moore, 2003), and methadone patients (Belding, Iguchi, Lamb, Lakin, & Terry, 1996). Two other studies

that did not report ethnicity of participants found similar results in samples of adults (Breglin, O'Keeffe, Burrell, Ratliff-Crain, & Baum, 1995; Crutchfield & Gove, 1984).

After discovering the connection between client's experiences and research the author decided to conduct a thesis project that would assess need fulfillment in an addiction population in order to lay the groundwork for the development of more effective treatments. The first logical step on this journey was to find a measure that assessed these five constructs effectively. However, no current measure proved to be appropriate for use in the thesis project. The author reviewed nine instruments developed to operationalize the six most prominent motivation theories and discovered the majority of these measures were used in academic and organizational settings, which minimized their utility with clinical populations. The measures also were limited in their psychometric properties because the factor structures were inconsistent, internal consistency coefficients were low and some had little evidence of validity (Table 1) (for a more thorough review see Miller 2005). Because none of these measures were considered to be adequate for the study, the author developed a new measure of psychological well-being that assessed the five areas (autonomy, competence, relatedness, meaning, and physical) identified by clients and research as critical to the psychological well-being of individuals with addictions.

The Miller Needs Assessment, (MNA) (Miller, 2004) was developed in the author's master's thesis: *Human motivation and psychological well-being in a sample of clinical and non-clinical adults* (Miller, 2005). To insure the culturally appropriateness of the items included in this new measure a pilot study was conducted with both African American and European American men and women. After making some modifications

(additions, deletions, rephrasing of items) to the measure, a larger scale study was conducted. This normative sample included 1,358 individuals (who ranged in age from 18 to 79) from both clinical (alcohol and drug treatment centers) and non-clinical (individuals with no current psychological distress) settings. Approximately 18% identified as African American, 77% European American, 1% Native American, 2% Hispanic American, and 2% identified as multiracial. The small sample of ethnic minority participants did not allow for separate factor analyses to be conducted by ethnicity, thus the sample was divided as clinical/non-clinical for purposes of analysis. The exploratory factor analysis (EFA) on the non-clinical data revealed that the MNA (Miller, 2004) had a five factor structure slightly different from those originally hypothesized (meaning, positive interpersonal relations, interpersonal support, competence, and coping skills). There were no cross-loading items and the factors accounted for 55% of the variance, with the first factor (meaning) accounting for 39% and the remaining four factors accounting for 5%, 4%, 4%, and 3% of the variance respectively. A confirmatory factor analysis (CFA) conducted with the clinical data demonstrated that the five factor structure from the non-clinical EFA provided the best fit for the data (Miller, 2005). After establishing that the factor structure was consistent across groups a final reliability estimate was calculated for each subscale. The reliability estimates ranged from .76 to .91 (clinical) and .79 to .94 (non-clinical) respectively, indicating that scores on the MNA (Miller, 2004) are supported by evidence of moderate to high internal consistency (Miller, 2005).

Predictive discriminant analysis was used to determine how well the five factors (meaning, positive interpersonal relations, competence, interpersonal support, and ability

to adapt) predicted group membership (clinical/non-clinical). Results indicated that the group means differed, with 76% of the participants being correctly classified. Chi square is affected by sample size and therefore the I-Index was calculated in order to determine the proportion of subjects these three factors correctly classify above chance. The I-Index value was .492, which demonstrated that these factors correctly classify 49% of participants above chance (Miller, 2005). Analyses of Variance and effect sizes were calculated for each of the subscales in order to determine if there was a difference between the clinical and non-clinical participants' scores, and if a difference existed, the magnitude of that difference. All of the ANOVA's were significant ($p<.0001$) and the effect sizes ranged from moderate to large according to Cohen's criteria [Competence: $F(1,1244) = 78.039$, $d=.50$; Meaning: $F(1,1186) = 201.592$, $d=.82$; Positive Interpersonal Relations: $F(1,1212) = 268.374$, $d=.94$; Interpersonal Support: $F(1,1214 = 362.861)$, $d=1.0$; Ability to Adapt: $F(1,1230) = 462.319$, $d=1.2$] (Miller & Butler, 2006). The differences noted in both the PDA and effect sizes indicate evidence of construct validity because scores on the MNA (Miller, 2004) is able to effectively discriminate between individuals that are experiencing psychological distress and those who are not. Other sources of construct validity included the expert review of items during the development stage, face validity from the feedback the author received from the clinical participants during the pilot study, and high correlations among the five factors (.72-.82) (Figure 1) (Miller, 2005). Evidence of convergent validity was provided through the significant ($p<.0001$) correlations between each of the five need factors (and total need score) and self-esteem (meaning $r = .69$, positive interpersonal relations $r = .60$, competence $r = .55$, interpersonal support $r = .66$, ability to adapt $r = .71$, total need score $r = .75$). These

correlations demonstrated the strong positive relationship that exists between the two scales purported to measure similar constructs (Miller, 2005).

Although the results from Miller's (2005) thesis indicate that the MNA (Miller, 2004) possesses promising psychometric properties, firm conclusions about its factor structure, psychometrics, and relationship to self-esteem cannot be drawn. The purpose of this first study is to establish additional evidence for the validity of MNA-2 (Miller, 2005) scores by comparing them to other established measures (e.g. job satisfaction, life satisfaction, self-esteem, perceived social support, and ethnic identity), and determine if the factor structure is consistent across groups. It was the original intention of the author to collect enough data from African-Americans to conduct a separate factor analysis with this group, however, data collection with this sample proved to be difficult. For a review of the literature on African Americans and psychological needs, see appendix K.

Another group of interest in this study is the law enforcement community because of their high rates of substance abuse and lack of utilization of mental health services. Although a large number of individuals in law enforcement participated in Miller's (2005) thesis project, the sample was not large enough to conduct a separate factor analysis to determine consistency across groups. Thus, these individuals have become a population of interest for the current project. A review of the law enforcement research is presented in the next section of the literature review.

Importance of Assessing Psychological Well-Being in Law Enforcement Community

There is a great deal of literature that suggests individuals in law enforcement experience a high level of stress and reduced psychological well-being (Crank, Culberton, Hewitt, & Regoli, 1993; Davis, 1983; Savery, Soutar, & Weaver, 1993; Gersons &

Carlier, 1994; Goodman, 1990; Kroes & Hurrell, 1975; Kroes, 1976; Reiser, 1974; Robinson, Sigman, & Wilson, 1997). As a result of this stress, many law enforcement personnel use drugs and alcohol as a way of coping, which often leads to addiction (Babin, 1980; Band & Manuele, 1987; Burke, 1994; Cross & Ashley, 2004; Davey, Obst, & Sheehan, 2001; Davis, 1993; Dietrich & Smith, 1986; Hurrell, Pate, & Kliesmet, 1984; Kohan & O'Connor, 2002; Kroes, 1976; Madonna & Kelly, 2002; Richmond, Wodak, Kehoe, & Heather, 1998; Shanahan, 1992; Sheehan & Van Hasselt, 2003; Smith, 1982; Territo & Vetter, 1981; Unkovic & Brown, 1978; Van Raalte, 1979; Violanta, Marshall, & Howe, 1983; Violanta, Marshall, & Howe, 1985; Violanti, 1993). Despite these high stress levels and negative coping patterns, individuals in law enforcement are among the least likely to seek out psychological services (Cross & Ashley, 2004; Davey, Obst, & Sheehan, 2001; Madonna & Kelly). Some of the reasons law enforcement personnel do not seek mental health treatment is due to stigma, fear of appearing weak, and concerns about losing their job. However, this avoidance creates a cycle of stress and negative coping that can lead to significant impairment on the job (Madonna & Kelly). Thus, because of the resistance toward seeking treatment and the impairment that can manifest as a result of negative coping, it is not surprising that preventative measures have been found to be the most effective way to assist law enforcement in reducing stress and developing a more adaptive coping style (Haisch, & Meyers, 2004; Harpold & Feemster, 2002; Sheehan & Van Hasslet, 2003).

In the context of a prevention program the MNA-2 (Miller, 2005) could provide valuable information about the psychological well-being of individuals in law enforcement. Specifically the MNA-2's (Miller) five subscales highlight strengths that

are known to buffer the effects of stress and identify weaknesses that reduce psychological well-being. For example, some researchers found that having an effective social support system reduces both stress and drug and alcohol consumption in individuals in law enforcement (Burke, 1993; Burke, Goodman, 1990; Shearere, & Deszca, 1984; Patterson, 2003; Sheehan & Van Hasselt, 2003; White, Lawrence, Biggerstaff, & Grubbs, 1985). Other researchers concluded that when coping skills are high, law enforcement personnel experienced increased psychological well-being and both decreased distress and lower rates of using alcohol and drugs (Edwards, 1988; Goodman; Greenglass, Burke, & Ondrack, 1990; Patterson; Shinn, Rosario, March, & Chestnut, 1984). In addition, experiencing a sense of meaning on the job has been found to be strongly related to the job satisfaction and psychological well-being of individuals in law enforcement (Glisson & Durick, 1988; Sheehan & Van Hasselt, 2003). Finally, individuals in law enforcement who have a sense of competence, experience higher rates of job satisfaction, less distress, and lower rates of alcohol and drug use than those who do not (Band & Manuele, 1987; Burke, 1993; Burke, Shearere, & Deszca, 1984). The research presented above seems to indicate that the presence of the constructs measured by the MNA-2 (Miller, 2005) buffers the effects of stress and increases the psychological well-being of individuals in the law enforcement community. Therefore, it is likely that the use of the MNA-2 (Miller) as a prevention tool with this population could identify weaknesses before they lead to negative coping strategies and impairment on the job.

Some evidence for the MNA-2's (Miller, 2005) utility as a prevention tool originates from Miller's (2005) thesis project. Over 200 individuals working in law enforcement participated in this study and participants' employers concluded the

feedback they received enabled them to make effective changes to improve the psychological well-being and job satisfaction of their employees. Although the law enforcement agencies that participated in Miller's thesis reported improvements in their organization, they all indicated that being able to group employees by job description (e.g., civilian, jail staff, and patrol) would enable them to create more targeted interventions. This feedback seems especially important when considering the research on civilian employees in law enforcement agencies.

There are a variety of civilian positions within any given department and all likely experience some amount of job stress. However, the dispatcher has been highlighted as one of the most stressful jobs in the law enforcement community (Burke, 1995; Ruberg, Hayhurst, & Allen, 1988). In the limited research conducted with this population, there seems to be some consensus among researchers on five main areas that are sources of distress for dispatchers. These five areas are: lack of access to additional training and the financial support for training (Burke, 1991; Burke, 1995; Doerner, 1987; Guthery, 1984; Guthery & Guthery, 1982; Payne, 1984; Sewell & Crew, 1984), inadequate support from sworn personnel and management (Brandenburg, 1988; Burke, 1991; Burke, 1995; Guthery; Guthery & Guthery; Ksionzky & Mehrabian, 1986; Payne), being treated like second class citizens (Burke, 1991; Burke, 1995; Doerner; Guthery; Ksionzky & Mehrabian; Sewell & Crew), absence of stress management programs (Burke, 1991; Burke, 1995; Roberg, Hayhurst, & Allen, 1988), and having to use outdated equipment (Payne; Sewell & Crew). All of these studies have concluded that these stressors lead to significant psychological distress and lower levels of job satisfaction. Based upon these findings it appears that the MNA-2's (Miller, 2005) scales could serve as a way to assess

psychological well-being and develop more effective interventions to address these concerns.

Hypotheses

1) Factor structure of the MNA-3 (Miller, 2008) is expected to be consistent across groups (i.e., male, female, ethnic group, clinical, non-clinical, law enforcement) and be similar to the structure Miller (2005) found in her thesis.

2) Reliability estimates for the MNA-3 (Miller, 2008) are expected to be fairly consistent across groups and similar to those found in Miller's (2005) previous project.

3) Evidence of convergent validity of the MNA-3 (Miller, 2008) will be established through the moderate to high positive correlations between the social support subscale in the MNA-3 (Miller) and the Perceived Social Support Scale (Procidano & Heller, 1983). Moderate to high correlations are also expected between the total score of the MNA-3 (Miller) and the two other global measures of well-being (i.e., self-esteem and life satisfaction).

4) Evidence of discriminant validity of the MNA-3 (Miller, 2008) will be established through the low to moderate positive correlations between the scales on the MNA-3 (Miller) and the measures of job satisfaction and ethnic identity.

5) Evidence of construct validity will be established by demonstrating the MNA-3 (Miller, 2008) is able to correctly classify at least 76% of participants (the percentage found in Miller's (2005) thesis) and through the non-clinical participants scoring significantly higher (with moderate to large effect sizes) than the clinical individuals on all scales of the MNA-3.

6) Non-clinical participants are expected to score significantly higher on all other measures (i.e., job satisfaction, ethnic identity, perceived social support, self-esteem, and satisfaction with life) than the clinical participants, with effect sizes being moderate to large effect.

7) In the law enforcement sample, dispatchers will have the lowest scores on all measures.

CHAPTER II

Study I Methods & Analyses

Other Instruments Used

The Satisfaction with Life Scale (SWLS) (Diener, Emmons, Larsen, & Griffin, 1985) was chosen as a measure of concurrent validity because it assesses life satisfaction, which has been shown to be related to other measures of psychological well-being. The SWLS (Diener et al.) is a five item measure containing statements that individuals rate on a seven-point Likert-type scale ranging from 1-strongly disagree to 7-strongly agree. The SWLS (Diener et al.) was normed on a sample of college students and found to have good reliability (α=.87, test retest r=.82). Since this normative data was collected, the SWLS has been used frequently in research and has consistently demonstrated high internal consistency coefficients with a variety of samples: French-Canadian college students (α=.84) and French-Canadian older adults (α=.82) (Blais, Vallerand, Pelletier, & Briere, 1989), medical outpatients in the Netherlands (α=.87) (Arrindell, Meeusesen, & Huyse, 1991), older adults in America (α=.83) and American college students (α=.85) (Pavot, Diener, Colvin, & Sandvik, 1993), African American adults (α=.81) (Zimmerman, Salem, & Maton, 1995), (α=.82) (Utsey, Ponterotto, Reynolds, & Cancelli, 2000), and British college students (α=.92) (Shevlin, Brunsden, & Miles, 1998). The Satisfaction with Life Scale (SWLS) (Diener et al.) has also been found to have strong positive correlations with a number of measure of satisfaction and happiness (e.g., Life Satisfaction Index (LSI) r = .65 (Adams, 1969), Philadelphia Geriatric Center Morale

Scale r = .81 (Lawton, 1975) (Pavot et al.) and strong negative correlations with measures of distress (e.g., Beck Depression Inventory r = -.72 (Beck et al., 1961), Symptom Checklist-90 (Derogatis, 1977) r = -.55 (Pavot & Diener, 1993). Finally, the SWLS (Diener et al.) has demonstrated a consistent single factor structure across studies that accounts for 66-77% of the variance (Arrindell et al.; Blais et al.; Diener et al.; Pavot et al.).

The Job Descriptive Index (JDI) (Smith, Kendall, & Hulin, 1969), which assesses job satisfaction, was chosen in order to establish the discriminant validity of the MNA (Miller, 2004). The JDI (Smith et al.) measures five aspects of satisfaction on the job (the work in general, pay, opportunities for advancement, supervisors, and co-worker relationships) by asking individuals to respond to a set of 72 statements about the five areas listed above. Individuals respond "Y" if the statement describes their job, "N" if the statement does not describe their job, and "?" if they are unsure. The JDI (Smith et al.) has a fourth grade reading level and has demonstrated good psychometric properties across studies. In the original sample Smith et al. obtained a split half reliability coefficient of .79 with a sample of undergraduates, and .80 with a sample of factory workers. Blau (1994) obtained an alpha coefficient of .82 with a sample of pharmaceutical workers, while Brief and Roberson (1989) obtained an alpha of .92 with a sample of adult students who were working part-time. The most recent internal consistency coefficients available from the 1997 JDI manual (Balzer, et al) are provided by subscale: work in general (α=.90), pay (α=.86), opportunities for advancement (α=.87), supervisors (α=.91), co-workers (α=.91). Concurrent validity of the JDI has been established through the strong positive correlations it has with other measures of job

satisfaction [e.g., Minnesota Satisfaction Questionnaire (MSQ) (r= .76) (Weiss, Dawis, England, & Lofquist, 1967), FACES (r=.71) (Dunham & Herman, 1975)] and a five factor structure has been found consistently across studies (Smith et al.). Finally, the JDI manual notes there are separate norms for European and African Americans (Balzer, et al).

The Rosenberg Self-Esteem Scale (ROSES) (Rosenberg, 1965) was chosen for inclusion in this project because it was found to be positively related to the MNA (Miller, 2004) in Miller's (2005) thesis and its use in the current study will allow for comparison between the results of Miller's previous study and this project. The ROSES (Rosenberg) is a ten-item (five negatively phrase and five positively phrased) measure that assesses global self-esteem. Individuals respond on a four-point Likert-type scale ranging from strongly agree to strongly disagree. The ROSES (Rosenberg) has been widely used as a measure of self-esteem in numerous populations (e.g., crack cocaine users [Wang, Siegal, Falck, & Carlson, 2001], adolescent and adult samples (α =.88) [Whiteside-Mansell & Corwyn, 2003] eating disorder patients [Giffiths et al., 1999; Telch & Agras, 1994], college students [Shevlin, Bunting, & Lewis, 1995; Thompson & Thompson, 1986], American Indian adolescents (α =.79) [Mitchell & Beals, 1997], American Indian undergraduates (α =.88) [McDaniel & Grice, 2005], American Indian adults [California Endowment's Mental Health Initiative, 2006; Twenge & Crocker, 2002], African American adults (α =.82) [Ponterotto et al., 2000], (α =.85) [Caldwell, Brownell, & Wilfley, 1997], and an ethnically diverse (i.e., American Indian, African American, European American, and Latino) sample of adolescents (α =.85) [Martinez & Dukes, 1997]). Factor analytic studies support a single factor structure (Corwyn, 2000; Shevlin,

Bunting, & Lewis; Wang et al.) and negative correlations have been found between the ROSES and body distortion, eating disorders (Griffiths et al.; Telch & Agras; Thompson & Thompson), depression (Intili & Nier, 1998), substance abuse, and other psychiatric disorders (Silverstone & Salsali, 2003).

The Perceived Social Support scale (Friends) (PSS-Fr) (Procidano & Heller, 1983) is a measure that assesses the degree to which individuals perceive their needs for support, information and feedback are provided by the friends that they have. The PSS-Fr was chosen as a measure of concurrent validity because social support has been linked to psychological well-being and the MNA (Miller, 2004) has a social support scale. The PSS-Fr (Procidano & Heller) is a 20-item scale that consists of statements that individual's respond either "Yes" if they agree with the statement, "No" if they do not, and "Don't Know" if they are unsure. For each "Yes" individuals are given one point, with total scores ranging from 0-20, with higher scores indicating more perceived social support. The PSS-Fr (Procidano & Heller) was normed on a sample of undergraduates (α = .88), had a single factor structure, was negatively related to symptoms of psychological distress (r= -.27), negative events (r= -.17), and lack of self-confidence (r= -.43), positively related to social presence (r= .51), and unrelated to social desirability (Procidano & Heller). Since the normative data was collected the PSS-Fr has been used with Australian adolescents (α = .80) (Gerner & Wilson, 2005), college students with subclinical eating disorders (α = .84) (Holt & Espelage, 2002), adult children of alcoholics (Ohannessian & Hesselbrock, 1993), and psychiatric (α = .92), diabetic (α = .84), and non-clinical college samples (α = .88) (Lyons, Perrotta, & Hancher-Kvam, 1988), (α = .89) (Ognibene & Collins, 1998). Evidence for the validity of the PSS-Fr

(Procidano & Heller, 1983) is provided through its significant negative relationship with heavy drinking (Ohannessian & Hesselbrock), and being a significant predictor of both body attitudes (Gerner & Wilson) and eating disorders (Holt & Espelage).

The Multigroup Ethnic Identity Measure (MEIM) (Phinney, 1992) assesses the degree to which individuals identify with their ethnic group. The MEIM (Phinney) was chosen as a measure of ethnic identity because research suggests having a high ethnic identity contributes to psychological well-being of ethnic minorities (e.g., Phinney, 1990). The revised version of the MEIM (Phinney, 1992) is a 15-item scale. Three of the items (i.e., 13, 14, and 15) ask individuals to identify their ethnic group along with the ethnic group of their parents. The remaining 10 items consist of statements that individuals rate on a four-point Likert-type scale ranging from 4-strongly agree to 1-strongly disagree. High scores reflect a strong sense of ethnic identity, while low scores indicate less identification with the individual's ethnic group. The MEIM (Phinney, 1992) was normed on several different samples of high school (α = .81), and undergraduate students (α = .90), from a variety of ethnic backgrounds, had a two factor structure (ethnic identity and other group orientation), and was positively related to self-esteem in ethnic minorities (r= .31). Since the development of this measure, the other group orientation items have been removed to create a separate scale. Since collecting the normative data, the MEIM (Phinney, 1992) has been used with a variety of samples. Ponterotto, Gretchen, Utsey, Stracuzzi & Saya (2003) provided a review of twelve studies that used the MEIM (Phinney, 1992). Alpha coefficients in these studies ranged from .81 to .92 and factor structure across studies was somewhat inconsistent with both single and two factor solutions being reported. However, these studies included the other group orientation

scale, which has since been separated from the measure of ethnic identity. Validity evidence in these studies included positive relationships between ethnic identity and self-esteem, worldview, and racial identity development.

Participants

Participants were 1,540 adults (675 clinical individuals recruited from addiction and eating disorder treatment centers and 865 non-clinical individuals recruited from law enforcement agencies (N=562) and non-profit organizations (N=303) from Colorado and Indiana. The clinical sample consisted of 190 females (28%) and 482 males (72%) who ranged in age from 18 to 83 (M = 38.86, SD = 12.28). Approximately 10% identified as African American, 83% Euro-American, 1% Native American, 1% Asian, 1% Latino/Latina, and 4% identified as multiracial. The relationship status of clinical participants was as follows: 36% single, 7% separated, 24% married, 5% partnered, 26% divorced, and 2% widowed. The majority of clinical individuals (58%) reported being employed at least part-time, 4% reported attending school at least part-time, and the remaining individuals (38%) were unemployed for a variety of reasons (e.g. retired, disabled, homemaker). In addition, the majority of clinical participants had completed a high school education (59%), with 6% completing less than high school, 17% junior college, 12% college, and 6% had completed a graduate degree.

The main reasons clinical individuals reported receiving mental health treatment were alcohol (54%) and drug (61%) addiction (many participants reported more than one problem so the total percentage is well above 100%). Other disorders listed as a main focus of treatment were as follows: homelessness - 11%, anorexia - 4%, depression - 4%, anxiety - 3%, bulimia - 3%, and compulsive overeating - 1%. In addition to these main

areas, there were several secondary disorders the clinical population reported as being problematic (depression = 42%, anxiety = 35%, homelessness = 10%, alcohol addiction = 8%, drug addiction = 5%, bulimia = 1%, anorexia = 1%, compulsive overeating = 3%, gambling = 1%, and other = 12%). Approximately 22% of the clinical sample had been receiving treatment for one month or less, 25% one to three months, 13% three to six months, 6% six to nine months, 4% nine to twelve months, 9% one to two years, and 21% more than two years.

The non-clinical sample consisted of 434 females (57%) and 330 males (43%) who ranged in age from 21 to 73 ($M = 38.75$, $SD = 11.09$). Approximately 7% identified as African American, 84% Euro-American, 1% Native American, 1% Latino/Latina, 1% Asian, and 3% multiracial. The relationship status of non-clinical participants was as follows: 20% single, 1% separated, 62% married, 4% partnered, 12% divorced, and 1% widowed. Although all non-clinical participants were employed at least part-time, 2% noted they were also attending school at least part-time. Regarding educational background, 1% completed less than high school, 28% high school, 26% junior college, 37% college, and 8% have a graduate degree.

In the non-clinical sample, 221 individuals (25%) had received mental health treatment previously and the majority of those (9%) reported receiving treatment for depression. The remaining individuals received treatment for anxiety (3%), alcohol addiction (1%), and other (8%). There were 123 non-clinical individuals (14%) who reported current psychological distress and of those, 5% reported depression, 4% anxiety, 4% other, and 1% compulsive overeating.

Procedure

Clients in treatment and employees of the selected businesses were approached about participating in the study in accordance with the rules set forth by each of the sites. Those who agreed to participate completed and signed a statement of informed consent prior to data collection and were informed they could withdraw from the study at any time. During data collection the researcher remained available to answer questions, and once the participants completed the questionnaires, or decided they no longer wanted to participate, they were instructed to place their questionnaires in an envelope before returning it to the researcher. Participants were either provided with refreshments during data collection or inspirational stones in the case of the eating disorder participants since providing food to these individuals would have been inappropriate.

Analyses

Five types of analyses were conducted on the data. Exploratory factor analyses (EFA), a statistical procedure used to discover the underlying factor structure of an instrument, was used in order to determine if the factor structure of the MNA-3 (Miller, 2008) was consistent across groups and is comparable to Miller's (2005) previous results. Reliability estimates were calculated on all the instruments in order to determine their internal consistency with each classification (e.g., male, female, European American, clinical, non-clinical, law enforcement). Correlations will be calculated between the MNA-3 (Miller, 2008) and the JDI (Smith et al.), SWLS (Diener et al.), ROSES (Rosenberg, 1965), MEIM (Phinney, 1992), and the PSS-Fr (Procidano & Heller, 1983) in order to establish evidence of concurrent and discriminant validity for scores on the MNA-3 (Miller, 2008) subscales. Predictive Discriminant Analysis (PDA) a procedure

used to predict group membership from a set of continuous predictors, was used to determine if the instrument can correctly classify individuals into their respective groups (i.e., clinical and non-clinical). ANOVA's will be used to determine if significant differences exist between the clinical and non-clinical populations and if differences are found effect sizes will be calculated in order to determine the magnitude of the difference.

CHAPTER III

Study I Results

Exploratory Factor Analysis

SPSS (SPSS, 1999) was used to conduct exploratory factor analyses (EFA) on the 43 items of the MNA-3 (Miller, 2008) with several sub groups of the data in order to determine if a consistent factor structure existed. Individuals who had missing data and those non-clinical participants who reported current distress were not included in the analyses. Principal Axis Factoring with Promax rotation were used for all the EFA's because research suggests it is more precise than principal components analysis (Gorsuch, 1997). The first EFA was conducted on all participants in order to determine the most parsimonious structure for the sample as a whole. The sample size (n=1441) used for this analysis is considered to be adequate according to Gorsuch (1983) and Nunnally (1967).

The initial solution demonstrated the matrix was factorable (Kaiser-Meyer Olkin measure of sampling adequacy =.968, Bartlett's Test of Sphericity- $X^2(780, N = 1441) = 32177.690$, $p<.0001$, Determinant = 1.581E-10). Thus, decisions about the number of factors retained for the final rotation were formed by an evaluation of the items that had eigenvalues ≥ 1, the scree plot, percent of variance accounted for by the factors, and the theoretical interpretability of the factors. Using these criteria, four factors were retained for the final analysis. The final four-factor extraction of 23 items resulted in a factorable matrix (Kaiser-Meyer Olkin measure of sampling adequacy =.948, Bartlett's Test of

Sphericity- $X^2(253, N = 1441) = 17026.563, p < .0001$, Determinant = 6.830E-06). Descriptive statistics for this final extraction can be found in Appendix C.

Results of the final EFA suggested an appropriate criterion for evaluating item loadings was $\geq .4$ due to the presence of many items with high loadings, and the use of this criterion resulted in no cross-loading items. Additionally, items were determined to not cross-load if they were at least .2 below the factor the item loaded the highest on. The initial eigenvalues for the four factors were 9.396, 1.784, 1.658, and 1.400 respectively. The first factor accounted for 39% of the variance. The remaining three factors accounted for 6%, 5%, and 4% of the variance respectively, with a total of 54% being explained by all four factors (Table 2). All factors had discrete subscale loadings resulting in simple structure and four interpretable factors (i.e., coping skills, meaning, competence, and interpersonal support) (Table 3). Examples of items from these scales are as follows: coping skills ("I cope well with difficulties" and "I have control over my life"), meaning ("my life has meaning" and "my life is heading in a direction I want"), competence ("I am good at many things" and "I have many talents"), and interpersonal support ("I can count on my friends" and "my family encourages me"). The internal consistency coefficients for these factors and the scale as a whole were as follows: coping skills (N = 7) α =.89, meaning (N = 6) α =.88, competence (N = 5) α =.83, interpersonal support (N = 5) α = .80, and complete scale (N = 23) α =.93 respectively.

Although the author had hoped to be able to examine the factor structure of the MNA-3 (2008) across all ethnic groups, due to sample size this was not possible. The only ethnic population whose numbers were sufficient for analysis was the European Americans, thus this group was the focus on the next factor analysis. The sample size

(n=1208) used for this analysis is considered to be adequate according to Gorsuch (1983) and Nunnally (1967).

The initial solution demonstrated the matrix was factorable (Kaiser-Meyer Olkin measure of sampling adequacy =.967, Bartlett's Test of Sphericity- $X^2(780, N = 1208) = 27674.834$, $p<.0001$, Determinant = 8.394E-11) and after following the same protocol for the elimination and retention of factors established during the first factor analysis on all participants four factors were retained for the final analysis. The final four-factor extraction of 23 items resulted in a factorable matrix (Kaiser-Meyer Olkin measure of sampling adequacy =.947, Bartlett's Test of Sphericity- $X^2(253, N = 1208) = 14666.667$, $p<.0001$, Determinant = 4.845E-06). Descriptive statistics for this final extraction can be found in Appendix D.

Results of the final EFA suggested an appropriate criterion for evaluating item loadings was $\geq .4$ due to the presence of many items with high loadings, and the use of this criterion resulted in no cross-loading items. Additionally, items were determined to not cross-load if they were at least .2 below the factor the item loaded the highest on. The initial eigenvalues for the four factors were 9.503, 1.758, 1.735, and 1.356 respectively. The first factor accounted for 39% of the variance. The remaining three factors accounted for 6%, 5%, and 4% of the variance respectively, with a total of 54% being explained by all four factors (Table 4). All factors had similar subscale loadings to the EFA with all participants, which resulted in simple structure and exactly the same four factors (i.e., coping skills, meaning, competence, and interpersonal support) (Table 5). The internal consistency coefficients for these factors and the scale as a whole were as follows: coping

skills ($N = 7$) α =.90, meaning ($N = 6$) α =.88, competence ($N = 5$) α =.84, interpersonal support ($N = 5$) α = .80, and complete scale ($N = 23$) α =.93 respectively.

The next two factor analyses examined the structure of the MNA-3 (Miller, 2008) by gender. The sample sizes for both of these analyses (males: n=916, females: n=520) are considered to be adequate according to Gorsuch (1983) and Nunnally (1967). For both groups the initial solution demonstrated the matrices were factorable [males (Kaiser-Meyer Olkin measure of sampling adequacy =.967, Bartlett's Test of Sphericity- $X^2(780, N = 916) = 21030.727, p<.0001$, Determinant = 7.261E-11)] [females (Kaiser-Meyer Olkin measure of sampling adequacy =.952, Bartlett's Test of Sphericity- $X^2(780, N = 520) = 11815.519, p<.0001$, Determinant = 6.846E-11). The same protocol used in previous analyses was utilized to determine which items to retain, and again four factors were retained for the final analysis. The final four-factor extraction of 23 items resulted in a factorable matrix for both groups ([males (Kaiser-Meyer Olkin measure of sampling adequacy =.946, Bartlett's Test of Sphericity- $X^2(253, N = 916) = 10934.183, p<.0001$, Determinant = 5.775E-06)] [females (Kaiser-Meyer Olkin measure of sampling adequacy =.934, Bartlett's Test of Sphericity- $X^2(253, N = 520) = 6347.075, p<.0001$, Determinant = 3.985E-06)]). Descriptive statistics for these final extractions can be found in Appendix E & F.

Results of the final EFA's based on gender suggested an appropriate criterion for evaluating item loadings was $\geq$.4 due to the presence of many items with high loadings, and the use of this criterion resulted in no cross-loading items. Additionally, items were determined to not cross-load if they were at least .2 below the factor the item loaded the highest on. The initial eigenvalues for the four factors for males were 9.553, 1.755, 1.572,

and 1.367 respectively. The first factor accounted for 39% of the variance. The remaining three factors accounted for 6%, 5%, and 4% of the variance respectively, with a total of 54% being explained by all four factors (Table 6). All factors had similar subscale loadings to the previous EFA's, which resulted in simple structure and exactly the same four factors (i.e., coping skills, meaning, competence, and interpersonal support) (Table 7). The internal consistency coefficients for these factors and the scale as a whole were as follows: coping skills ($N = 7$) α =.89, meaning ($N = 6$) α =.88, competence ($N = 5$) α =.85, interpersonal support ($N = 5$) α = .80, and complete scale ($N = 23$) α =.93 respectively. For females the initial eigenvalues for the four factors were 9.233, 2.035, 1.679, and 1.418 respectively. The first factor accounted for 38% of the variance. The remaining three factors accounted for 7%, 5%, and 4% of the variance respectively, with a total of 54% being explained by all four factors (Table 8). All factors had similar subscale loadings to the previous EFA's, which resulted in simple structure and exactly the same four factors (i.e., coping skills, meaning, competence, and interpersonal support) although for females the interpersonal support factor emerged as the third factor instead of the fourth (Table 9). The internal consistency coefficients for these factors and the scale as a whole were as follows: coping skills ($N = 7$) α =.88, meaning ($N = 6$) α =.90, competence ($N = 5$) α =.81, interpersonal support ($N = 5$) α = .81, and complete scale ($N = 23$) α =.92 respectively.

The next two factor analyses were conducted by separating participants into clinical and non-clinical groups, which was similar to Miller's (2005) approach in her thesis. The sample sizes for both of these analyses (non-clinical: n=766, clinical: n=675) are considered to be adequate according to Gorsuch (1983) and Nunnally (1967). For

both groups the initial solution demonstrated the matrices were factorable ([non-clinical (Kaiser-Meyer Olkin measure of sampling adequacy =.952, Bartlett's Test of Sphericity- $X^2(780, N = 766) = 14614.955, p<.0001$, Determinant = 3.519E-09)] [clinical (Kaiser-Meyer Olkin measure of sampling adequacy =.959, Bartlett's Test of Sphericity- $X^2(780, N = 675) = 14113.968, p<.0001$, Determinant = 5.133E-10]). The same protocol used in previous analyses was utilized to determine which items to retain. The final four-factor extraction of 23 items resulted in a factorable matrix for both groups [non-clinical (Kaiser-Meyer Olkin measure of sampling adequacy =.931, Bartlett's Test of Sphericity- $X^2(253, N = 766) = 7654.454, p<.0001$, Determinant = 4.034E-05)] [clinical (Kaiser-Meyer Olkin measure of sampling adequacy =.940, Bartlett's Test of Sphericity- $X^2(253, N = 675) = 7232.803, p<.0001$, Determinant = 1.905E-05)]. Descriptive statistics for these final extractions can be found in Appendix G & H.

Results of the final EFA's of both the clinical and non-clinical groups suggested an appropriate criterion for evaluating item loadings was $\geq$.39 due to the presence of many items with high loadings, and the use of this criterion resulted in no cross-loading items. Additionally, items were determined to not cross-load if they were at least .2 below the factor the item loaded the highest on. The initial eigenvalues for the four factors for the non-clinical sample were 8.378, 1.896, 1.622, and 1.339 respectively. The first factor accounted for 34% of the variance. The remaining three factors accounted for 6%, 5%, and 4% of the variance respectively, with a total of 49% being explained by all four factors (Table 10). All factors had similar subscale loadings to the previous EFA's, which resulted in simple structure and exactly the same four factors (i.e., coping skills, meaning, competence, and interpersonal support) although in the non-clinical sample the

meaning factor emerged first, and as with the females, the interpersonal support factor emerged as the third factor instead of the fourth (Table 11). The internal consistency coefficients for these factors and the scale as a whole were as follows: coping skills (N = 7) α =.84, meaning (N = 6) α =.87, competence (N = 5) α =.81, interpersonal support (N = 5) α = .77, and complete scale (N = 23) α =.92 respectively.

For clinical participants the initial eigenvalues for the four factors were 8.825, 1.994, 1.678, and 1.111 respectively. The first factor accounted for 36% of the variance. The remaining three factors accounted for 6%, 5%, and 3% of the variance respectively, with a total of 51% being explained by all four factors (Table 12). All factors had similar subscale loadings to the previous EFA's, which resulted in simple structure and exactly the same four factors (i.e., coping skills, meaning, competence, and interpersonal support) (Table 13). The internal consistency coefficients for these factors and the scale as a whole were as follows: coping skills (N = 7) α =.86, meaning (N = 6) α =.87, competence (N = 5) α =.85, interpersonal support (N = 5) α = .80, and complete scale (N = 23) α =.92 respectively.

The final factor analysis was conducted on participants from law enforcement agencies. The sample size for this group (n=519) is considered to be adequate according to Gorsuch (1983) and Nunnally (1967). The initial solution demonstrated the matrix was factorable (Kaiser-Meyer Olkin measure of sampling adequacy =.941, Bartlett's Test of Sphericity- $X^2(780, N = 519) = 9949.506$, $p<.0001$, Determinant = 2.653E-09) and after following the same protocol established in earlier analyses, the final four-factor extraction of 23 items resulted in a factorable matrix (Kaiser-Meyer Olkin measure of sampling adequacy =.919, Bartlett's Test of Sphericity- $X^2(253, N = 519) = 5179.966$,

$p<.0001$, Determinant = 3.843E-05). Descriptive statistics for this final extraction can be found in Appendix I.

Results of the final EFA suggested an appropriate criterion for evaluating item loadings was $\geq .4$ due to the presence of many items with high loadings, and the use of this criterion resulted in no cross-loading items. Additionally, items were determined to not cross-load if they were at least .2 below the factor the item loaded the highest on. The initial eigenvalues for the four factors were 8.102, 1.991, 1.726, and 1.367 respectively. The first factor accounted for 33% of the variance. The remaining three factors accounted for 7%, 5%, and 4% of the variance respectively, with a total of 48% being explained by all four factors (Table 14). All factors had similar subscale loadings to the EFA with all participants, which resulted in simple structure and exactly the same four factors, however, this sample's structure was exactly the same as that found in the non-clinical group (i.e., meaning emerged first, followed by coping skills, interpersonal support, and finally competence) (Table 15). The internal consistency coefficients for these factors and the scale as a whole were as follows: coping skills ($N = 7$) $\alpha = .85$, meaning ($N = 6$) $\alpha = .87$, competence ($N = 5$) $\alpha = .79$, interpersonal support ($N = 5$) $\alpha = .77$, and complete scale ($N = 23$) $\alpha = .91$ respectively.

In comparing all the results from the EFA's there was consistency across groups in that all the items are identical, load consistently on their respective factors, and the majority of factor loadings were similar. However, not all groups had the factors accounting for similar amounts of variance. Three groups (i.e., all participants, Euro-Americans, and males) had coping skills accounting for the majority of variance, followed by meaning, competence, and interpersonal support. The female sample also

had coping accounting for the majority of variance, followed by meaning, but interpersonal support was extracted as the third factor and competence was the last. Two other groups (non-clinical and law enforcement) also had interpersonal support as third and competence as forth, however, for these two groups, meaning was the factor accounting for the most variance, with coping skills ranking second. Finally, the clinical group was similar to the non-clinical and law enforcement groups in that meaning and coping ranked first and second, but was similar to the first three groups because competence was extracted before interpersonal support.

Another aspect of determining consistency across groups is through an examination of how much variance is explained by the MNA-3 (Miller, 2008) items in each group. Three groups (i.e., males, females, all participants, and European Americans) had the most consistency in the variance explained by each factor because the variability was at the most 1%, with the total variance explained being consistent (54%). In the other three groups (i.e., clinical, non-clinical, and law enforcement) variance accounted for by each factor and the total variance explained had slightly more variability (1-3%) and the total variance accounted for was less than the previous groups (clinical – 51%, law enforcement – 48%, non-clinical – 49%).

Based upon the examination of the pattern matrices and variance accounted for, it appears the MNA-3 (Miller, 2008) is fairly consistent across all groups. These results are also similar to those found by Miller (2005) in her thesis, although the current factor analyses did not support the inclusion of the positive interpersonal relations factor. In light of these facts, hypothesis one seems to be supported. However, until a specific test of measurement invariance is conducted, no firm conclusions can be drawn about the

MNA-3's (Miller, 2008) stability across populations. Regarding internal consistency of the MNA-3 (Miller, 2008), the coefficients were fairly consistent across groups and similar to those found by Miller (2005). Ranges on each scale were as follows: coping skills - .84-.90, meaning - .87-.90, interpersonal support - .77-.80, competence - .79-.85, and total score - .91-.93. These results suggest the MNA-3 (Miller, 2008) is an internally consistent measure of psychological well-being across groups and samples, which supports the second hypothesis.

Correlations

SPSS (SPSS, 1999) was used to calculate Pearson correlations between the constructs of the MNA-3 (Miller, 2008) and all the other scales used in this project in order to establish evidence for concurrent and discriminant validity. The descriptive statistics for this analysis is can be found in Appendix J. The correlations between the MNA-3 (Miller) total score and the two other global measures of well-being [self-esteem (r = .70) and life satisfaction (r = .66)] were significant (p<.0001), demonstrating the strong positive relationship that exists between these scales purported to measure similar constructs. The correlation between the interpersonal support scale of the MNA-3 (Miller) and perceived social support (r = .51) was significant (p<.0001), which indicates these scales are measuring similar phenomena. Correlations between the MNA-3 (Miller) subscales and total score and measures of ethnic identity and job satisfaction were all small yet significant (at either the .05 or .01 level) and ranged from .07 - .31, which indicated these scales are measuring dissimilar constructs (Table 16). Based on these results evidence for concurrent and discriminant validity has been established for the

scales and total score of the MNA-3 (Miller), which supports both hypothesis three and four.

Predictive Discriminant Analysis

SPSS (SPSS, 1999) was used to conduct a predictive discriminant analysis on the four factors extracted from the EFA's (coping skills, meaning, interpersonal support, and competence) in order to determine how well they predicted group membership (clinical/non-clinical). Participants who had missing data and non-clinical participants who reported current distress were not included in the analysis in order to more clearly define the two groups. One discriminant function was calculated (n = 1441) which resulted in an eigenvalue of .572, Wilks' Λ= .636, X^2 (5, N =1441) = 650.219, p<.0001. This significant result indicates the group means differ, and therefore the factors in the discriminant function can correctly predict group membership. The results in table 17 demonstrate these four factors were able to classify 80% of the participants correctly. However, because the sample size for this analysis is large (n = 1441) and the X^2 statistic is affected by sample size, the I-Index was calculated (Huberty & Lowman, 2000) in order to determine the proportion of individuals these factors correctly classify above chance. The calculation resulted in an I-Index value of .70, which demonstrates these factors correctly classify 70% above chance. This index, like the X^2 statistic, both provide support that the factors are able to effectively predict group membership. This current classification percentage exceeds the one found in Miller's (2005) previous project (76% and I-Index of .49), indicating the more parsimonious MNA-3 (Miller, 2008) is able to more effectively categorize participants than its earlier version.

ANOVA & Effect Size

SPSS (SPSS, 1999) was used to conduct ANOVA's on the mean differences between the clinical and non-clinical participants on all subscales and total score of the MNA-3 (Miller, 2008). Significant differences (p<.0001) were found between these groups on all scales (Table 18) and effect sizes were calculated in order to determine the magnitude of these differences. The smallest effect size was found in the competence scale (F (1,1439) =25.299, MSE=173.48, d=.27), followed by medium effects in interpersonal support (F (1,1439) =148.38, MSE=1172.02 , d=.65), and meaning (F (1,1439) =110.97, MSE=1390.16 , d=.56). A large effect was produced by the total MNA-3 (Miller) score (F (1,1439) =284.87, MSE=27524.18 , d=.89) and a very large effect was seen in the coping skills scale (F (1,1439) =616.33, MSE= 6595.55, d=1.31). The results of these analyses along with those of the PDA indicate evidence for the construct validity of the MNA-3 (Miller, 2008) because it is a measure that can effectively classify the majority of participants and produce significantly higher scores from individuals who are not currently reporting psychological distress. Thus, hypothesis five was supported.

Additional ANOVA's were conducted with the clinical and non-clinical groups in order to determine if significant differences existed on the means of all other scales used in this study. Significant differences (p <.01) were found on all scales except ethnic identity and supervision, with the non-clinical scoring significantly higher on all scales except promotion and work (Table 18) and effect sizes were calculated to determine the magnitude of these differences. The smallest effects were found in the job satisfaction scales [pay: F (1,1030) =8.169, MSE= 2333.25, d=.20; promotion: F (1,1044) =21.030, MSE= 6265.15, d=.32; work: F (1,1042) =13.941, MSE= 2074.41 d=.26; co-workers: F

(1,1047) =14.557, *MSE*= 1971.40, *d*=.26], followed by a medium effect in perceived social support (*F* (1,1439) =106.55, *MSE*= 2617.59, *d*=.55), large effect in self-esteem (*F* (1,1439) =334.23, *MSE*=9033.91 , *d*=.97), and a very large effect in satisfaction with life (*F* (1,1439) =679.73, *MSE*=29994.18, *d*=1.38). These results indicate the job satisfaction and ethnic identity scales used in this study are not effective in discriminating between clinical and non-clinical individuals, suggesting these two constructs are not as salient to psychological health as those assessed by the MNA-3 (Miller, 2008). However, the effects found in social support, self-esteem and satisfaction with life indicate these constructs are important in understanding an individual's sense of well-being. Based on this data hypothesis six was only partially supported because the non-clinical participants only scored significantly higher on pay, co-workers, perceived social support, self-esteem, and satisfaction with life.

The final hypothesis proposed that the dispatchers would have the lowest scores on all measures in the law enforcement sample. The comparison of the highest and lowest means of all law enforcement sites to the dispatch means (Table 19) demonstrated dispatchers were never the lowest scoring group. Thus, hypothesis seven was not supported.

CHAPTER IV

Study I Discussion

The purpose of this study was to continue to refine and assess the MNA-3's (Miller, 2008) psychometric properties across various groups (i.e., male, female, law enforcement, clinical, and non-clinical). This section will explore the meaning of the analyses, strengths and limitations, implications the results have in both clinical and non-clinical settings, and directions for future research.

Hypothesis one stated that the factor structure of the MNA-3 (Miller, 2008) was expected to be consistent across groups and similar to the structure found in Miller's (2005) previous work. Based on the results this hypothesis was partially supported. The consistency across groups was demonstrated through the retention of identical items loading on the same factors and similarities in factor loadings. These results suggest the MNA-3 (Miller, 2008) is consistently assessing similar constructs across groups, which provides some evidence of the universality of these psychological needs. Despite this uniformity, there were some differences found across groups. The variance explained by each factor and scale as a whole, and the rank order of factors was not consistent across groups. In the all participants, male, female, and Euro-American groups, coping skills explained the most variance, however, meaning accounted for the most variance in the clinical, non-clinical, and law enforcement samples. In addition, for three groups (females, law enforcement, and non-clinical) the ordering of the factor structure was

different with interpersonal support emerging as the third factor and competence the fourth, and in all other samples this order was reversed. These inconsistencies suggest group composition and perhaps interpersonal/cultural values and/or world view determine the variance each factor accounts for, and thus its relative ranking in the factor structure. Regarding the total variance explained, four groups (all participants, Euro-Americans, men, and women) had 54%, explained, while the rest of the groups' (i.e., clinical, non-clinical, and law enforcement) percentages ranged from 48-51. This finding suggests the current item pool is not as strong as it could be and there are other critical aspects of well-being that are not being tapped by this measure.

Based on these results it is clear more research is needed in the areas of measurement invariance, item development, exploring other constructs to include in the scale, and understanding the relative importance the constructs assessed by the MNA-3 (Miller, 2008) have for different populations (i.e., clinical, ethnically diverse, employed, unemployed) completing the measure. Testing for measurement invariance is the critical next step which will enable the researcher to know if the MNA-3 (Miller) factor structure is truly consistent across groups. After this analysis is completed additional research should focus on utilizing a qualitative approach (i.e., focus groups and/or interviews) to gain insights into how the four need areas are conceptualized in various groups (i.e., ethnically diverse, clinical, employed, unemployed), the types of items that could more effectively tape these areas, and other need areas that should be included in future versions of the MNA-3 (Miller).

One construct under consideration for inclusion in a future study is freedom. Although Miller's (2005) thesis included this construct, the items did not prove to be

discrete enough to load on a single factor. Despite the failure to emerge as a separate factor, a review of the organizational and clinical literature suggests this construct warrants further consideration. Sauter, Hurrell, and Cooper (1990) noted lack of freedom in the workplace is one of the most significant contributors to workers psychological distress. Similarly, other studies determined providing employees freedom in the way they create their work environment and complete tasks, results in lower rates of depression and anxiety (Mullarkey et al., 1997), higher life and work satisfaction (Fletcher & Jones, 1993), improved job performance (Greenberger, Strasser, Cummins, & Dunham, 1989), increased engagement and motivation at work, and lower rates of absenteeism, emotional distress, and physical complaints (Spector, 1986). Freedom has also been linked to a greater sense of meaning (Hacker, 1985), high rates of job satisfaction and engagement and low rates of psychological distress (Brief, Munro, & Aldag, 1976; Karasek, 1990; Landy et al., 1994; Zhao et al., 1999). In clinical settings, researchers have found a significant relationship between the lack of freedom and alcohol use (Newcomb, Bentler, and Collins, 1986; Room and Leigh, 1992), drug addiction (Ainslie, 2000 & 2001; Fingarette, 1988; Levy, 2006), and the development of eating disorders (Barber, 1996; Blodgett Salafia, et al., 2009; Bruch, 1973; Dingemans, Spinhoven, & Furth, 2006; Fairburn, et al., 1997; Grolnick & Ryan, 1989; Minuchin, Rosman, & Baker, 1978; Silverberg & Gondoli, 1996; Striegel-Moore, Silberstein, & Rodin, 1986). Based on the results of these studies it appears the inclusion of a new freedom scale could significantly contribute to the understanding of well-being and increase the variance explained by the MNA-3 (Miller, 2008).

Hypothesis two stated that the reliability estimates for the MNA-3 (Miller, 2008) would be fairly consistent and similar to those found in Miller's (2005) thesis. Based on the results, this hypothesis was strongly supported, which means the MNA-3 (Miller) is able to consistently measure psychological well-being across groups and studies. The moderate to high coefficients indicate the MNA-3 (Miller) items are well written and are consistent by subscale and the measure as a whole. However, based on the results of the EFA and lower coefficients on the competence and interpersonal support subscales, there is still room for improvement. Future research should focus on refining items on these scales so they can more effectively discriminate between clinical and non-clinical individuals. These improvements will hopefully lead to an increase in the effect sizes and PDA classification results, which will ultimately make the measure more useful in both clinical and non-clinical settings.

The next three hypotheses addressed the establishment of evidence for the validity of the constructs the MNA-3 (Miller, 2008) is purported to assess. Hypothesis three stated that moderate to high positive correlations were expected between the MNA-3 (Miller, 2008) and the two global measures of well-being (i.e., self-esteem and satisfaction with life), and between the interpersonal support scale of the MNA-3 (Miller) and the scale of perceived social support. Hypothesis four stated discriminant validity would be established through to low to moderate positive correlations between the MNA-3 (Miller) and measure of job satisfaction and ethnic identity. Results indicated hypotheses three and four were strongly supported, indicating the MNA-3 (Miller) is indeed assessing psychological well-being and the social support scale is a valid measure of this construct.

Hypothesis five stated that construct validity would be established through the MNA-3's (Miller) ability to correctly classify at least 76% of participants, and the non-clinical group would score significantly higher than the clinical group on all the MNA-3 (Miller) subscales. The correct classification of 80% of participants demonstrated the MNA-3 (Miller) is better able to determine group membership than its previous version, which indicates this revised version is more effective in determining the relative mental health of individuals who complete it. Regarding the difference in MNA-3 (Miller) scores between clinical and non-clinical participants, the ANOVA's and effect sizes provided further evidence that this measure can discriminate between groups. These results are also similar to Miller's (2005) previous study, which indicates consistency across time. However, the effect sizes for some scales were lower than in the previous study, which suggests although the MNA-3 (Miller) can discriminate more effectively with a more parsimonious scale; the continued refinement of items could increase the effect sizes and further enhance the discriminant ability of this scale.

Hypothesis six stated the non-clinical participants would score significantly higher on all other measures than the clinical individuals with moderate to large effect sizes. Results indicated this hypothesis was only partially supported. Most of the results were in the direction expected and moderate to very large effect sizes were found in the perceived social support, self-esteem, and satisfaction with life scales. However, no differences were found in ethnic identity and supervision, the clinical participants actually scored higher on promotion and work than the non-clinical group, and the smallest effect sizes were found in the job satisfaction scales. The lack of difference in ethnic identity was unexpected given the research cited earlier in this manuscript that

indicated having a strong sense of ethnic identity is a protective factor. However, when considering that the majority of the sample is European American and most people in this group do not have a strong sense of ethnic identity (Alba, 1990; Larkey & Hecht, 1995; Ting-Toomey et al. 2000; Waters, 1990), the lack of difference makes more sense. Previous research supports this lack of difference because many studies have only found weak relationships between ethnic identity and psychological well-being (Cross, 1991; Bates, Trimble & Beauvais, 1997; Trimble 1987 & 2000; Trimble & Mahoney, 2002). Results of these studies suggest either there is not a relationship between the two constructs or there is difficulty in effectively measuring the complex nature of ethnic identity (Root, 2000; Waters, 1990).

The lack of differences in supervision indicates the presence of a clinical diagnosis does not affect an individual's level of satisfaction with their supervisor. This result suggests the ability to be satisfied depends on the quality and personal characteristics of the supervisor, which is supported by research. For example, studies have shown leadership styles directly affects employees' levels of supervisory and job satisfaction (Anderson & Huang, 2005; Ergeneli, Ari, & Metin, 2007; Fernando & Hulse-Killauky, 2005; Richard, Ismail, Bhuian, & Taylor, in press; Ruyter, Wetzels, & Feinberg, 2001; Tepper & Taylor, 2003), engagement at work (Bass, 1990; Bass & Avolio, 1995; Conger, 1999; Richard, et al. in press), sense of self-efficacy (Fernando & Hulse-Killauky, 2005; Tepper & Taylor, 2003), and psychological distress (Kahai, et al., 1997; Mulki, Jaramillo, & Locander, 2006; Yousef, 2000). More specifically, transformational leaders are viewed by employees as being supportive, encouraging, trusting, and fair, which leads to employees experiencing higher rates of self-efficacy, retention, and

satisfaction with their supervisor and job (Bass, 1990; Bass & Avolio, 1995; Conger, 1999; Elkins & Keller, 2003; Gumusluoglu & Ilsev, 2009; Sosik, Kahai, & Avolio, 1998). Similarly, a participatory leadership style has been shown to be related to lower rates of employee distress, higher levels of performance, and greater satisfaction with the supervisory experience (Avolio, Zhu, Koh, & Bhatia, 2004; Bass, 1997; Harris & Ogbonna, 2001; Kahai, Sosik, & Avolio, 1997).

The two job satisfaction scales where the clinical group scored higher than the non-clinical participants were promotion and work. Although these results do not support the original hypothesis, when considering the differences between a career path and a job, the higher scores in the clinical group make more sense. Many clinical participants are required to obtain a job as a part of their treatment plan and thus might have had a more positive view of their job (i.e., glad to have a job) than the non-clinical individuals who might be expecting more from a career. This same view could be contributing to the clinical participants perspectives on promotions. It is possible they would not expect or be necessarily considering promoting at a job they view as temporary (i.e., not a career path), since they might see it as a means to an end. On the other hand, for individuals in a career often the only way to obtain a significant raise or gain prestige is to obtain a promotion. Thus, if the opportunities or processes of promotion fall short of their expectations, they are much less likely to be satisfied in their job.

The final hypothesis stated dispatchers would score the lowest on all measures, which was not supported. This outcome might have occurred because the individuals who chose to participate (N= 17) were very different than those who did not. Insight into this possible difference is found in the research on survey non-response. Individuals who do

not participate in organizational surveys tend to make this choice because they are dissatisfied with the organization, less satisfied with their jobs and supervisors, do not trust the researcher and/or organization, are experiencing psychological distress, do not believe the organization will utilize the results from the survey, and/or fear retaliation from management (Porter, 2004; Rogelberg et al. 2003; Rogelberg, Luong, Sederburg, & Cristol, 2000; Rogelberg & Stanton, 2007). Thus, it is possible the individuals who participated in the survey were more satisfied with their jobs and not experiencing significant distress and those who were unsatisfied and distressed chose not to participate. Continued research with dispatchers seems important given the very limited sample obtained in the current study. A qualitative approach could provide the researcher with a richer understanding of the reasons for distress in this population and allow for the development of specific interventions to address their concerns. Also, given the issues of survey non-response it will be important for the researcher to develop on-going relationships with the agencies and individuals she is interested in having participate in her future projects in order to increase her trust and credibility and therefore increase survey response. Obtaining a larger sample will provide a more accurate representation of each organizations strengths and weaknesses and increase external validity.

Strengths & Limitations

Strengths of the current study include sample size (over 1,500), regional diversity, and the psychometric properties of the MNA-3 (Miller, 2008). The large samples gathered in two states from clinical, non-clinical, and the law enforcement community provides more opportunities to generalize the results to similar populations. The reliability and validity of the MNA-3 (Miller, 2008) across studies and populations

indicates it is a promising measure of psychological well-being that can effectively be used in both clinical and non-clinical settings. Being able to effectively discriminate between clinical and non-clinical populations will allow the measure to be used in treatment settings as a foundation for the development of new interventions, and in non-clinical settings in a prevention format to detect mental health concerns early and intervene before employees are experiencing significant distress.

Limitations of this study include a lack of ethnic diversity, limited sample of dispatchers, and the uncertainty of measurement invariance of the MNA-3 (Miller, 2008). Inability to recruit ethnically diverse individuals has been a limitation in both of Miller's studies, which reduces the generalizability of the results and leaves the structure of well-being in ethnic minority groups unknown. A second limitation is the small sample of dispatchers obtained for this study. As with ethnic minorities, this was a population of interest and the small sample size hinders external validity and does not allow for a comprehensive view of job stress and its consequences in this population. Finally, although the factor analyses conducted suggest the structure of the MNA-3 (Miller) is similar across groups, without a test of measurement invariance its consistency is uncertain.

Implications for clinical sites

The first implication this study has for clinical settings is in the area of assessment. The majority of psychological instruments assist clinicians in diagnosing clients, but few provide insights into the origins of clients' distress. By taking this approach therapists might understand how to classify their client's problems, but are not provided with a starting point for therapy. The inability to go beyond a diagnosis is a significant weakness

of current assessment measures because clients can manifest symptoms (e.g., alcoholism, depression, anxiety, eating disorders) for a variety of reasons, and unless the underlying factors are understood, treatment is not as likely to be effective in the long-term. The MNA-3 (Miller, 2008) can fill this void because it can shed light on the underlying deficits clients are experiencing and by doing so provide a framework for treatment planning. As an example, the current study's results indicated individuals in clinical settings experienced lower levels of need fulfillment than those in non-clinical settings, thus, addressing all four need areas (meaning, coping skills, interpersonal support, and competence) should become a specific focus in treatment. The current study also suggests a particular focus should be placed on coping skills since this scale had the largest effect size. This finding is not surprising given the research on the significant lack of coping skills in both substance abuse (Carroll et al., 1994; Marlatt & George, 1984; Monti, Kadden, & Rohsenow, 2002; Monti et al., 1997; Rohsenow et al., 2000) and eating disorder (Ball & Lee, 2000; Blaase & Elklit, 2001; Ghaderi & Scott, 2000; Shatford & Evans, 1986; Soukup, Beiler, & Eteerll, 1990; Troop et al., 1994; Yager, Rorty, & Rossotto, 1995) populations.

Although many treatment centers suggested they currently address the four need areas in therapy, none of the sites included in this study had specific psychoeducational classes or group time devoted to these areas. Given the complexity of client problems in treatment centers, it is not likely these issues will get directly addressed unless specific life skills curriculums are created, which is an approach advocated by other researchers (Ball & Lee; Blaase & Elklit; Ghaderi & Scott; Marlatt & George; Monti et al.). If previous research is correct in that lower levels of need fulfillment lead to manifestations

of psychological distress, it is logical to conclude directly addressing these areas should ameliorate if not eliminate symptoms of distress. In order to assess the effectiveness of these treatment curriculums they will need to be tested against the current interventions in order to determine if they are more effective in reducing symptoms and addressing underlying causes of pathology. As a part of this process, clients should be given the MNA-3 (Miller, 2008) along with other symptom inventories at regular intervals in order to track changes over time. As with measurement development, these curriculums will require continued refinement over time as they are tested on various clinical disorders and ethnically diverse individuals.

Another way the current project can influence treatment is through its strengths based focus. Although the MNA-3 (Miller, 2008) can identify areas clients struggle, it was developed from a strengths based approach and as a result can also identify areas of resilience. Utilizing strengths in therapy has been supported by other researchers who indicate this type of approach creates a sense of empowerment, increases satisfaction with life and self-esteem, and enhances treatment outcome (Bergin & Garfield, 1994; Bowman, 2006; Fleming, 1992; Miller, Duncan, & Hubble, 1997; Miller & Rollnick, 1991; Mohatt et al., 2004; Rapp et al., 1993; Seligman, 1991; Sharry, 2004; Smith, 2006; Williams & Ellison, 1996). Thus, using the MNA-3 (Miller) to identify clients' strengths will provide insight into areas they are functioning well and provide opportunities for these areas to be more fully developed, which will serve as a foundation for change.

Implications for non-clinical sites

As in the clinical settings, the MNA-3 (Miller, 2008) can be used as a tool to understand the strengths and weaknesses of individuals in organizational settings and lay

the foundation for targeted interventions to be developed to improve well-being. The benefits of having a sense of meaning, competence, social support, and coping skills have been consistently documented in the organizational literature. Social support has been noted to reduce stress and increase job satisfaction (Kahn & Byosiere, 1990; Landy, Quick, & Kasl, 1994; Seers, MchGee, Serey, & Graen, 1983), lack of coping skills has been linked to increased stress and the development of depression (Balshem, 1998, Kirmeyer & Dougherty, 1988; Repetti, 1993), while the presence of coping skills mediates stressors and improves job satisfaction (Kirkaldy, & Brown, 1994), and having a sense of meaning and competence at work have been linked to increased job satisfaction, psychological health, engagement, and productivity (Harter, Schmidt, & Keyes, 2002; Spector, 1997. Since the MNA-3 (Miller, 2008) can determine individuals relative psychological health, it could be used as a preventative tool to identity and intervene in the early stages of employee distress.

Even though an improvement in psychological well-being can lead to an increased level of job satisfaction, it is clear from the current study these constructs are not the same. Thus different interventions would be needed to directly address job satisfaction concerns. One way to gain a more in-depth understanding of job satisfaction and how it can be improved would be to use a qualitative approach. These studies could explore employees' perceptions about the work environment (i.e., strengths, weaknesses, supervisors, administration, pay, promotion, evaluations, freedom, resources, and equipment) and inquire about changes that would improve both satisfaction and work and well-being. Results from this type of study would enable the researcher to provide specific feedback to the organization about it strengths, weaknesses, and allow for

targeted interventions to be developed to address the growth areas. A qualitative approach could also allow for the comparison across sites, which could lead to effective prevention program development.

Additional directions for future research

One of the major limitations of this study was the lack of ethnic diversity. Therefore, future projects should seek more ethnically diverse organizations and clinical settings that serve larger ethnic minority populations. Gathering data from these populations will help to determine the relevance these constructs have across cultures and provide additional opportunities to test for measurement invariance.

In addition to examining the MNA-3's (Miller, 2008) effectiveness across cultures, it is also important to test its effectiveness with other clinical populations. One disorder of particular interest is depression because of its high comorbidity rate with both substance abuse and eating disorders, and the link found between this disorder and need fulfillment. Price, Choi, and Vinokur (2002) found lack of freedom and meaning were all highly related to symptoms of depression and Ryff and Singer (1998) concluded lacking in sense of purpose, social support, and competence led to manifestations of depressive symptomology. In addition, the development and maintenance of depression symptoms has been linked consistently with lack of meaning in life (Battista & Almond, 1973; Baumeister, 1991; Davis, Wortman, Lehman, & Silver, 2000; Reker, Peacock, & Wong, 1987; Wong & Fry, 1998; Zika & Chamberlain, 1992), reduced competence (Jenkins, Goodness & Buhrmester, 2002; Prelow, Weaver, & Swenson, 2006; Tram & Cole, 2000; Williams & Galliher, 2006), inadequate social support (Bell-Dolan, Reaven & Peterson, 1993; Coyne, 1976; Joiner, 1997; Katz & Beach, 1997; Monroe, 1983; Murphy, 1982;

Phifer & Murrell, 1986; Windle, 1992), and poor coping skills (Allart-van Dam, Hosman, Hoogduin, & Schapp, 2007; Holahan & Moos, 1991; Moos, 1993; Rychtarik & McGillicuddy; 2006; Sandler, Tein, Mehta, Wolchik & Ayers, 2000; Sung, Puskar, & Sereika, 2006; Wong, 2008).

The current study also provides support for an exploration of the link between lack of need fulfillment and depression. Of the non-clinical participants who reported prior distress (N =191), 41% reported experiencing depression, and of those who reported current distress (N = 122), 43% reported experiencing depression. In the clinical group, 47% of individuals stated depression was either a primary or secondary reason for treatment. Based on these findings and the research cited earlier, it appears deficits in need fulfillment might be contributing to the manifestations of both addiction and depression symptoms. Additional research will shed light on this hypothesis and hopefully lead to a better understanding of both of these disorders, which could lead to the development of more effective interventions.

CHAPTER V

Study II Literature Review

History of mental health problems in American Indians

The origin of addiction in the American Indian community has traditionally focused on myths (e.g., firewater) that originate from European colonizers (Davis, 1994; May, 1994; White, 2004). These myths suggest Indians have biological deficits (e.g., insatiable appetite and hypersensitivity to alcohol) that predispose them to addiction. These myths also enabled the colonizers to view Indians as an inferior race (Brave Heart & DeBruyn, 1998; Davis; Hoxie, 1989), which provided them a source of justification for their domination and attempted "civilization" of this population (Coyhis & White, 2002). Although research has not supported these myths (e.g., Coyhis & White; May, 1994), their perpetuation by the majority culture fosters stereotypes and racism and is a continuing example of how American Indians continue to be oppressed and viewed as "less than" the European American culture (Dillard & Manson, 2000; Mihesuah, 1999; Smith, 1999). In addition, this oppression and stereotyping of American Indians continues the tradition of historical racism and trauma which many researchers believe to be the underlying cause of mental health problems in this culture (Beauvais, 1998; Belcourt-Dittloff, & Stewart, 2000; Berreman, 1964; Brave Heart, 2003; Brave Heart, 2004; Brave Heart & DeBruyn, 1998; Browne & Fiske, 2001; Deloria, 1970; Duran, 2006; Duran & Duran, 1985; French, 1990; Hall, 1986; Jones-Saumty, Thomas, Phillips, Tivis, & Nixon, 2003; Juntunen & Morin, 2004; Krech, 2002; McCormick, 2000; Robin,

Chester, Goldman, 1996; Swinomish Tribal Mental Health Project, 2002; Topper, 1974; Walters & Simoni, 2002; Whitbeck, Chen, Hoyt, & Adams, 2004). Historical racism and trauma refer to the experiences of American Indians as a result of the near total annihilation of their culture by European colonization. As a result of the extensive loss of life, land, and cultural traditions, American Indians continue to experience chronic trauma and unresolved grief which is reflected in the manifestations of psychological distress (e.g., suicide, addiction, and depression) that continue to persist in the American Indian community (Beals, Manson, Keane, & Dick, 1991; Belcourt-Dittloff & Stewart; Curyto et al., 1998; Dalrymple, O'Doherty, & Nietschei, 1995; Dillard & Manson; Duran, 2006; Duran & Duran, 1985; Graham, 2002; Manson, Bechtold, Novins, & Beals, 1997; Manson, & Brenneman, 1995; Manson, Walker, & Kivlahan, 1987; Provan, & Carson, 2000).

Despite experiencing a significant amount of psychological distress and historical trauma, American Indians are among the least likely to seek out and complete mental health treatment (Barcus, 2003; Duran et al., 2005; Fleming, Beauvais, & Jumper-Thruman, 1996; McCormick, 2000; Trimble, 1996). Sontag and Schauht (1993) suggest that a paucity of clinical services available to American Indians compounded with a lack of culturally competent mental health providers are two of the barriers that keep American Indians from seeking treatment. Another reported barrier to seeking treatment is the lack of trust American Indians have in treatment providers (Barcus, 2003; Dana, 2000; Dillard & Manson, 2000; Duran & Duran, 1985; French, 2004; Heilbron & Guttman, 2000; Jones-Saumty et al., 2003; Lafromboise, Trimble & Mohatt, 1990; Lee, 1997; Lockhart, 1981; McShane, 1987; Swinomish Tribal Mental Health Project, 2002).

This lack of trust originates from the historical racism and discrimination American Indians experienced and continue to face from the government and governmental agencies (Dana; Deloria, 1970; Garrett, 2004; Garrett & Carroll, 2002; Johnson & Cameron, 2001; Jones-Saumty et al.; Juntunen, & Morin, 2004; Lafromboise et al.; Waller & Patterson, 2002).

A final barrier discussed in the literature is the focus on "western" treatment rather than traditional American Indian healing practices (Abbott, 1998; Atteneave, 1969; Brave Heart & DeBruyn, 1998; Duran, 2006; Duran & Duran, 1985; Heilbron & Guttman, 2000; La Fromboise et al., 1990; Manson et al., 1987; Red Horse, 1980; Shaffer, 1990; Waller & Patterson, 2002). Research has demonstrated that the westernized approach perpetuates the historical trauma the American Indian culture experiences and thus remains ineffective for this population (Duran & Duran, 1985; Fisher & Ball, 2003; Hall, 2001; Herring, 1989; Gone, 2004ab & 2006; Graham, 2002; Jilek, 1994; Jones-Saumty, 2002; LaFromboise, 1988; McCormick, 2000; Wronka, 1993). Treatment providers and centers that utilize the American Indian cultural traditions as the central focus of treatment not only have the best retention rates, but also the most long-term success (e.g., higher long-term sobriety rates) (Abbott; Buchwald, Beals, & Manson, 2000; Coyhis & White, 2002; Duran & Duran, 1985; Garrett & Carroll, 2002; Jilek, 1978; Jilek, 1994; Landers, 1989; Lowery & Weaver, 1999; Marbella, Harris, Diehr, Ignace, Ignace, 1998; May, 1986; Spicer, 2001; Shaffer, 1990). Therefore, in order for any intervention to be successful with the American Indian community, the focus must be on utilizing and valuing their traditional cultural practices (Anderson, 1992; Beauchamp, 1997; Coyhis & White; Dana, 1986; Dufrene & Coleman, 1994; Duran & Duran, 1985; Fisher & Ball;

French, 1990; Garrett & Herring, 2001; Gone, 2004ab & 2006; Hall, 1986 & 2001; Herring, 2004; Jilek, 1978; Juntunen & Morin, 2004; Krech, 2002; Landers; Malone, 2000; Manson et al., 1997; May; McShane, 1987; Rogler, 1989; Solomon, 1992; Spicer; Shaffer; Swinomish Tribal Mental Health Project, 2002; Trimble, Fleming, Beauvais, & Jumper-Thurman, 1996; Weaver, 2002; Woods, Blaine, & Francisco, 2002). This approach will not only reduce the symptoms these clients are experiencing but also directly address what many researchers believe are the underlying causes (e.g., historical racism and trauma) of mental health disorders in this population (Beauvais, 1998; Belcourt-Dittloff, & Stewart, 2000; Berreman, 1964; Brave Heart, 2003; Brave Heart, 2004; Brave Heart & DeBruyn, 1998; Browne & Fiske, 2001; Deloria, 1970; Duran, 2006; Duran & Duran, 1985; French, 1990; Hall, 1986; Jones-Saumty et al., 2003; Juntunen & Morin, 2004; Krech, 2002; McCormick, 2000; Robin et al., 1996; Swinomish Tribal Mental Health Project, 2002; Topper, 1974; Walters & Simoni, 2002; Whitbeck et al., 2004).

One possible hypothesis for the success of traditional healing practices with American Indians is due to its strength-based approach to mental health treatment. Strength-based approaches have been found to be more effective than deficit based models (Bergin & Garfield, 1994; Bowman, 2006; Fleming, 1992; Miller, Duncan, & Hubble, 1997; Miller & Rollnick, 1991; Mohatt et al., 2004; Rapp et al., 1993; Seligman, 1991; Sharry, 2004; Smith, 2006; Williams & Ellison, 1996). One reason this model is more effective is because it focuses on empowerment and uses client strengths to serve as a foundation for change (Fleming; Sharry). Another reason this approach might increase success with American Indians is because it does not view the European American

culture as the norm. The strength-based approach has as one of its basic tenants that each cultural group has its own strengths, which originate from the client's cultural background (Smith, 2006). By tapping into these strengths clients are validated and understood within their own cultural context, rather than being compared to cultures with different values (Smith). A final reason this approach leads to higher success rates in the American Indian population is because it fosters the empowerment of the American Indian community and promotes resiliency and adaptive coping rather than perpetuating an illness stereotype (Bowen, 2005; Bowman, 2006; Malone, 2000; Mohatt et al.; Sexton, Starr, & Fawcett, 2005; Voss, Douville, Solider, & Twiss, 1999; Williams & Ellison, 1996).

In addition to taking a strengths-based approach to therapy, it also is critical that culturally sensitive assessment measures are developed for use with the American Indian population (Allen, 1998 & 2002; Beauvais & Trimble, 1992; Dana, 1986 & 2000; Dillard & Manson, 2000; Draguns, 2006; Flores & Obasi, 2003; Gone, 2006; Hall, 2001; Juntunen & Morin, 2004; Manson et al., 1987; McShane, 1987; Mohatt et al., 2004; O'Nell, 1989; Pollack & Shore, 1980; Sodowsky, 1996; Swinomish Tribal Mental Health Project, 2002; Weaver, 1997). The use of instruments with American Indians or other diverse groups that have only been normed on European Americans reduces the effectiveness of these scales in predicting mental health issues, and has contributed to the continued trauma American Indians have experienced by being viewed negatively when compared to the majority culture (Allen, 1998; Barcus, 2003; Beauvais & Trimble; Dana; Dillard & Manson; Draguns; Flores & Obasi; Hall; Hobfoll, Jackson, Hobfoll, Mohatt et al.; Pierce, & Young, 2002; Juntunen & Morin, 2004; Santiago-Rivera, , Morse, Hunt, &

Lickers, 1998; Sodowksy; Suzuki & Kugler, 1995; Trimble, 1977; Weaver, 1997). Because there are few psychological measures with normative data on American Indians, one purpose of this project is to conduct a cross-cultural validation of the MNA-2 (Miller, 2005) with an American Indian population.

The utility of the MNA-2 (Miller, 2005) with an American Indian sample shows promise because it is a strength-based measure that appears to reflect American Indian cultural values. For example, two of the subscales (positive interpersonal relations and interpersonal support) assess the extent to which individual have supportive relationships with others. These constructs are consistent with the collectivistic and interdependent nature of the American Indian culture. Indeed, close supportive relationships have been cited as protective factors from mental health disorders and critical factors needed for the recovery from these disorders (Abbott, 1998; Garrett, 2004; Garrett & Carroll, 2000; Garrett, Garrett, & Brotherton, 2001; Garrett & Herring, 2001; Garrity, 2000; Cohen, 1998; Juntunen & Morin, 2004; Kirmayer, Brass, & Tait, 2000; Krech, 2002; Kunitz & Levey, 1994; Lowery, 1998; Manson et al., 1987; Mattern, 1999; McCormick, 2000; Mohatt et al., 2004; Quintero, 2000; Spicer, 2001; Waller & Patterson, 2002; Westermeyer & Peake, 1983; Willging, 2002; Woods et al., 2002). Another subscale (Meaning) assesses the presence of meaning in ones life. The American Indian culture emphasizes the importance of having a sense of meaning in life and research has indicated that the presence of meaning can serve as a protective factor for American Indians, while its absence leads to manifestation of psychological distress (Duran, 2006; Garrett; Garrett & Carroll; Garrett, et al., 2001; Garrett & Herring; Garrett & Myers, 1996; Garrity; Kirmayer et al.; Krech; Lowery; Mohatt et al.; McCormick; Spicer;

Westermeyer & Peake; Swinomish Tribal Mental Health Project, 2002; Waller & Patterson). The competence subscale assesses the extent to which individuals feel they have skills. This subscale is consistent with the American Indian cultural values of possessing skills that will not only contribute to one's purpose in life but also serve as a way to give back to the community at large (Garrett & Carroll; Hobfoll et al., 2002; Waller & Patterson). In fact, having a sense of competence has been linked to successful treatment outcomes and been shown to be a protective factor for American Indians against the development of mental health disorders (Garrett & Carroll; Mohatt et al.; Quintero; Spicer; Westermeyer & Peake). Finally, the ability to adapt subscale assesses the coping resources individuals possess. Research has demonstrated that engaging in ceremonies and other traditional practices assists American Indians in coping more effectively with the stressors and trauma they have experienced, and helps them connect more to their culture and community at large, which in itself is viewed as an effective coping strategy (Garrett & Carroll; Garrity, 2000; Lowery, 1998; Mattern, 1999). Based on this research it appears that the MNA-2 (Miller, 2005) could be an instrument that has utility with the American Indian population because of its focus on strengths and apparent consistency with Indian cultural traditions. However, the true utility of this measure will not be known until the researcher conducts both a pilot study with elders in this community and a larger scale study with American Indians.

In addition to using the MNA-2 (Miller, 2005) to highlight the strengths of American Indians, there is another important factor that needs to be assessed when working with American Indians. As noted earlier, assessing ethnic identity is critical when working with minority groups, because it can have a strong influence on

psychological well-being and measurement of other constructs (Okazaki & Sue, 1995). Without assessing this construct, researchers will be limited in their understanding of the relevance of scores and reasons for differences within and between ethnic groups (Allen, 1998; Alvidrez, Azocart, & Miranda, 1996; Hall, 2001). As with African Americans, ethnic identity has been shown to play a large role in American Indians psychological well-being (Garrett & Herring, 2001). Research suggests that American Indians with a bicultural identity (e.g., European American and Indian) are less likely to abuse substances, whereas Indians who do not identify strongly with either Indian or European American ethnic groups are the most likely to abuse substances (LaFromboise, Coleman, & Gerton, 1993; May, 1982, 1986, Schinke et al., 1986). Other authors concluded having a strong sense of Indian or bicultural identity protects against substance use (Herring, 1994; Kulis, Napoli, & Marsiglia, 2002; Moran, Fleming, Somervell, & Manson, 1999; Oetting & Beauvais, 1991), other forms of psychological distress, and increases self-esteem and relatedness (Broderick, 1991; Kulis et al.; Mitchell-Enos, 1998; Weaver, 1996).

Research Questions

1) What changes will be needed in order for the MNA-2 (Miller, 2005) to be culturally appropriate to be used with Native people?

2) Which of the other measures will be deemed to be culturally sensitive for use with a larger sample of Native individuals?

CHAPTER VI

Study II Methods & Analyses

Pilot Testing

There has been a long history of research with American Indians and the majority of it has not been conducted as a collaborative relationship with this culture. The lack of collaboration and tribal input has led to negative portrayals of Indians, reduced tribal interest in research projects, and left American Indians feeling exploited by the majority culture (Allen, 1998; Baldwin, 1999; Beauvais, 1999; Beauvais & Trimble, 1992; Fisher & Ball, 2003; Fleming, 1992; Gone, 2004b; Hall, 2001; Mohatt et al., 2004; Norton & Manson, 1996; Santiago-Rivera, et al., 1998; Smith, 1999; Trimble, 1977; Weaver, 1997). Because of the damage that has been done to American Indians, researchers have to be aware of the history of this culture's trauma and how past research has contributed to the on-going trauma Native people experience. In addition, because of the history of exploitation and abuse American Indians have faced at the hands of the majority culture, researchers must be aware of the issues of trust that exist and understand that developing relationships in this community take a great deal of time (Baldwin; Beauvais; Beauvais & Trimble; Fisher & Ball; Gone, 2004b; Mohatt et al.; Norton & Manson; Trimble; Santiago-Rivera, et al.; Weaver). Because of this history, any new research conducted with this culture needs to be "tribal participatory" (e.g., Fischer & Ball, 2003). This involves collaboration with the tribe in all aspects of the research and making explicit the direct benefits that exist for the tribe (Baldwin; Beauvais; Beauvais & Trimble; Gone,

2004ab & 2006; Mohatt et al.; Norton & Manson; Rogler, 1989; Santiago-Rivera et al.; Smith; Weaver). By creating a collaborative relationship, the tribal community can have ownership of not only the process but any changes brought about because of the research (Beauvais & Trimble).

As a first step in developing a relationship with the American Indian community and building a collaborative relationship, a pilot study was conducted with American Indian elders because researchers have suggested this is the best way to gain an understanding of tribal values, appropriateness of measures, and research design (Allen, 1998 & 2002; Baldwin, 1999; Beauvais & Trimble, 1992; Dana, 1986; Fisher & Ball, 2003; Gone, 2004b & 2006; Hall, 2001; Mohatt et al.; Norton & Manson, 1996; O'Nell, 1989; Santiago-Rivera, et al., 1998; Smith, 1999; Stubben, 2001; Trimble, 1977; Vega, 1992; Weaver, 1997; Whitbeck, Adams, Hoyt, & Chen, 2004). Five elders from various tribes from the United States and Canada were recruited to participate in the pilot study. These individuals were asked to provide feedback on the MNA-2 (Miller, 2005) item content and phrasing, determine if the items are truly reflective of American Indian values, and if any deletions or additions are necessary to make this measure culturally appropriate. During the pilot study the researcher also asked the elders to review and provide feedback about the appropriateness of the other measures the researcher hopes to include in a larger study in the future since many of these measures have not been normed on American Indians. Finally, the elders were asked to review the qualitative job satisfaction questions and the consent form, and provide feedback about their content and phrasing. The elders were compensated $45.00 for their participation in the pilot study; a

figure that was based on what other researchers have mentioned was appropriate (Gone, 2004ab; Norton & Manson; Whitbeck et al).

Participants

Participants were five individuals from diverse tribes (i.e., Blackfoot, Flathead, Shoshone/Metis, Pawnee, and Blackfeet) who were identified as elders by members of their tribal community and/or recognized as elders on a national level. Their life experiences involved both reservation and urban experiences and many held terminal degrees in their respective field. All participants remain actively involved in traditional Native practices and continue to serve the Native community in a variety of ways (i.e., advocacy, mentoring, ceremony, research, teaching).

Procedure for pilot study

Individuals who agreed to participate completed and signed a statement of informed consent prior to participating in the pilot study. Participants were informed that they could withdraw from the study at any time, could leave any question blank, and did not have to participate in the discussion portion of the pilot study.

Once individuals choose to participate they were asked to complete a list of questions (Appendix L) about the MNA-2 (Miller, 2005), qualitative job satisfaction questions, and the other measures listed below, and then asked to share their feedback in a group setting. During this discussion the researcher took general notes (including all feedback on each measure together to avoid any one participant's feedback being identified) and did not use any recording device. Once the participants completed the questionnaires and participated in the focus group (if they chose to do so), or decided

they no longer wished to participate, they were be instructed to place their questionnaires in an envelope before returning it to the researcher.

Other instruments evaluated for use in future studies with Native participants

The Satisfaction with Life Scale (SWLS) (Diener, Emmons, Larsen, & Griffin, 1985) was chosen because it assesses life satisfaction, which has been shown to be related to other measures of psychological well-being. The SWLS (Diener et al.) is a five item measure containing statements that individuals rate on a seven-point Likert-type scale ranging from 1-strongly disagree to 7-strongly agree. The SWLS (Diener et al.) was normed on a sample of college students and found to have good reliability (α=.87, test retest r=.82). Since this normative data was collected, the SWLS has been used frequently in research and has consistently demonstrated high internal consistency coefficients with a variety of samples: French-Canadian college students (α=.84) and French-Canadian older adults (α=.82) (Blais, Vallerand, Pelletier, & Briere, 1989), medical outpatients in the Netherlands (α=.87) (Arrindell, Meeusesen, & Huyse, 1991), older adults in America (α=.83) and American college students (α=.85) (Pavot, Diener, Colvin, & Sandvik, 1993), African American adults (α=.81) (Zimmerman, Salem, & Maton, 1995), (α=.82) (Utsey, Ponterotto, Reynolds, & Cancelli, 2000), and British college students (α=.92) (Shevlin, Brunsden, & Miles, 1998). The Satisfaction with Life Scale (SWLS) (Diener et al.) has also been found to have strong positive correlations with a number of measure of satisfaction and happiness (e.g., Life Satisfaction Index (LSI) r = .65 (Adams, 1969), Philadelphia Geriatric Center Morale Scale r = .81 (Lawton, 1975) (Pavot et al.) and strong negative correlations with measures of distress (e.g., Beck Depression Inventory r = -.72 (Beck et al., 1961), Symptom Checklist-90 (Derogatis,

1977) r = -.55 (Pavot & Diener, 1993). Finally, the SWLS (Diener et al.) has demonstrated a consistent single factor structure across studies that accounts for 66-77% of the variance (Arrindell et al.; Blais et al.; Diener et al.; Pavot et al.).

The Job Descriptive Index (JDI) (Smith, Kendall, & Hulin, 1969) measures five aspects of satisfaction on the job (the work in general, pay, opportunities for advancement, supervisors, and co-worker relationships) by asking individuals to respond to a set of 72 statements about the five areas listed above. Individuals respond "Y" if the statement describes their job, "N" if the statement does not describe their job, and "?" if they are unsure. The JDI (Smith et al.) has a fourth grade reading level and has demonstrated good psychometric properties across studies. In the original sample Smith et al. obtained a split half reliability coefficient of .79 with a sample of undergraduates, and .80 with a sample of factory workers. Blau (1994) obtained an alpha coefficient of .82 with a sample of pharmaceutical workers, while Brief and Roberson (1989) obtained an alpha of .92 with a sample of adult students who were working part-time. The most recent internal consistency coefficients available from the 1997 JDI manual (Balzer, et al) are provided by subscale: work in general (α=.90), pay (α=.86), opportunities for advancement (α=.87), supervisors (α=.91), co-workers (α=.91). Concurrent validity of the JDI has been established through the strong positive correlations it has with other measures of job satisfaction (e.g., Minnesota Satisfaction Questionnaire (MSQ) (r= .76) (Weiss, Dawis, England, & Lofquist, 1967), FACES .71 (Dunham & Herman, 1975)) and a five factor structure has been found consistently across studies (Smith et al.).

The Rosenberg Self-Esteem Scale (ROSES) (Rosenberg, 1965) is a ten-item (five negatively phrase and five positively phrased) measure that assesses global self-esteem. Individuals respond on a four-point Likert-type scale ranging from strongly agree to strongly disagree. The ROSES (Rosenberg) has been widely used as a measure of self-esteem in numerous populations (e.g., crack cocaine users [Wang, Siegal, Falck, & Carlson, 2001], adolescent and adult samples (α =.88) [Whiteside-Mansell & Corwyn, 2003] eating disordered patients [Giffiths et al., 1999; Telch & Agras, 1994], college students [Shevlin, Bunting, & Lewis, 1995; Thompson & Thompson, 1986], American Indian adolescents (α =.79) [Mitchell & Beals, 1997], American Indian undergraduates (α =.88) [McDaniel & Grice, 2005], American Indian adults [California Endowment's Mental Health Initiative, 2006; Twenge & Crocker, 2002], African American adults (α =.82) [Ponterotto et al., 2000], (α =.85) [Caldwell, Brownell, & Wilfley, 1997], and an ethnically diverse (i.e., American Indian, African American, Euro American, and Latino) sample of adolescents (α =.85) [Martinez & Dukes, 1997]. Factor analytic studies support a single factor structure (Corwyn, 2000; Shevlin, Bunting, & Lewis; Wang et al.) and negative correlations have been found between the ROSES and body distortion, eating disorders (Griffiths et al.; Telch & Agras; Thompson & Thompson), depression (Intili & Nier, 1998), substance abuse, and other psychiatric disorders (Silverstone & Salsali, 2003).

The Perceived Social Support scale (Friends) (PSS-Fr) (Procidano & Heller, 1983) is a 20-item scale that consists of statements that individual's respond either "Yes" if they agree with the statement, "No" if they do not, and "Don't Know" if they are unsure. For each "Yes" individuals are given one point, with total scores ranging from 0-20, with

higher scores indicating more perceived social support. The PSS-Fr (Procidano & Heller) was normed on a sample of undergraduates (α = .88), had a single factor structure, was negatively related to symptoms of psychological distress (r= -.27), negative events (r= -.17), and lack of self-confidence (r= -.43), positively related to social presence (r= .51), and unrelated to social desirability (Procidano & Heller). Since the normative data was collected the PSS-Fr has been used with Australian adolescents (α = .80) (Gerner & Wilson, 2005), college students with subclinical eating disorders (α = .84) (Holt & Espelage, 2002), adult children of alcoholics (Ohannessian & Hesselbrock, 1993), and psychiatric (α = .92), diabetic (α = .84), and non-clinical college samples (α = .88) (Lyons, Perrotta, & Hancher-Kvam, 1988), (α = .89) (Ognibene & Collins, 1998). Evidence for the validity of the PSS-Fr (Procidano & Heller, 1983) is provided through its significant negative relationship with heavy drinking (Ohannessian & Hesselbrock), and being a significant predictor of both body attitudes (Gerner & Wilson) and eating disorders (Holt & Espelage).

Moran, Fleming, Somervell, and Manson's (1999) bicultural measure of ethnic identity is being included in this study because it assesses several dimensions of both White and Indian identity (individual and family's "way of life", and success in that way of life, language spoken, and religious/spiritual beliefs). This measure contains 6 items that are rated on a 4-point Likert-type scale ranging from 1-not at all important to 4-very important. The normative sample included 1,592 American Indian high school students living on reservations. Factor analysis indicated a two factor model (Indian and White) with reliabilities being estimated at α =. 91 (Indian) and α =.92 (White) respectively. Construct validity was established through the significant differences between

individual's scores and measures of psychological well-being (e.g., social competence, personal mastery, self-esteem, and social support). Individuals who scored the lowest on both Indian and White identity (marginalized individuals) reported the least amount of psychological well-being, while those scoring the highest on both Indian and White identity (assimilated individuals) reported the most. This measure of ethnic identity was chosen because it was specifically developed for use with the American Indian population and includes the assessment of language, which is particularly important when assessing ethnic identity in American Indians.

Analyses

NVivo7 (QSR International, 2006) was used to conduct a qualitative thematic analysis of the responses to the eight questions (Appendix L) used in the pilot study. A thematic analysis is defined as a "method for identifying, analyzing, and reporting patterns (themes) within data" (Braun & Clarke, 2006, p. 79). This approach allows the researcher to identify consistent patterns of meanings across a data set and provide an organizational structure to this meaning (Braun & Clarke). A theoretical approach was utilized in coding the data because the responses were provided based on a specific set of predetermined questions. In analyzing the question data, themes were identified on a semantic level (i.e., from the explicit meanings of the data), across participants in order to extract the most salient ideas and provide direction for modification of the MNA-2 (Miller, 2005). All participants' data were transcribed into word documents and these documents were imported into NVivo 7 for coding. Codes were created for each question by highlighting specific portions of text that could be related to an overall theme or node. For example a participant's statement that a positive aspect of the measure was that the

items were not pathological and another's that the strength based approach is necessary in working with Native people would both be coded under the general node or theme of "strength based." This process was conducted for each question in order to identify the general themes that would provide the best representation of the data across participants.

CHAPTER VII

Study II Results

Four themes were identified from question one "Are there any questions on the MNA-2 (Miller, 2005) that require modifications or should be deleted? If so, explain?" 'Strength based approach' was the first theme, with all participants agreed that the MNA-2 (Miller) is a strength based measure and also noted that assessing constructs from this approach is critical because traditional psychological measures tend to pathologize Native people. Examples of this theme are evidenced by "I admire you created a strength based measure since these are not often used with Native people" (participant 1) and "Because the measure is strength based it can focus on what is right with our people and not what is wrong. We have needed a measure like this for Native people" (participant 4). Two other participants (5 & 3) suggested the removal of the negatively worded items (i.e., 4, 7, & 37) would enable the measure to be completely strength based ant thus eliminate any suggestion of deficit assessment.

The second theme 'wording of items' emerged from the responses of three participants. This theme focused on the general nature of the items and the quality of the wording and is supported through the following quotes: "All of the items are of high quality, well written and good because they are very general and people can answer based on their own perceptions" (participant 1), "terrific items, all are asking important questions and doing it in a general way to get a person's own experience" (participant 4),

"Items are comprehensive, well-written and provide the person responding to reflect on their own experience" (participant 2).

The third theme 'importance of meaning in life' resulted from three participants stating that having a sense of meaning in life is central to Native mental health. Examples to support this theme are as follows: "The meaning in life scale is very good and a critical construct to assess in Native people because it is central to our mental health" (participant 3), "meaning in life is central to Native spirituality and way of being in the world, everything we do is based on meaning and meaning defines our connections to one another and the earth" (participant 4), "having a purpose in life has always been important to Native people, but this has been more difficult to find in post colonial America, although it is important that we redefine ourselves and regain a sense of purpose" (participant 3).

The final theme 'additional scales' resulted from two participants suggestions to consider adding a community and holistic perspective subscales to the MNA-2 (Miller, 2005). Participant one suggested "adding a scale about community would tap into the collectivistic nature of Native people and a holistic scale would enable you to gain insight into another traditional part of Native culture (how things are related, concepts viewed as a whole)" (participant 3) and "since community is critical to Native culture adding a scale about connection to the community or how people work together could enable you to get at relatedness in a new and perhaps more meaningful way. Also, having some sort of scale that tapped spirituality or having a holistic perspective would tap another strength Native people have as a whole, viewing things as interconnected" (participant 5). Based on the results from the elders, hypothesis one was supported.

Question two "On the qualitative job satisfaction questions, what modifications would you make in order for this measure to be appropriate for use with an American Indian population?" only resulted in the identification of one theme "items." Three participants (1, 3 &5) indicated no changes were needed since the items were well written, however, participant one noted "many Indian people may only give one sentence answers to these questions in order to be direct and to the point." The two other participants suggested the addition of a few items would improve the qualitative measure. Participant four suggested including the question "Do the employment policies of this organization reflect who you are as a Native person?" "because they might need to be asked this type of question directly in order to effectively assess their level of comfort and fit with the organization." Participant two made a similar recommendation "I would add a question like 'what difference does it make if any that you are a Native American and working in this organization?' because it would draw out positives and/or negatives about their experience on the job and the environment in general. I am not sure if your other questions would be able to get at this without directly asking about it."

The analysis of question three "Is the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) appropriate for use with an American Indian population? Why or why not?" resulted in one theme 'measure approval' because all participants agreed it would be appropriate for use with Native individuals. Examples to support this theme are as follows: "looks like a good measure, should work just fine" (participant 1) "seems appropriate to me" (participant 3) and "good measure" (participant 2). However, participant four indicated in addition to using this measure it might also be helpful to ask these questions in a qualitative fashion. "You could ask 'what would you

need to be more satisfied with your life?,' 'what is important to you?,' and 'what would you change about your life if you could?,' which would provide a clearer picture of the persons satisfaction with life."

Question four "Is the Perceived Social Support from Friends Scale (Procidano & Heller, 1983) appropriate for use with an American Indian population? Why or why not?" resulted in the same 'measure approval' theme as question three since there was agreement across all individuals that this measure was appropriate for use with Native people. Example to support this theme are: "this is a good measure because it is simple, common sense, and straight forward" (participant 4), "these items seem good since they are tapping into human nature and everyone feels this way and is in need of social support" (participant 1), and "looks like a good measure" (participant 2).

The analysis of question five "Is the Bicultural Measure of Ethnic Identity (Moran, Fleming, Somervell, & Manson, 1999) appropriate for use with an American Indian population? Why or why not?" resulted in one theme 'measure improvement' because all participants seemed hesitant to use this measure unless modifications could be made. Participant one suggested "you might have difficult with the operationalization of the 'Indian way of life" since some people might be confused by the phrase and not sure what you mean by it. It might be better if items were change to read 'the contemporary way of Indian life' and 'American culture' instead of the 'White way of life' so individuals could better understand what you are getting at." Participant five noted "the measure is okay but not ideal since it would be more important to ask how many traditional Native activities they engage in or how connected they are to their tribe, however, on the other hand many non-traditional people are still very Native, so it might

be better to just not use an identity measure." A final example is provided by participant two "you might want to use a measure that includes all ethnic groups, since many Native people are biracial and might relate in stronger ways to another ethnic group besides White or Native, or you could just say the Native and non-Native way of life instead of listing another ethnic group, which could be less confusing and more inclusive."

The only theme for question six "Is the Job Descriptive Index (JDI) (Smith, Kendall, & Hulin, 1969) appropriate for use with an American Indian population? Why or why not?" was 'measure inclusion.' Three participants (1, 2 & 4) suggested its use because "it appears to be a good measure because it's simple and straightforward" (participant 4) and "it looks fine to me" (participant 2), but the other two individuals disagreed. Participant five noted " I would leave this measure out and just use the qualitative job satisfaction one since you will get richer information" and participant three stated "I do not know how much more this measure would tell you than the qualitative one, so I would just use that one and leave this one out." Thus, there was no unified response about the inclusion of this measure in the larger study.

The theme of 'measure approval' emerged again in question seven "Is the Rosenberg Self-Esteem Scale (Rosenberg, 1965) appropriate for use with an American Indian population? Why or why not?" because all participants agreed that this measure seemed appropriate for use with Native people. Examples of this support included: "looks like a good measure, simple, common sense, straight forward" (participant 4) and "this is another good measure to use since its broad and general" (participant 1). Based on the responses from the elders about the appropriateness of including the other measures in the larger study, hypothesis two was supported. The only two measures where there was

not consensus for inclusion were the ethnic identity and quantitative job satisfaction measures.

Question eight "Do you have any other feedback the researcher regarding this project?" resulted in one theme of 'continued research.' Only three participants responded to this question and all comments addressed continuing the pilot research to include elders from a few more tribes and with more varied backgrounds. Participant three noted "it would be helpful to conduct a focus group with non-academic individuals from both reservations and urban areas to get their thoughts on these questions, which could also assist you in truly 'Indianizing' your measure." Participant four stated "talking with elders has long been important in the Indian community, so I encourage you to have a few more conversations with elders from other tribes in order to see how similar or dissimilar their comments are to ours." Finally, participant five mentioned "as you continue to talk with other Indian people, make sure they have diverse levels of education so you can determine if your items are at an appropriate reading level and interview individuals who currently live on reservations to gain their perspective on well-being in their community."

CHAPTER VIII

Study II Discussion

The purpose of this study was to determine if the MNA-2 (Miller, 2005) would be culturally appropriate for use with an American Indian population and which other measures used in study one would be suitable for a larger scale Native project. This section will explore the meaning of the qualitative analysis, directions for future research, and the strengths and limitations of the project.

Based on the results of the thematic analysis, the MNA-2 (Miller, 2005) appears to be a culturally appropriate measure of psychological well-being for use with Native individuals. The measures noted strengths include being strength based, including a meaning in life scale, and item phrasing and content. These areas are not surprising when examining the Native literature. Research indicates a strength based approach to assessment and treatment is far superior to a deficit model because it allows for empowerment and utilizes strengths to serve as the foundation for change (Bergin & Garfield, 1994; Bowman, 2006; Fleming, 1992; Miller, Duncan, & Hubble, 1997; Miller & Rollnick, 1991; Mohatt et al., 2004; Rapp et al., 1993; Seligman, 1991; Sharry, 2004; Smith, 2006; Williams & Ellison, 1996). The strength based approach also promotes resiliency and adaptive coping rather than perpetuating the illness stereotype Native people have suffered with since colonization (Bowen, 2005; Bowman, 2006; Malone, 2000; Mohatt et al.; Sexton, Starr, & Fawcett, 2005; Voss, Douville, Solider, & Twiss,

1999; Williams & Ellison, 1996). Regarding meaning in life, the American Indian culture emphasized the importance of having a sense of meaning in life and research has demonstrated having a sense of meaning in life is a protective factor against mental illness, while its absence leads to manifestations of psychological distress (Duran, 2006; Garrett; Garrett & Carroll; Garrett, et al., 2001; Garrett & Herring; Garrett & Myers, 1996; Garrity; Kirmayer et al.; Krech; Lowery; Mohatt et al.; McCormick; Spicer; Westermeyer & Peake; Swinomish Tribal Mental Health Project, 2002; Waller & Patterson). Thus, it is not surprising that the inclusion of this measure would be viewed positively. Participants also reported they were impressed with the quality of the item's content and phrasing throughout the scale. This consensus provides support for the author's approach to item development (i.e., clear and concise items, broad themes, written at a sixth grade reading level) which was based on the best practices outlined by DeVellis (2003).

The final area of the MNA-2 (Miller, 2005) addressed by the participants was the suggestion to add two other scales (i.e., community and spirituality). A few individuals suggested adding items that tapped the collectivistic nature of Native culture through the assessment of connection to the community. This suggestion seems appropriate given a large part of a Native person's identity is provided by their connection to their culture and tribe, and a way of life that is established through being part of something larger than themselves (Deloria, 1970; Garrett & Herring, 2001; Graham, 2002; Kirmayer, et al., 2000; LaFromboise, et al., 1990; Mattern, 1999; Swinomish Tribal Mental Health Project, 2002). As one participant noted, this could provide a more holistic view of relatedness in the Native community. Thus, items written to assess a sense of community could become

part of the relatedness scales that are already a part of the MNA-2 (Miller, 2005) or could be created as a separate subscale. Additional dialogue with Native elders will provide the author with an opportunity to assess how to best craft and integrate community items into the scale.

The second scale suggested for inclusion was a spirituality scale that would tap the Native view of interconnectedness. Although only one participant suggested the inclusion of this type of scale it still warrants consideration. Native culture relies heavily on a spiritual connection to the earth and all living things and this belief serves as the foundation for Native ceremonies and rituals (Deloria, 1970; Garrity, 2000; Graham, 2002; Heilbron & Guttman, 2000; Jilek, 1994; Marbella, et al., 1998; Swinomish Tribal Mental Health Project, 2002; LaFromboise, et al., 1990). The spiritual component of this culture can be expressed in formal religious practices, ceremony, and the general Native approach to being in the world. However, it is not clear at this time whether a new scale needs to be develop to assess this construct or if some spiritual items could be added to the meaning scale. All participants noted having a sense of meaning in life has always been critical to Native people, which for many Native people encompasses their spiritual beliefs. Thus, it is possible that the development of some specific spiritual meaning items could effectively assess this area of Native culture without having to create a separate scale. The author will plan to interview with additional elders in order to determine if additional items or a subscale assessing spirituality would provide a more complete perspective on Native well-being.

Regarding the two job satisfaction measures, consensus on the utilization of these two measures was not reached. All of the participants felt the qualitative measure was

appropriate and a few indicated adding questions specifically about their experience as Native people at work would allow for a more holistic analysis. However, there was no agreement across participants about the usefulness of including the quantitative measure. Some individuals felt it was appropriate since it was clear and to the point, while others disagreed with its utility, since they believed the same information could be gathered through the qualitative form and this form would also provide richer data than the quantitative version could provide. Given this lack of agreement and because there is no literature that currently exists on the best way to assess job satisfaction in Native people, the author will need to continue to explore the assessment of this construct with a larger group of Native individuals in order to determine the best way to proceed. It is possible that even with a larger sample of Native individuals no definitive answer will be reached, however, by collecting information from a larger group, the author will hopefully gain a better sense of the type of items and format that will most accurately tap this construct.

There were three measures (satisfaction with life, self-esteem, and perceived social support) that all participants agreed were appropriate for use with Native Americans. Participants noted that these measures seem to be appropriate and assessing constructs that were important to Native people's sense of well-being. Although there was consensus that these scales would be appropriate to be used in this culture, one participant suggested including some qualitative questions that assessed satisfaction with life (i.e., "what would you need to be more satisfied with your life?") in order to gain a more complete perspective of what an individual would need to have a more satisfying life. Even though this suggestion is valid and would no doubt provide richer data, the

inclusion of additional qualitative items will depend largely on the sample size of the larger study since the coding and analysis of this type of data is very time consuming.

Although the majority of the measures the elders were asked to review were approved with few modifications, the ethnic identity measure was not approved "as is" to be used with this culture and seemed to create the most controversy. This finding was surprising since it was developed by Native individuals specifically for use with this population (Moran et al., 1999). The criticisms of this scale seem to revolve around a lack of clarity in some items and the restricted comparison group. Participants indicated the "Indian" and "White" ways of life might not be clear to participants, especially if they subscribe to another way of life (i.e., African American or Latino). This concern was brought up since many Native people are of mixed heritage and might be more connected to another way of being in the world, instead of the "White way of life." Participants thought the inclusion of only two ethnic groups was limiting, but suggested this could be ameliorated by using the terms Native and non-Native ways of life. Another individual stated he believed it was difficult to truly tap what would be a Native way of life since there are both traditional and non-traditional American Indians and both are still very Native. Thus, his suggestion was to eliminate the ethnic identity measure all together.

Although on one hand the controversy over using a measure created by Native individuals to assess the ethnic identity of their people was unexpected, the debate surrounding ethnic identity scales is not new. Some researchers do not believe it is appropriate to assess ethnic identity in any form since the meaning of this construct is vague and has racist overtones (McKenney & Bennett, 1994; Stephan & Stephan, 2000), while another suggest its accurate measurement is impossible since a person's sense of

identity too complex to be assessed by a scale (Root, 2000). A more moderate view it taken by Waters (1990) who indicated the problem of ethnic identity measurement lies in the fact that the current measures do not allow for a way to understand how their sense of identity influences their daily lives. He suggested if a more holistic measure could be developed a more accurate view of ethnic identity could emerge. Still others suggested the measurement of ethnic identity is problematic since its utilizing an ethnic gloss or broad categorization of groups (i.e., American Indian, African American), which suggests within group similarity and across group differences, which is inaccurate since ethnic groups in general tend to have more in common than different (Gans,1996; Trimble,1988 & 2000). These broad generalizations tend to oversimplify the construction and development of ethnic identity and provide little understanding of what the identification means to an individual (Trimble, 2000). Trimble (2000) also noted for many American Indians, the concept of Indian identification has little to no meaning but this does not make them any less Indian. Thus, researchers are left with categories that lack consistent meaning and are difficult to interpret.

In addition to the inconsistencies in the individual and group understanding, importance, and measurement of ethnic identity, researchers have suggested there is an inconsistent relationship between measure of psychological well-being and ethnic identity (Cross, 1991; Bates, Trimble & Beauvais, 1997; Trimble 1987 & 2000; Trimble & Mahoney, 2002). For some individuals ethnic identity might be important to their sense of self-esteem or well-being and for others their identity does little to contribute to these constructs (Cross; Tajfel, 1981). As a result, although some research suggests a strong sense of ethnic identity is related to high self-esteem (Blash & Unger, 1995;

Martinez & Dukes, 1997; Phinney, 1992; Phinney & Chavira, 1992; Phinney et al., 2001; Roberts et al., 1999; Smith, Walker, Fields, Brookins, & Seay, 1999), and can serve as a protective factor (Brooks et al.; Miller & MacIntosh, 1999; Roberts et al., 1999; Schier et al), it appears the relationship ethnic identity has to these construct of psychological well-being are not as straight forward as once thought. Therefore, it is not surprising that there were discrepant responses from the Native elders on the importance and methods of assessing ethnic identity. In considering the original purpose of this project, which was to conduct a cross-cultural assessment of psychological well-being, it seems as though the inclusion of an ethnic identity measure will likely lead to more confusion than understanding of the well-being of Native people. Therefore, until more research is conducted in this area and a more effective measure is created, this construct will not be included in future elder interviews or the larger scale project.

The final feedback the elders provided regarding the project dealt with conducting additional interviews and focus groups before moving forward with a larger scale project. Participants indicated it would be important to gather information from elders who live on the reservation, non-academic elders who live off the reservation, and from elders with more diverse educational backgrounds. The researcher will ensure a more varied group of elders are interviewed for her next iteration of interviews and focus groups. These interviews will maintain the same format and questions (with the exception of the ethnic identity measure) as in the present study in order to be able to compare responses across participants.

Although there is clearly more work to be done before a large scale project can be conducted with a Native population, the pilot study has shed some light on the construct

of psychological well-being in this culture. As supported by research cited earlier in this project, the constructs of relatedness, competence, coping skills, and meaning are all important in the understanding of Native people's psychological well-being, and it appears the MNA-2 (Miller, 2005) has done a good job in its operational definitions of these constructs. Even though some modifications to this measure will likely improve its holistic approach to the assessment of well-being in Native individuals, the approval of the scale provides evidence that the author has been able to tap needs that cut across cultures, which indicates some level of universality of psychological needs.

Strengths & Limitations

Strengths of this study included tribal diversity, consistency of responses across most questions, the qualitative design, and the evidence of cultural sensitivity of the MNA-2 (Miller, 2005). Although there were only five participants, having four different tribes represented provided diversity to the sample, and along with their fairly consistent responses, supplies some evidence for the universality of psychological needs and demonstrated consistency in the Native world view. The qualitative method used in this study provided a richness of responses that is not possible in quantitative research and provided specific areas to explore in future studies. Finally, the results indicated the MNA-2 (Miller, 2005) is a culturally sensitive, strength based measure of psychological well-being that shows promise with Native people.

The limitations of the study included the sample size and the lack of diversity in the elder's backgrounds (tribal region, education, social class, occupation). Having a small sample that is more similar than different in background significantly limits the external validity of the results because the consistency of the results could be due to the

similarity of the elder's life experiences rather than the parallels that exist across tribal cultures. Thus, it will be important to continue the pilot research with a larger and more diverse group of American Indian elders before conducting a larger scale study of the measures reviewed in this study.

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Table 1

Deficits of previously developed need fulfillment instruments not found with the new measure of need fulfillment

INSTRUMENT	Based on highly criticized need theory	No clinical sample in normative pop.	Lower □ coefficients than current instrument	Factor analysis problems	Lack of validity or reliability evidence	Other problems
EPPS	X	X	X	X		X
MNQ	X	X	X	X		
NAQ	X	X	X	X		
PNSQ	X	X		X	X	
ERG	X	X	X	X		
HHS	X				X	
BNSI	X	X		X		
BNSILS		X	X	X		X
PWB		X				

EPPS (Edwards Personal Preference Schedule, Edwards, 1959)
MNQ (Manifest Needs Questionnaire, Steers & Braunstein, 1976)
NAQ (Needs Assessment Questionnaire, Heckert, et al., 2000)
PNSQ (Porter Need Satisfaction Questionnaire, Porter, 1961)
ERG (Existence, Relatedness, and Growth, Alderfer, 1969)
HHS (Human Service Scale, Kravetz, 1973)
BNSI (Basic Need Satisfaction Inventory, Leidy, 1994)
BNSILS (Basic Need Satisfaction in Life Scale, Deci et al., 2001)
PWB (Psychological Well-Being, Ryff, 1989)
Note: Factor analysis problem: EPPS = low correlations among factors, MNQ = poor factor loadings, NAQ = CFA poor fit to data, PNSQ & ERG = inconsistent results, BNSI = no CFA to confirm EFA, BNSIL = unclean loadings.
Other problems: EPPS = does not discriminate between clinical and non-clinical participants, BNSILS = ad hoc scale development

[Table used with permission from Miller, 2005]

Table 2
Total Variance Explained (All Participants)

Factor	Initial Eigenvalues Total	% of Variance	Cumulative %	Extraction Sums of Squared Loadings Total	% of Variance	Cumulative %	Rotation Sums of Square Loadings Total
1	9.396	40.85	40.85	8.95	38.91	38.91	7.68
2	1.784	7.75	48.60	1.29	5.63	44.54	6.99
3	1.658	7.20	55.81	1.18	5.15	49.70	5.65
4	1.400	6.08	61.90	.94	4.10	53.80	5.39

Extraction Method: Principal Axis Factoring.
n=1441

Table 3
Pattern Matrix (All Participants)

	Factor 1	Factor 2	Factor 3	Factor 4
copingskills 2	.935	-.179	-2.121E-03	-3.627E-02
copingskills 1	.777	-8.329E-02	-3.938E-02	3.115E-02
copingskills 5	.737	5.640E-02	4.845E-02	-8.154E-02
copingskills 7	.726	2.265E-03	5.172E-02	-4.966E-02
copingskills 8	.686	.186	-3.972E-02	4.647E-03
copingskills 4	.609	9.641E-02	-7.913E-02	.136
copingskills 3	.495	3.073E-02	.278	3.649E-02
meaning 3	-3.166E-02	.853	-1.183E-02	-5.177E-02
meaning 8	-4.949E-02	.766	6.550E-02	-1.768E-02
meaning 1	-.164	.739	1.301E-02	-1.590E-02
meaning 12	.165	.591	1.503E-03	1.685E-02
meaning 11	.245	.547	-5.953E-02	.120
meaning 6	.341	.543	-4.588E-02	3.224E-02
competence 5	-2.108E-02	-9.483E-02	.844	-2.036E-02
competence 7	.118	4.957E-02	.711	-.116
competence 3	-.126	-1.500E-02	.682	.161
competence 2	5.759E-02	4.034E-02	.663	-3.068E-02
competence 4	2.094E-02	.178	.505	8.202E-02
interpsupport 6	-.179	.101	3.811E-02	.732
interpsupport 2	-.121	8.696E-02	-2.933E-02	.709
interpsupport 4	3.671E-02	-4.740E-02	3.496E-02	.683
interpsupport 8	.159	-5.340E-02	1.150E-02	.611
interpsupport 3	.263	-.180	-1.820E-02	.579

Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.
Rotation converged in 7 iterations.
n=1441

Table 4
Total Variance Explained (European Americans)

Factor	Initial Eigenvalues Total	% of Variance	Cumulative %	Extraction Sums of Squared Loadings Total	% of Variance	Cumulative %	Rotation Sums of Square Loadings Total
1	9.50	41.31	41.31	9.06	39.41	39.41	7.86
2	1.75	7.64	48.95	1.30	5.65	45.06	7.07
3	1.73	7.54	56.50	1.23	5.38	50.45	5.65
4	1.35	5.89	62.39	.90	3.92	54.37	5.53

Extraction Method: Principal Axis Factoring.
n=1208

Table 5
Pattern Matrix (European Americans)

	Factor 1	Factor 2	Factor 3	Factor 4
copingskills 2	.941	-.173	-1.473E-02	-3.162E-02
copingskills 1	.810	-8.698E-02	-2.580E-02	-1.816E-02
copingskills 7	.769	-2.342E-02	6.087E-02	-5.729E-02
copingskills 5	.759	3.581E-02	2.960E-02	-7.092E-02
copingskills 8	.698	.166	-3.881E-02	2.448E-02
copingskills 4	.607	.111	-8.781E-02	.148
copingskills 3	.481	6.564E-02	.270	3.135E-02
meaning 3	-2.100E-02	.864	-2.626E-02	-5.899E-02
meaning 1	-.169	.771	2.517E-03	-3.249E-02
meaning 8	-2.774E-02	.747	7.451E-02	-3.297E-02
meaning 6	.353	.532	-2.755E-02	2.719E-02
meaning 12	.217	.525	1.025E-02	4.225E-02
meaning 11	.256	.512	-5.811E-02	.153
competence 5	-3.285E-02	-8.942E-02	.844	-1.766E-02
competence 7	.140	1.132E-02	.726	-.109
competence 2	4.235E-02	5.174E-02	.671	-3.834E-02
competence 3	-.147	-1.991E-03	.663	.172
competence 4	5.572E-02	.139	.519	8.459E-02
interpsupport 6	-.194	7.534E-02	6.155E-02	.752
interpsupport 2	-.145	9.316E-02	-4.561E-02	.730
interpsupport 4	4.118E-02	-6.446E-02	5.192E-02	.659
interpsupport 8	.191	-7.998E-02	-1.863E-03	.606
interpsupport 3	.272	-.177	-2.547E-02	.575

Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.
Rotation converged in 6 iterations.
n=1208

Table 6
Total Variance Explained (Males)

Factor	Initial Eigenvalues Total	% of Variance	Cumulative %	Extraction Sums of Squared Loadings Total	% of Variance	Cumulative %	Rotation Sums of Square Loadings Total
1	9.53	41.44	41.44	9.08	39.49	39.49	7.73
2	1.75	7.63	49.07	1.31	5.69	45.19	7.04
3	1.57	6.83	55.91	1.06	4.62	49.81	5.92
4	1.36	5.94	61.85	.90	3.92	53.74	5.64

Extraction Method: Principal Axis Factoring.
n=916

Table 7
Pattern Matrix (Males)

	Factor 1	Factor 2	Factor 3	Factor 4
copingskills 2	.882	-.110	-1.440E-02	-3.105E-02
copingskills 1	.752	-8.851E-02	-2.379E-02	4.820E-02
copingskills 5	.705	5.873E-02	7.314E-02	-6.222E-02
copingskills 8	.705	.165	1.300E-02	-5.822E-02
copingskills 7	.690	-2.091E-03	6.546E-02	1.303E-02
copingskills 4	.619	.131	-.120	.120
copingskills 3	.474	3.924E-02	.305	2.674E-02
meaning 3	-5.059E-02	.838	-1.544E-02	-3.410E-02
meaning 8	-3.080E-02	.765	8.670E-02	-4.246E-02
meaning 1	-.145	.695	4.702E-03	2.451E-02
meaning 12	.173	.600	-5.694E-04	-1.166E-02
meaning 11	.179	.597	-7.435E-02	.137
meaning 6	.316	.580	-5.228E-02	1.649E-02
competence 5	7.887E-03	-.107	.843	-1.829E-02
competence 7	7.892E-02	6.376E-02	.725	-.104
competence 3	-.109	-1.010E-02	.721	.130
competence 2	5.287E-02	-8.332E-03	.687	-5.784E-03
competence 4	-9.777E-04	.183	.535	7.492E-02
interpsupport 2	-.105	.112	-4.578E-02	.700
interpsupport 6	-.168	.105	9.822E-02	.675
interpsupport 4	3.505E-02	-1.055E-02	3.948E-02	.666
interpsupport 8	.155	-2.655E-02	4.077E-03	.582
interpsupport 3	.319	-.220	-4.259E-02	.567

Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.
Rotation converged in 7 iterations.
n=916

Table 8
Total Variance Explained (Females)

Factor	Initial Eigenvalues Total	% of Variance	Cumulative %	Extraction Sums of Squared Loadings Total	% of Variance	Cumulative %	Rotation Sums of Square Loadings Total
1	9.23	40.14	40.14	8.80	38.26	38.26	7.67
2	2.03	8.84	48.98	1.55	6.74	45.00	6.81
3	1.67	7.30	56.29	1.21	5.28	50.28	5.11
4	1.41	6.16	62.45	.97	4.24	54.53	5.33

Extraction Method: Principal Axis Factoring.
n=520

Table 9
Pattern Matrix (Females)

	Factor 1	Factor 2	Factor 3	Factor 4
copingskills 2	1.005	-.288	-2.448E-02	1.162E-02
copingskills 1	.810	-8.092E-02	1.557E-02	-6.395E-02
copingskills 5	.795	5.123E-02	-.116	-5.277E-04
copingskills 7	.788	3.288E-02	-.145	-1.596E-02
copingskills 8	.692	.215	6.780E-02	-.116
copingskills 4	.586	4.438E-02	.152	1.253E-02
copingskills 3	.528	2.777E-02	3.127E-02	.243
meaning 3	1.303E-02	.860	-6.351E-02	-2.582E-03
meaning 1	-.195	.819	-7.501E-02	1.500E-02
meaning 8	-3.650E-02	.742	-2.981E-03	3.613E-02
meaning 12	.175	.550	8.410E-02	1.276E-02
meaning 6	.398	.466	4.733E-02	-1.495E-02
meaning 11	.354	.441	.130	-3.432E-02
interpsupport 6	-.196	9.397E-02	.824	-7.379E-02
interpsupport 2	-.161	5.005E-02	.728	5.591E-03
interpsupport 4	4.107E-02	-.104	.689	2.800E-02
interpsupport 8	.177	-.105	.647	3.341E-02
interpsupport 3	.191	-.115	.567	5.086E-02
competence 5	-6.946E-02	-7.202E-02	-4.646E-02	.849
competence 7	.152	6.862E-03	-7.172E-02	.699
competence 3	-.141	-4.296E-03	.129	.645
competence 2	5.448E-02	.122	-5.956E-02	.616
competence 4	4.344E-02	.169	.123	.444

Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization
Rotation converged in 6 iterations.
n=520

Table 10
Total Variance Explained (Non-Clinical)

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Square Loadings
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	8.37	36.42	36.42	7.87	34.25	34.25	6.23
2	1.89	8.24	44.66	1.40	6.10	40.35	6.43
3	1.62	7.05	51.72	1.09	4.73	45.09	5.06
4	1.33	5.82	57.54	.83	3.63	48.73	4.96

Extraction Method: Principal Axis Factoring.
n=766

Table 11
Pattern Matrix (Non-Clinical)

	Factor 1	Factor 2	Factor 3	Factor 4
meaning 3	.882	-9.766E-02	-8.264E-02	2.218E-02
meaning 1	.775	-.194	-8.988E-02	6.379E-02
meaning 8	.766	-3.691E-03	2.005E-02	-1.790E-02
meaning 6	.635	.249	1.500E-02	-7.782E-02
meaning 11	.615	8.281E-02	.181	-1.515E-02
meaning 12	.602	.172	1.139E-02	-4.374E-02
copingskills 2	-.176	.837	-3.252E-02	9.772E-04
copingskills 7	5.955E-02	.729	-.136	-2.727E-02
copingskills 5	-1.004E-02	.679	-1.137E-02	4.539E-02
copingskills 1	-7.015E-02	.647	9.242E-02	-5.898E-02
copingskills 8	.160	.539	6.497E-02	-8.696E-04
copingskills 3	-9.601E-03	.536	4.807E-02	.214
copingskills 4	.178	.393	.160	-2.199E-02
interpsupport 8	-9.422E-02	3.950E-02	.693	2.771E-02
interpsupport 6	.100	-7.894E-02	.672	-4.010E-02
interpsupport 3	-.153	7.620E-02	.652	4.339E-03
interpsupport 4	-3.657E-02	4.138E-02	.641	3.043E-02
interpsupport 2	.114	-.125	.593	-5.186E-03
competence 5	-5.773E-02	-7.554E-02	-4.898E-02	.888
competence 3	-5.801E-02	-5.277E-02	.139	.680
competence 7	6.643E-02	.231	-9.739E-02	.538
competence 2	4.513E-02	.211	-8.243E-02	.528
competence 4	.227	-6.776E-02	.138	.510

Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.
Rotation converged in 6 iterations.
n=766

Table 12
Total Variance Explained (Clinical)

Factor	Initial Eigenvalues Total	% of Variance	Cumulative %	Extraction Sums of Squared Loadings Total	% of Variance	Cumulative %	Rotation Sums of Square Loadings Total
1	8.82	38.36	38.36	8.34	36.30	36.30	6.98
2	1.99	8.67	47.04	1.47	6.41	42.71	6.76
3	1.67	7.29	54.33	1.23	5.35	48.06	5.66
4	1.11	4.83	59.16	.62	2.71	50.77	4.48

Extraction Method: Principal Axis Factoring.
n=675

Table 13
Pattern Matrix (Clinical)

	Factor 1	Factor 2	Factor 3	Factor 4
meaning 8	.880	-.215	.136	-8.213E-02
meaning 12	.772	-7.475E-02	3.823E-02	1.185E-03
meaning 3	.675	.155	-4.146E-02	-2.639E-02
meaning 6	.619	.201	-1.295E-02	3.193E-02
meaning 11	.595	.187	-7.680E-02	8.918E-02
meaning 1	.527	.111	-5.227E-02	3.122E-02
copingskills 2	-.152	.842	3.228E-03	-1.299E-02
copingskills 5	.136	.667	1.760E-02	-9.955E-02
copingskills 1	-2.191E-02	.625	6.509E-03	3.950E-03
copingskills 7	3.963E-02	.555	.104	1.109E-02
copingskills 8	.354	.522	-4.606E-02	-1.579E-02
copingskills 4	.178	.456	-6.527E-02	.133
copingskills 3	4.746E-02	.423	.297	5.374E-02
competence 5	-6.625E-02	-3.052E-02	.832	-9.063E-03
competence 7	5.559E-02	5.729E-02	.789	-.123
competence 2	-7.675E-03	7.104E-02	.688	1.609E-02
competence 3	-8.161E-03	-6.548E-02	.634	.174
competence 4	.145	4.361E-02	.536	2.440E-02
interpsupport 2	3.578E-02	-4.123E-02	-6.704E-02	.740
interpsupport 4	-7.622E-02	7.091E-02	-1.155E-03	.721
interpsupport 6	9.585E-02	-.178	6.435E-02	.707
interpsupport 8	8.004E-02	2.561E-02	2.632E-02	.568
interpsupport 3	-.142	.132	3.056E-02	.559

Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.
Rotation converged in 6 iterations.
n=675

Table 14
Total Variance Explained (Law Enforcement)

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Square Loadings
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	8.10	35.22	35.22	7.60	33.05	33.05	5.79
2	1.99	8.65	43.88	1.50	6.55	39.61	6.11
3	1.72	7.50	51.38	1.17	5.10	44.71	4.93
4	1.36	5.94	57.33	.84	3.65	48.37	4.47

Extraction Method: Principal Axis Factoring.
n=519

Table 15
Pattern Matrix (Law Enforcement)

	Factor 1	Factor 2	Factor 3	Factor 4
meaning 3	.876	-.107	-8.529E-02	3.943E-02
meaning 1	.794	-.210	-.107	8.329E-02
meaning 8	.723	6.388E-02	2.421E-03	-1.239E-03
meaning 6	.626	.296	2.048E-02	-8.592E-02
meaning 11	.610	9.452E-02	.191	-1.336E-02
meaning 12	.584	.198	3.146E-02	-.106
copingskills 2	-.122	.775	-7.727E-02	6.339E-02
copingskills 7	6.531E-02	.737	-.152	2.171E-03
copingskills 5	-4.400E-02	.656	4.638E-03	5.271E-02
copingskills 1	-9.573E-02	.646	9.197E-02	-9.523E-03
copingskills 8	8.179E-02	.600	8.948E-02	-4.133E-03
copingskills 3	7.305E-03	.485	4.039E-02	.266
copingskills 4	.198	.477	.126	-.106
interpsupport 6	.109	-.106	.706	-3.616E-02
interpsupport 8	-.104	8.665E-02	.685	-1.324E-02
interpsupport 4	-4.862E-02	4.785E-02	.631	4.898E-02
interpsupport 3	-.174	8.388E-02	.630	4.076E-02
interpsupport 2	.126	-.160	.583	2.420E-02
competence 5	-8.616E-02	-5.031E-04	-1.058E-02	.793
competence 3	-3.807E-02	-4.349E-02	.147	.623
competence 2	2.701E-02	.169	-8.065E-02	.544
competence 7	7.221E-02	.232	-8.121E-02	.536
competence 4	.300	-.128	.117	.514

Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.
Rotation converged in 7 iterations.
n=519

Table 16
Pearson Correlations

Scales	MNA-3	Interpersonal Support	Coping Skills	Meaning	Competence
Ethnic Identity	.19**	.10**	.14**	.20**	.18**
Pay	.14**	.16**	.07*	.15**	.08**
Promotion	.18**	.12**	.07*	.23**	.18**
Work	.28**	.19**	.20**	.31**	.20**
Supervision	.24**	.24**	.16**	.21**	.16**
Co-Workers	.22**	.23**	.17**	.18**	.14**

**Correlation is significant at the 0.01 level (2-tailed)
*Correlation is significant at the 0.05 level (2-tailed)

Table 17
Classification Results for Predictive Discriminant Analysis

			Predicted Group Membership		Total
		Site Type	Non-Clinical	Clinical	
Original	Count	Non-Clinical	653	113	766
		Clinical	181	494	675
	%	Non-Clinical	85.2	14.8	100
		Clinical	26.8	73.2	100
Cross-validated	Count	Non-Clinical	652	114	766
		Clinical	181	494	675
	%	Non-Clinical	85.1	14.9	100
		Clinical	26.8	73.2	100

79.6% of original grouped cases correctly classified.
79.5% of cross-validated grouped cases correctly classified.

Table 18
ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
total social support friends	Between Groups	2617.598	1	2617.598	106.552	.000
	Within Groups	35351.082	1439	24.566		
	Total	37968.680	1440			
total satisfaction with life	Between Groups	29994.189	1	29994.189	679.739	.000
	Within Groups	63497.407	1439	44.126		
	Total	93491.596	1440			
total ethnic identity	Between Groups	.137	1	.137	.004	.950
	Within Groups	50459.801	1439	35.066		
	Total	50459.938	1440			
work on job total score	Between Groups	2074.414	1	2074.414	13.941	.000
	Within Groups	155052.249	1042	148.803		
	Total	157126.663	1043			
supervision total score	Between Groups	696.652	1	696.652	3.680	.055
	Within Groups	197473.859	1043	189.333		
	Total	198170.511	1044			
coworkers total score	Between Groups	1971.403	1	1971.403	14.557	.000
	Within Groups	141790.433	1047	135.425		
	Total	143761.836	1048			
pay total score	Between Groups	2333.259	1	2333.259	8.169	.004
	Within Groups	294194.415	1030	285.626		
	Total	296527.674	1031			
promotion total score	Between Groups	6265.155	1	6265.155	21.030	.000
	Within Groups	311025.082	1044	297.917		
	Total	317290.237	1045			
TOTMEAN3	Between Groups	1390.169	1	1390.169	110.972	.000
	Within Groups	18026.640	1439	12.527		
	Total	19416.808	1440			
TOTCOPE3	Between Groups	6595.550	1	6595.550	616.334	.000
	Within Groups	15399.118	1439	10.701		
	Total	21994.668	1440			
TOTINTS3	Between Groups	1172.025	1	1172.025	148.388	.000
	Within Groups	11365.773	1439	7.898		
	Total	12537.798	1440			
TOTCOMP3	Between Groups	173.484	1	173.484	25.299	.000
	Within Groups	9867.872	1439	6.857		
	Total	10041.356	1440			
TOTMNA3	Between Groups	27524.185	1	27524.185	284.875	.000
	Within Groups	139033.861	1439	96.618		
	Total	166558.046	1440			

Table 19
Means of All Scales for Law Enforcement Participants

	Highest	Dispatch	Lowest
Perceived Social Support	19.33	13.38	10.33
Satisfaction with Life	29.67	25.03	19.50
Self-esteem	35.67	32.82	24.73
Ethnic Identity	35.43	29.15	27.67
Pay	50.00	30.84	15.80
Co-workers	47.33	38.04	29.75
Supervision	50.33	34.50	19.18
Work	52.67	37.75	18.25
Promotion	29.00	13.00	6.67
Coping Skills	24.67	21.31	20.50
Interpersonal Support	18.00	15.72	15.28
Meaning	22.00	17.38	16.25
Competence	16.67	13.41	12.17
Total MNA-3	81.00	67.93	66.25

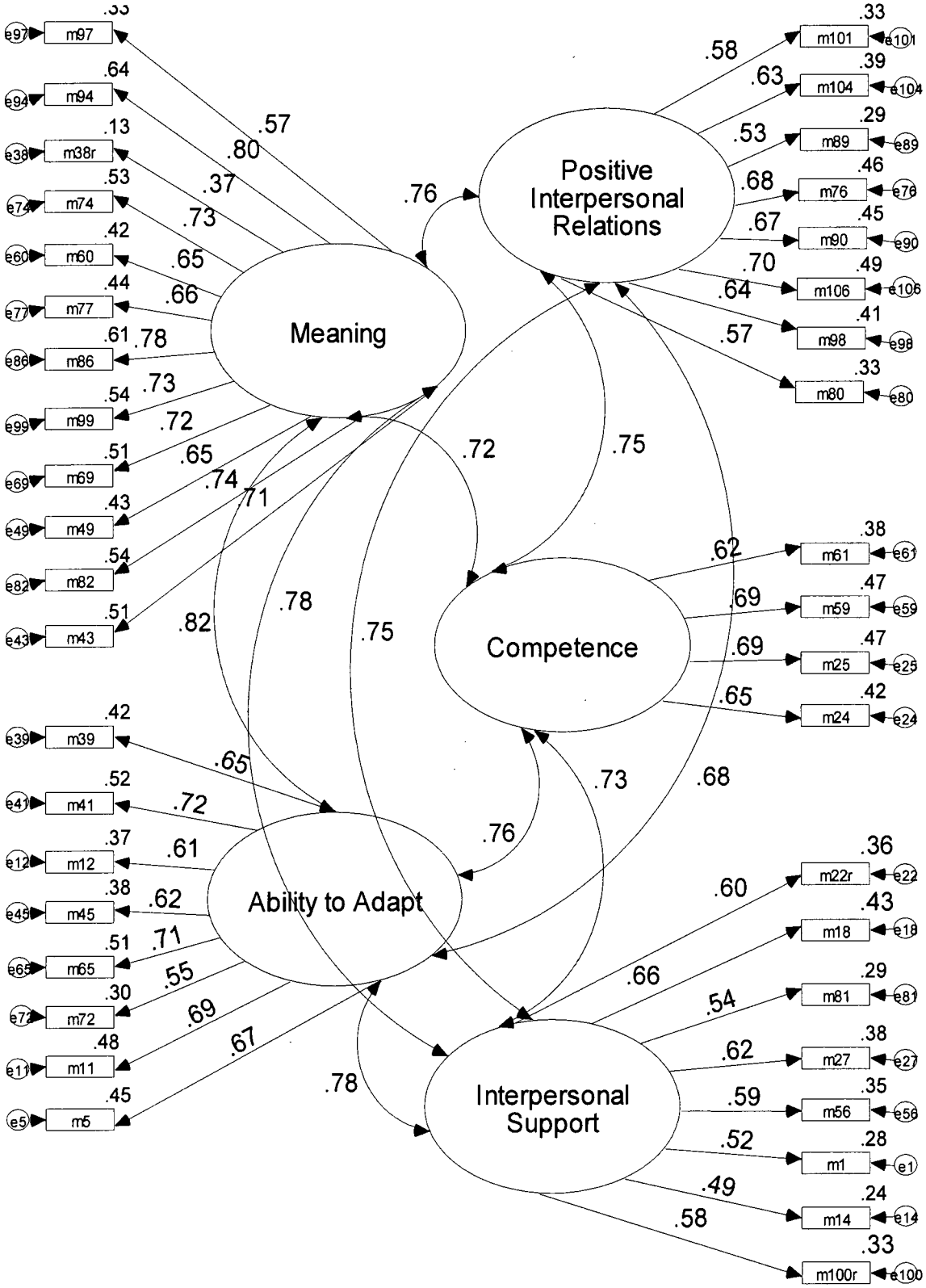

Figure 1 (Miller, 2005)

APPENDIX A

Consent to Participate in a Research Study
Colorado State University

TITLE OF STUDY: A continuing psychometric evaluation of the Miller Needs Assessment-2 (MNA-2) (Miller, 2005)

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This study is being conducted by Dr. Chavez, a professor at Colorado State University and one of his students Kimberly Miller, MA, who is a doctoral candidate at CSU. The purpose of this research project is to examine the relationship between psychological well-being and other variables such as job and life satisfaction. You are being asked to participate in this study because you are currently employed. For this project you will be asked to complete a set of questions that will ask you some basic demographic information (age, gender, etc.) and other questions about the relationships in your life, your skills, interactions with others, job satisfaction, etc. It will take about 45 minutes to complete the questions.

The information you provide will help researchers and employers gain a better understanding of how job and life satisfaction are related to psychological well-being and how employers can create a more psychologically healthy work place. In addition, because of your participation today you are enabling the researcher to provide direct feedback (about the general findings, not individual information) to your employer about how they can create a work environment where you can experience less stress and more satisfaction. Although I cannot guarantee any direct benefit to you for your participation today, the agency at which you are working has requested feedback and has indicated a desire to improve the environment in which you work. By responding to these questions

you are also providing information that could assist other organizations in improving the job satisfaction of their employees.

As a token of appreciation for your participation today, you will receive a small bag of candy after you have completed the questionnaires or decide you no longer want to participate in the study.

Please do not write your name on any of the questionnaires so that all data will remain completely anonymous. We will keep private all research records that identify you, to the extent allowed by law. It is important for you to know that the information you provide today will be combined with information from other people taking part in the study in order to insure anonymity. When we write about the study to share it with other researchers, we will write about the combined information we have gathered. You will not be identified in these written materials. We may publish the results of this study; however, we will keep you name and other identifying information private.

Participation in the study is voluntary, and you are free to discontinue participation at any time without prejudice from the researcher or your employer. There is minimal risk involved in participating in the study, although answering some questions may create some feelings of anxiety. If you find yourself experiencing feelings of anxiety, you are encouraged to contact the Boys Town National Crisis Center at 1-800-448-3000.

Please feel free to ask any questions of the investigator before initialing each page, and signing and dating the last page of the consent form, or at any time during the study. It is not possible to identify all potential risks in research procedures, but the researcher(s) have taken reasonable safeguards to minimize any known and potential, but not unknown, risks. The Colorado Governmental Immunity Act determines and may limit Colorado State University's legal responsibility if an injury happens because of this study. Claims against the University must be filed within 180 days of the injury.

Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions about the study, you can contact the investigator, Kim Miller at (970) 491-2903 or Dr. Chavez at (970) 491-6364. If you have any questions about your rights as a volunteer in this research, contact *Janell Meldrem,* Human Research Administrator at 970-491-1655. We will give you a copy of this consent form to take with you

Your signature acknowledges that you have read the information stated and willingly sign this consent form. Your signature also acknowledges that you have received, on the date signed, a copy of this document containing 2 pages.

Signature of person agreeing to take part in the study	Date
Printed name of person agreeing to take part in the study	
Name of person providing information to participant	Date
Signature of Research Staff	

APPENDIX B

Consent to Participate in a Research Study
Colorado State University

TITLE OF STUDY: A continuing psychometric evaluation of the Miller Needs Assessment-2 (MNA-2) (Miller, 2005)

PRINCIPAL INVESTIGATOR: Ernest L. Chavez, Ph.D.
Department of Psychology
Colorado State University
Fort Collins, CO 80523
Ernest.Chavez@colostate.edu
970-491-6364

CO-PRINCIPAL INVESTIGATOR: Kimberly A. Miller, MA
Department of Psychology
Colorado State University
Fort Collins, CO 80523
Kimberly.Miller@colostate.edu
970-491-2903

This study is being conducted by Dr. Chavez, a professor at Colorado State University and one of his students Kimberly Miller, MA, who is a doctoral candidate at CSU. The purpose of this research project is to examine the relationship between psychological well-being and clinical disorders such as addictions and eating disorders. You are being asked to participate in this study because you are currently receiving mental health treatment for one or more of the above conditions. For this project you will be asked to complete a set of questions that will ask you some basic demographic information (age, gender, etc.) and other questions about the relationships in your life, your skills, interactions with others, etc. It will take about 45 minutes to complete the questions.

The information you provide will help researchers and mental health professionals gain a better understanding of how psychological well-being is related to addictions and eating disorders and enable them to develop more effective treatments. In addition, because of your participation today you are enabling the researcher to provide direct feedback (about the general finding, not individual information) to your counselors about what areas they could improve in your treatment. Although I cannot guarantee any direct benefit to you for your participation today, the agency at which you are seeking services has requested feedback and has indicated a desire to improve the services they are offering to you. By

responding to the questions in this study you are also providing information that will enable researchers to improve the services offered to clients in the future.

As a token of appreciation for your participation today, you will receive a small bag of candy (I will substitute other incentive here for eating disorder population) after you have completed the questionnaires or decide you no longer want to participate in the study.

Please do not write your name on any of the questionnaires so that all data will remain completely anonymous. We will keep private all research records that identify you, to the extent allowed by law. It is important for you to know that the information you provide today will be combined with information from other people taking part in the study in order to insure anonymity. When we write about the study to share it with other researchers, we will write about the combined information we have gathered. You will not be identified in these written materials. We may publish the results of this study; however, we will keep you name and other identifying information private.

Participation in the study is voluntary, and you are free to discontinue participation at any time without prejudice from the researcher or organization from which you are receiving services. There is minimal risk involved in participating in the study, although answering some questions may create some feelings of anxiety. If you find yourself experiencing feelings of anxiety, you can either speak to your counselor or contact the Boys Town National Crisis Center at 1-800-448-3000 (I will also include counselor's number here if required by site and the IRB number and contact person if the site has their own IRB).

Please feel free to ask any questions of the investigator before initialing each page, and signing and dating the last page of the consent form, or at any time during the study. It is not possible to identify all potential risks in research procedures, but the researcher(s) have taken reasonable safeguards to minimize any known and potential, but not unknown, risks. The Colorado Governmental Immunity Act determines and may limit Colorado State University's legal responsibility if an injury happens because of this study. Claims against the University must be filed within 180 days of the injury.

Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions about the study, you can contact the investigator, Kim Miller at (970) 491-2903 or Dr. Chavez at (970) 491-6364. If you have any questions about your rights as a volunteer in this research, contact *Janell Meldrem,* Human Research Administrator at 970-491-1655. We will give you a copy of this consent form to take with you.

Your signature acknowledges that you have read the information stated and willingly sign this consent form. Your signature also acknowledges that you have received, on the date signed, a copy of this document containing 2 pages.

Signature of person agreeing to take part in the study	Date
Printed name of person agreeing to take part in the study	
Name of person providing information to participant	Date
Signature of Research Staff	

APPENDIX C

Descriptive Statistics (All Participants)

	Mean	Std. Deviation	Analysis N
meaning 1	3.12	.76	1441
interpsupport 2	3.34	.76	1441
copingskills 1	2.86	.68	1441
competence 2	3.04	.64	1441
interpsupport 3	2.91	.84	1441
copingskills 2	2.71	.69	1441
copingskills 3	3.03	.63	1441
meaning 3	3.12	.75	1441
competence 3	2.98	.65	1441
interpsupport 4	3.22	.78	1441
copingskills 4	2.91	.82	1441
competence 4	2.78	.71	1441
copingskills 5	3.03	.70	1441
competence 5	2.74	.68	1441
copingskills 7	2.82	.74	1441
meaning 6	2.97	.79	1441
copingskills 8	2.89	.72	1441
interpsupport 6	3.28	.82	1441
meaning 8	3.24	.78	1441
interpsupport 8	3.00	.74	1441
competence 7	2.96	.72	1441
meaning 11	2.91	.80	1441
meaning 12	3.07	.80	1441

APPENDIX D

Descriptive Statistics (Only European Americans)

	Mean	Std. Deviation	Analysis N
meaning 1	3.12	.76	1208
interpsupport 2	3.35	.75	1208
copingskills 1	2.86	.66	1208
competence 2	3.03	.63	1208
interpsupport 3	2.94	.82	1208
copingskills 2	2.71	.69	1208
copingskills 3	3.04	.62	1208
meaning 3	3.11	.75	1208
competence 3	2.98	.63	1208
interpsupport 4	3.25	.76	1208
copingskills 4	2.91	.81	1208
competence 4	2.78	.69	1208
copingskills 5	3.02	.70	1208
competence 5	2.74	.66	1208
copingskills 7	2.81	.73	1208
meaning 6	2.96	.78	1208
copingskills 8	2.89	.72	1208
interpsupport 6	3.28	.82	1208
meaning 8	3.22	.77	1208
interpsupport 8	3.01	.73	1208
competence 7	2.95	.71	1208
meaning 11	2.89	.79	1208
meaning 12	3.04	.80	1208

APPENDIX E

Descriptive Statistics (Males)

	Mean	Std. Deviation	Analysis N
meaning 1	3.12	.75	916
interpsupport 2	3.31	.78	916
copingskills 1	2.87	.68	916
competence 2	3.06	.64	916
interpsupport 3	2.83	.84	916
copingskills 2	2.74	.69	916
copingskills 3	3.04	.63	916
meaning 3	3.13	.75	916
competence 3	2.95	.67	916
interpsupport 4	3.17	.79	916
copingskills 4	2.90	.84	916
competence 4	2.83	.72	916
copingskills 5	3.05	.71	916
competence 5	2.76	.69	916
copingskills 7	2.86	.74	916
meaning 6	2.96	.79	916
copingskills 8	2.89	.72	916
interpsupport 6	3.25	.83	916
meaning 8	3.23	.77	916
interpsupport 8	2.96	.74	916
competence 7	3.03	.70	916
meaning 11	2.93	.80	916
meaning 12	3.10	.79	916

APPENDIX F

Descriptive Statistics (Females)

	Mean	Std. Deviation	Analysis N
meaning 1	3.13	.78	520
interpsupport 2	3.40	.73	520
copingskills 1	2.83	.68	520
competence 2	2.99	.64	520
interpsupport 3	3.04	.84	520
copingskills 2	2.66	.70	520
copingskills 3	3.03	.61	520
meaning 3	3.11	.75	520
competence 3	3.05	.62	520
interpsupport 4	3.32	.73	520
copingskills 4	2.93	.79	520
competence 4	2.70	.68	520
copingskills 5	3.00	.69	520
competence 5	2.72	.67	520
copingskills 7	2.76	.72	520
meaning 6	2.99	.78	520
copingskills 8	2.90	.72	520
interpsupport 6	3.34	.81	520
meaning 8	3.27	.79	520
interpsupport 8	3.07	.73	520
competence 7	2.83	.75	520
meaning 11	2.88	.80	520
meaning 12	3.02	.81	520

APPENDIX G

Descriptive Statistics (Non-Clinical)

	Mean	Std. Deviation	Analysis N
meaning 1	3.16	.73	766
interpsupport 2	3.46	.66	766
copingskills 1	3.16	.55	766
competence 2	3.09	.56	766
interpsupport 3	3.18	.73	766
copingskills 2	3.03	.54	766
copingskills 3	3.22	.50	766
meaning 3	3.23	.69	766
competence 3	3.01	.63	766
interpsupport 4	3.36	.70	766
copingskills 4	3.26	.64	766
competence 4	2.89	.65	766
copingskills 5	3.28	.57	766
competence 5	2.80	.63	766
copingskills 7	3.10	.58	766
meaning 6	3.22	.64	766
copingskills 8	3.20	.55	766
interpsupport 6	3.40	.71	766
meaning 8	3.37	.69	766
interpsupport 8	3.20	.64	766
competence 7	3.03	.65	766
meaning 11	3.13	.67	766
meaning 12	3.26	.67	766

APPENDIX H

Descriptive Statistics (Clinical)

	Mean	Std. Deviation	Analysis N
meaning 1	3.08	.79	675
interpsupport 2	3.21	.84	675
copingskills 1	2.52	.65	675
competence 2	2.98	.71	675
interpsupport 3	2.59	.85	675
copingskills 2	2.35	.67	675
copingskills 3	2.82	.68	675
meaning 3	3.00	.79	675
competence 3	2.94	.68	675
interpsupport 4	3.07	.83	675
copingskills 4	2.50	.82	675
competence 4	2.66	.74	675
copingskills 5	2.74	.73	675
competence 5	2.68	.72	675
copingskills 7	2.49	.76	675
meaning 6	2.68	.84	675
copingskills 8	2.55	.73	675
interpsupport 6	3.15	.91	675
meaning 8	3.10	.84	675
interpsupport 8	2.77	.78	675
competence 7	2.87	.79	675
meaning 11	2.67	.85	675
meaning 12	2.87	.87	675

APPENDIX I

Descriptive Statistics (Law Enforcement)

	Mean	Std. Deviation	Analysis N
meaning 1	3.14	.72	519
interpsupport 2	3.49	.63	519
copingskills 1	3.19	.51	519
competence 2	3.06	.51	519
interpsupport 3	3.19	.71	519
copingskills 2	3.06	.51	519
copingskills 3	3.22	.47	519
meaning 3	3.21	.67	519
competence 3	2.94	.59	519
interpsupport 4	3.36	.68	519
copingskills 4	3.26	.61	519
competence 4	2.89	.62	519
copingskills 5	3.30	.54	519
competence 5	2.75	.58	519
copingskills 7	3.13	.54	519
meaning 6	3.21	.62	519
copingskills 8	3.20	.52	519
interpsupport 6	3.42	.69	519
meaning 8	3.35	.67	519
interpsupport 8	3.19	.61	519
competence 7	3.05	.61	519
meaning 11	3.14	.65	519
meaning 12	3.27	.63	519

APPENDIX J

Descriptive Statistics Correlations

	Mean	Std. Deviation	N
total self esteem	30.72	5.77	1441
total satisfaction with life	21.71	8.06	1441
total social support friends	13.63	5.13	1441
total ethnic identity	32.01	5.92	1441
pay total score	27.80	16.96	1032
promotion total score	23.28	17.42	1046
work on job total score	39.34	12.27	1044
supervision total score	38.87	13.78	1045
coworkers total score	38.86	11.71	1049
TOTCOPE3	20.25	3.91	1441
TOTCOMP3	14.50	2.64	1441
TOTINTS3	15.76	2.95	1441
TOTMEAN3	18.45	3.67	1441
TOTMNA3	68.95	10.75	1441

APPENDIX K

History of research with African Americans

Historically psychological theories and research has perpetuated biased views of African Americans and other ethnic groups because of the focus on deficits (Thomas & Sillen, 1972). An example of this comes from psychological assessment, where there continues to be a focus on the assessment of deficits rather than strengths (Lent, 2004). This deficit approach is exacerbated through the use of measures with African Americans that were normed on European Americans (Sue, 1999). This practice has resulted in African Americans being compared negatively to the majority culture, and also perpetuates the assumption that the constructs assessed by psychological measures are consistent across groups, instead of testing the theory of generality (Sue). This assumption of generality also transfers into treatment of African Americans. For example, Chambless et al. (1996) and Hall (2001) noted no empirically supported treatments have been validated with minority groups. However, they continue to be the treatment of choice with ethnic minorities without evidence to support their use with these populations. Due to the focus on deficits and assumption of generality in assessment and treatment, there is little understanding of African Americans strengths and resiliency, which leaves them ineffectively served by the mental health community (Mizell, 2003). Consequently, it is imperative to develop culturally appropriate assessment and treatment interventions with African Americans and other ethnic minority populations. As a part of this process it

is critical to focus on strengths instead of deficits, which only perpetuate bias and stereotypes (Sue, 1999).

Strengths of African Americans

Littlejohn-Blake and Darling (1993) note that it is important to take a strengths perspective when working with African Americans because of the history of oppression and racism this group continues to face. The identification of strengths is more effective than focusing on deficits because strengths foster change through empowerment and can serve as the basis for developing more effective treatments. It appears that the MNA-2 (Miller, 2005) is in a position to highlight the strengths of the African American population because it is a strength-based measure and seems to reflect the cultural values of the African American community.

For example, research has indicated that spiritual meaning (one of the strengths of the African American church) serves as a protective factor against psychological distress (Akbar, 1991; Brome, Owens, Allen, & Vevania, 2000; Curtis-Boles & Jackson-Monroe, 2000; Gary & Gary, 1985; Haight, 1998; Klonoff & Landrine, 2000; Knox, 1985; Laudet, Morgen, & White, 2006; Littlejohn-Blake & Darling, 1993; Myers, 1988; Phillips, 1990; Sanders-Phillips, 1998; Snowden, 2001). The African American church has also been linked to the development of increased copings skills, effective management of stress (Haight; Moore, 1991; Snowden), and lower rates of substance abuse (e.g., Jackson, 1995; Taylor & Jackson, 1990). A second strength of the African American community is their collectivistic orientation. Researchers have noted that the strong interpersonal connections of African Americans serve as a protective factor against substance abuse and other forms of psychological distress (Curtis-Boles & Jackson-Monroe, 2000; Haight,

1998; Littlejohn-Blake & Darling, 1993; Moore, 1991; Schiele, 1996). A third strength noted in the African American community is a strong sense of ethnic identity. Ethnic identity has been defined in many different ways by researchers, but in general it is thought to reflect an individual's sense of self in relation to his or her ethnic membership (Liebkind, 1992, 2001; Phinney, 1990). Many researchers have concluded that strong ethnic identification with ones own ethnic group and/or with the majority group (bicultural identity) is related to psychological well-being (e.g., Phinney et al., 1997; Phinney, Horenczyk, Liebkind, & Vedder, 2001). Specifically, high ethnic identity in African Americans has been related to a high self-esteem (Blash & Unger, 1995; Martinez & Dukes, 1997; Phinney, 1992; Phinney & Chavira, 1992; Phinney et al., 2001; Roberts et al., 1999; Smith, Walker, Fields, Brookins, & Seay, 1999), adaptive coping (Miller, 1999; Phinney, 1992; Phinney & Chavira; Phinney et al., 2001; Roberts et al., 1999; Smith et al., 1999), a sense of competence (Blash & Unger; Phinney, 1992; Phinney & Chavira, 1992; Phinney et al., 2001; Roberts et al., 1999; Smith et al.), and a sense of meaning (Martinez & Dukes, 1997).

Ethnic identity has also been found to be negatively related to substance abuse (Klonoff & Landrine, 2000; Brooks, Balks, Brook, Win, & Gursen, 1998; Scheier, Botvin, Diaz, & Ifill-Williams, 1997), and many have noted that it serves as a protective factor against other forms of psychological distress (Brooks et al.; Miller & MacIntosh, 1999; Roberts et al., 1999; Schier et al.). The limitation of these findings is the majority of research on ethnic identity has been conducted with adolescents. Although researchers believe ethnic identity becomes more salient in adulthood (Phinney, 1992), there is limited understanding of its true influence in ethnic minority adults. Thus, because the

focus of this study is on adults, this project hopes to shed some light on the influence ethnic identity has on psychological constructs in adulthood.

In summary, the strengths of the African American community [e.g., meaning, strong interpersonal connections, benefits of strong ethnic identity (i.e., competence, increased coping skills)] appear to be reflective of the constructs (meaning, positive interpersonal relations, interpersonal support, competence, and coping skills) assessed by the MNA-2 (Miller, 2005). This is not surprising considering African Americans were instrumental in this measures development; however, further analysis is required before any firm conclusions can be drawn.

APPENDIX L

Questions for Pilot Study

1) Are there any questions on the MNA-2 (Miller, 2005) that require modifications or should be deleted? If so, explain?

2) On the qualitative job satisfaction questions, what modifications would you make in order for this measure to be appropriate for use with an American Indian population?

The next set of questions deal with the various other measures I am considering using with American Indians. After you have reviewed each measure, please respond to each question below about the appropriateness of using each measure with this population. Since I do not hold the copyright for any of these measures I am not allowed to make any modifications. Therefore, keep this in mind when answering the questions below. I can either use the measures "as they are written" or not include them in my study.

3) Is the Satisfaction With Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) appropriate for use with an American Indian population? Why or why not?

4) Is the Perceived Social Support from Friends Scale (Procidano & Heller, 1983) appropriate for use with an American Indian population? Why or why not?

5) Is the Bicultural Measure of Ethnic Identity (Moran, Fleming, Somervell, & Manson, 1999) appropriate for use with an American Indian population? Why or why not?

6) Is the Job Descriptive Index (JDI) (Smith, Kendall, & Hulin, 1969) appropriate for use with an American Indian population? Why or why not?

7) Is the Rosenberg Self-Esteem Scale (Rosenberg, 1965) appropriate for use with an American Indian population? Why or why not?

8) Do you have any other feedback the researcher regarding this project?