NEW FRONTIERS IN REHABILITATION PSYCHOLOGY: SCALE DEVELOPMENT FOR THE ASSESSMENT OF POSITIVE TRAITS IN INDIVIDUALS WITH PHYSICAL DISABILITIES

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BY

PHILLIP S KECK

DR. JEONG HAN KIM - ADVISOR

BALL STATE UNIVERSITY MUNCIE, INDIANA

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ABSTRACT

Rehabilitation psychology and counseling has long been centered on the idea of emphasizing individuals’ positive attributes and strengths. The purpose of this study was to begin development of an empirical device for which to measure those strengths of character in both a rehabilitation context and the general population. A classification of virtue and character strengths was developed in positive psychology and in recent years, the field has seen an increase in exposure and research exploring human virtue. Utilizing this framework, inventory items were developed and field tested with a panel of experts and a small sample of individuals with the intent of establishing face validity. Nearly 400 items were developed throughout the process and at the conclusion of this study, a final inventory of 51 items remained. Implications for rehabilitation counseling and future directions are discussed.
CHAPTER I

INTRODUCTION

Dating back to the Hellenic period of Ancient Greece, the idea of virtuous human behavior has been intriguing to great thinkers. Aristotle (ca. 330BC; trans. 1998) built a framework of human ethics around what was thought to ultimately determine a flourishing life. A flourishing life in Aristotelian theory is termed *eudaimonia* and refers to the consistent exhibition of human excellence in behavior. This virtue perspective attempts to explicate a thriving life as a function of actions considered in the larger Athenian social context as wise (*sophia*), courageous (*andreia*), self-regulatory (*so̓phrosune*), and just (*dikaisune̓*) (Aristotle, 1998; Dahlsgaard, Peterson, & Seligman, 2005; Fowers 2005). Dahlsgaard and colleagues (2005) extrapolated the idea of virtue across time and culture in order to scientifically define this construct for psychological study. The result was profound in successfully structuring virtue into a measureable framework of those behaviors that are indicative of living prosperously (Peterson & Seligman, 2004; Dahlsgaard et al, 2005). This three-tier framework makes the empirical analysis of virtue and character strengths possible (Peterson & Seligman, 2004; Fowers, 2005). Virtue, termed in singular form, is the over-arching, all-encompassing idea of praiseworthy and ideal behavior in humans. On the next rung are virtues, or those means to attaining the larger concept of virtue. Character strengths include those more
specific human behaviors that, in conjunction with other positive traits, make up virtues. The classification introduced by Peterson and Seligman (2004) is comprised of six virtues and twenty-four corresponding character strengths based on the cultural review by Dahlsgaard and colleagues (2005).

Research efforts in the psychology of virtue have two main foci. Early work in psychology defined virtue as personality traits and adhered to moral constructs as these concepts are scientifically oriented and more conducive to operational definition (Baumeister & Exline, 1999; Cawley, Martin, & Johnson, 2000; Doherty 1995; Nicholas, 1994). More recently, positive psychologists have opened up the field of virtue to be built on subjective character strengths that are the means to a flourishing, happy life. Peterson, Ruch, Beerman, Park, and Seligman (2007) highlight several methods of achieving satisfaction in life. They include hedonism, or emphasizing pleasure over pain; the idea of flow (Csikszentmihalyi, 1990) which outlines level of engagement in life activities; and Aristotle’s view described previously, the persistent display of virtuous activity in everyday behavior. Additionally, Park, Peterson, and Seligman (2004) identify positive character strengths that maintain a strong relationship with elements of life satisfaction. The authors utilize the character strengths and virtue (CSV) framework (Peterson & Seligman, 2004) described previously to pinpoint those strengths of moral fiber that associate positively with measures of life satisfaction and well-being. Since the publishing of the framework, there has been debate as to how virtue and strength of character should be interpreted, studied, and applied.

According to Fowers (2005), the literature lacks consistent agreement in articulating exactly what virtue is historically. Positive psychologists and personality psychologists engage in this debate of modern virtue psychology regarding the interpretation of how individuals achieve
and experience character strengths and virtues. Positive psychology researchers explain character strengths as signature trait-like, both stable and independent. An individual’s signature positive traits elicit certain behaviors leading to a thriving life. Personality psychologists argue that positive traits must work in conjunction with each other to make decisions leading to a prosperous existence (Fowers, 2005). For example, if one hopes to prosper as a function of success at their business job, they may employ behavioral elements consistent with leadership, teamwork, modesty, and persistence. No one trait alone would be able to account for his or her subjectively perceived success and satisfaction in life. In summary, it becomes a melding of the two positions asking which particular personality traits lead to subjectively positive outcomes for individuals. Furthermore, it is argued from a psychological standpoint that virtue is a complementary mix of social and emotional well-being (Fowers, 2005). Virtue is manifested and judged by the social environment but experienced independently and subjectively. Therefore, positive psychology and virtue psychology assert that understanding virtuous behavior in humans is as important as understanding the maladaptive behavior.

Positive Psychology and Virtues

Aristotle considered illness to be “a fundamental failure in functionally explicable development,” whether mental or physical, elaborating to suggest “failures which incapacitate the agent from forming rational beliefs will be another key type of mental illness” (Megone, 1998). Essentially, Aristotle believed there to be a correct way to function for one to develop logical habits and flourish throughout one’s life. Modern clinical psychology is a more sophisticated design built to identify and classify distressed individuals, how they cope with their environment, and rectify their illness or disorder. The term “disorder” implies there must be an “order” that dictates successful human life. This deduction seems to be a parallel ideology
modeled after Aristotle’s dilemma of function versus dysfunction. Currently, psychopathology, maladaptive thoughts and emotions, and deficits in interpersonal achievement are the focus of countless research studies hoping to enlighten those in the field to new ways of overcoming and correcting these disorders. However, over time researchers began to recognize a transparent trend and ask not only what causes dysfunction, but also what causes triumph and fulfillment in the lives of functional, satisfied individuals.

How can this positive functionality be defined? The concept of positive psychology answered the demand, ushering in a new era of research that steers the focus outside of psychopathology and concentrates on strengths of character and positive subjective experiences (Seligman, 2002). Seligman and Csikszentmihalyi (2000) formally introduced positive psychology as an open field of study in the millennial edition of *American Psychologist* after the 1998 presidential address by Seligman called on researchers to help identify “what makes life worth living” in terms of human character strengths and virtues (p.13). Positive psychology recognizes three main areas: positive emotions, positive traits, and positive institutions. Positive emotions are experienced subjectively and include happiness, gratification, pleasure, well-being, and fulfillment. Individual traits are experienced subjectively but also systematically by individuals through behaviors that lead to positive experiences such as being brave, forgiving, or modest, etc. Positive institution refers to organized efforts toward social thriving and building and promoting systems in positivity such as family life, charitable organizations, educational institutions, businesses, communities, and societies. It was this recognition of function over dysfunction that continues to intrigue positive psychologists and drive research in the field (Park & Peterson, 2003; Seligman & Csikszentmihalyi, 2000; Seligman, 2002).
Seligman (2002) previously determined that a thriving life is a function of three differing orientations surrounding pleasance of life, engagement in life (flow), and meaning in life. Peterson, Park, and Seligman (2005b) elaborated to find that individuals effectively decide on differing routes to happiness and that those individuals balancing their orientation between all three reported higher levels of happiness, with emphasis given to those valuing an engaging life or meaningful life. Seligman, Steen, Park, and Peterson (2005) summarize research findings in a progress report on positive psychology that echo these findings and encourage further research utilizing the CSV framework. Significant progress in the study of virtues and character strengths has been made over the past ten years in the field of positive psychology (McCullough & Snyder, 2000; Sandage & Hill, 2001; Peterson & Seligman, 2004). The Values In Action (VIA) Institute on Character was founded in 1998 as an effort to “systematically explore what is best about the human experience” (www.viacharacter.org). This organization has provided a pathway for researchers to empirically investigate virtues and character strengths as psychological constructs.

The inception of the VIA Institute aided in producing the CSV as an “aspirational classification” of virtues that has guided research to help focus efforts on structured, behaviorally-based criterion much in the same way the Diagnostic and Statistical Manual of Mental Disorders (DSM) organizes mental illness (Peterson & Seligman, 2004; p. 7). This “Manual of the Sanities” operates as a mental wellness answer to the DSM to classify character strengths from the viewpoint of personality psychology regarding broad, stable human characteristics (Peterson & Seligman, 2004; p. 7). This perspective also accounts for contextual shaping, allowing for these positive characteristics to be malleable in changing environments. Extensive literature reviews were completed to determine the virtue and character strength constructs. Following the cultural review, an effort was made to create a classification of virtue
based on the definitions of positive character constructs rendered from the literature (Dahlsgaard et al., 2005; Peterson & Seligman, 2004).

Positive psychologists classified virtues into six broad, intrinsic qualities encompassing corresponding character strengths. The cross-cultural and interdisciplinary review of literature (Dahlsgaard et al., 2005) elucidated twenty-four strengths of character for the six virtues. The strengths for each related virtue were determined through identifying behaviors consistent with virtuous conduct. The CSV consists of six virtues and twenty-four corresponding character strengths, outlined by Peterson and Seligman (2004) as follows:

- **Wisdom and knowledge**: creativity, curiosity, judgment and open-mindedness, love of learning, perspective
- **Courage**: bravery, honesty, perseverance, zest
- **Humanity**: kindness, capacity to love and be loved, social intelligence
- **Justice**: fairness, leadership, teamwork
- **Temperance**: forgiveness and mercy, modesty and humility, prudence, self-regulation
- **Transcendence**: appreciation of beauty and excellence, gratitude, hope, humor, religiousness and spirituality

The number of character strengths corresponding with each virtue is unparallel. An individual does not necessarily need to possess all character strengths included in a particular virtue to be considered transcendent, courageous, or humane, etc. (Seligman et al., 2005). One might achieve the virtue of transcendence by demonstrating religiosity, appreciating the beauty of the world, and/or being gracious through their actions in life.

Research using the CSV has been impressive in both breadth and depth. Even beyond the findings discussed in the following sections, the CSV harbors practical implication most robustly
considering life satisfaction and well-being, but also in cross-cultural, rehabilitation, educational, occupational, and military context. It is to the credit of the pioneering authors that the CSV framework is available for scrutiny however it must be iterated that the CSV remain open to interpretation, application, and development.

The Measurement of Character Strengths

Peterson and Seligman (2004) developed this classification with empiricism in mind. The Values-in-Action Inventory of Strengths (VIA-IS; Peterson and Seligman 2004) is the most widely studied measurement of character strengths. This measure was created in direct proportion with the constructs of virtue outlined by the CSV in their classification and it cannot go without mentioning that a large majority of the research findings discussed in this paper were made possible by the development of this measure.

The authors assert that the VIA-IS does not measure virtues as a summation of the corresponding character strengths, but rather which of those character strengths seem to be more stable and evident within the individual. The VIA-IS is a 240-item, self-report questionnaire allowing ten items for each of the twenty-four character strengths. All twenty-four subscales retain $\alpha > .70$ and test-retest reliability over a four-month period is $\alpha > .70$ for a sample of over 150,000 participants (Peterson & Seligman, 2004; Ruch et al., 2010; Peterson, 2006). The VIA-IS has been growing in popularity, with over 1.3 million individuals assessing their character strengths worldwide. The ease of access and practical understanding of the VIA-IS are strengths of the measure. The sample is better than convenience, consisting of two-thirds women; representative of US ethnic approximation; average respondent is 35 years old, married, employed, and completed some post-secondary education. Demographic correlations are modest but sensible. For example, women score higher than men on all of the humanity strengths,
younger adults score higher than older adults on the scale for playfulness, married individuals are more forgiving than divorced people, etc.

Adaptations of the measure exist in several languages and data has been collected in fifteen countries. The survey is free to the public on the web and has more recently been implicated into practice for positive psychologists, counselors, and life coaches. An interpretive report complete with graphed analytics is also available for a fee through www.viacharacter.org. Studies utilizing the VIA-IS have emerged linking positive human attributes to well-being and life satisfaction (Park, Peterson, & Seligman, 2004), developmental implications (Isaacowitz, Vaillant, & Seligman, 2004), academic success (Lounsbury, Fisher, Levy, & Welsh, 2009), and cultural considerations (Biswas-Diener, 2006; Brdar & Kashdan, 2010; Linley et al., 2007; Park, Peterson, & Seligman, 2006; Peterson, Ruch, Beerman, Park, and Seligman (2007); Ruch et al., 2010; Shimai, Otake, Park, Peterson, & Seligman, 2006). An “urban psychology” has also been born out of the VIA-IS, comparing nearly 50,000 individuals residing in the largest cities in the United States across character strengths to identify which cities maintain particular positive traits (Park & Peterson, 2010).

The structure provided by the VIA Institute has made this research possible and the opportunity is ripe to further explore implications of character strengths for different populations because most studies simply direct participants to the website supporting the survey or draw data from the growing pool of existing participants. Findings from the VIA-IS are often statistically compared to other measures (GPA; Lounsbury et al., 2009; quality of life measures; Park, Peterson, & Seligman, 2004). For example, results in these studies have shown all 24 character strengths were positively and significantly related to general life satisfaction; 22 were significantly, positively related to life satisfaction in the university population; and 16 to GPA.
However, researchers disagree on the six-factor arrangement of virtues posited by the pioneering authors. Peterson and Seligman (2004), and colleagues (Peterson & Park, 2004; Peterson, Park, Pole, D’Andrea, & Seligman, 2008) have mostly uncovered a five-factor model through their factor analysis efforts. Peterson and Seligman (2004) reported results from their exploratory factor analysis that led to a 5-factor solution. The Varimax rotated factors were labeled (1) strengths of restraint (fairness, modesty, forgiveness, prudence); (2) intellectual strengths (e.g., creativity, curiosity, love of learning, appreciation of beauty); (3) interpersonal strengths (e.g., kindness, love, leadership, teamwork, humor); (4) emotional strengths (e.g., bravery, hope, self-regulation, zest); and (5) theological strengths (e.g., gratitude, religiousness).

Extant literature pertaining to the VIA-IS has also found evidence of a three-factor model (Shryack, Steger, Krueger, & Kallie, 2010), four-factor model (Dahlsgaard, 2005; Park & Peterson, 2006), and even a one-factor model (MacDonald, Bore, & Munro, 2008). These findings show discrepancy in the effort to structure the virtue factor model. Thus, the need for further exploration into the construct validity of the VIA-IS is evident through the poor and inconsistent psychometric validation.

**Statement of the Problem**

The inception of the CSV and VIA-IS has had significant implications for the systematic study of virtue. We are now able to operate out of a debatably exhaustive classification in order to empirically measure the significance of character within the individual. The creation of the CSV has been a gift not just for positive psychology, but also clinical, social, and more recently, counseling contexts. Counselors are beginning to employ interventions related to positive psychotherapy (PPT; Seligman, Rashid, & Parks, 2006) and using the VIA-IS to do so. However, the formation of such a considerable classification gives way for certain scrutiny, development,
and improvement, as the pioneering authors acknowledge. The character strengths systematically outlined by the CSV are addressed in a piecemeal manner, contradicting tenets of virtue ethics proposed as early as Aristotle and echoed by Fowers (2005) by suggesting that signature strengths dictate virtuous behavior as opposed to an omnipresent subjective experience of virtue. Furthermore, extensive validation is necessary pertaining to how strength of character contributes to happiness and well-being in minority groups, in this case the population with physical disabilities.

Notable trends concerning recovery from physical and mental illness (Peterson, Park, & Seligman, 2006) and posttraumatic growth (Peterson et al., 2008) were found, making the connection evident between virtue and rehabilitation psychology. As the VIA-IS is gaining credibility and use through PPT to help identify individuals’ prominent character strengths, counselors are able to better build a conceptual plan to achieve subjective happiness. Implications for utility of the VIA-IS in a rehabilitation or disability context is limited in existing literature. In fact, only three research studies examine the potential relationship of the CSV and chronic physical or mental illness (Peterson, Park, & Seligman, 2006; Peterson et al., 2008; Dunn & Brody, 2008). This study hopes to fill that void and investigate the character strengths of individuals with disabilities and develop a measure better applicable in rehabilitation populations. As it stands, the VIA-IS consists of 240 self-report items and may take a subject 45 minutes to complete. Individuals with physical disabilities may not have the physical endurance to complete such a test without significant difficulty. Although widely utilized for research and now practice, the CSV structure has not yet proven reliable in samples of the general population so it is difficult to draw the application to the rehabilitation context. The idea of posttraumatic growth and recovery from mental and physical illness has been broached, but remain scarce in validation.
and replication. Furthermore regarding physical disability, posttraumatic growth and recovery insinuate a causal event resulting in an individual’s loss of psychomotor capability. What about those experiencing disabilities since birth? These are questions the CSV structure has yet to address. If the tenets within the CSV could be retained in an empirical tool and maintain validity, implications in rehabilitation psychology and counseling in general could be large.

Research relevant to positive psychotherapy has been linked to time perspective in individuals with disabilities, focusing on habituating a here-and-now and future-oriented mindsets (Csikszentmihalyi, 1992; Boyd-Wilson et al., 2002). Many undergoing rehabilitation processes or living with chronic or permanent debilations may discontinue or postpone treatment because of the painful effort put forth. Positive future orientation is an aspect of PPT that could be more easily put into practice if individuals’ signature strengths were identified. This way those strengths can be utilized to build a sense of hope of improvement and belief that present suffering will actually be beneficial in the future (Boniwell & Zimbardo, 2004). Evidence-based practice research in counseling psychology has largely focused on the alleviation of psychological problems resulting from maladaptive coping, stress, depression, anxiety, etc. The population with physical and mental disabilities may or may not present psychological issues related to their disability but for the individuals that do have concerns related to their condition, alleviation of the problem may be next to impossible. In this case, rehabilitation clients may benefit from shifting the focus to a positive one; emphasizing strengths and how to use the resources they inherently possess to achieve the highest subjective quality of life obtainable. This study is a step toward the existence of an empirical measure designed to identify these strengths and become a trademark tool for rehabilitation clinicians.
The Purpose of the Proposed Study

The purpose of this study is to help develop a psychometric instrument that would measure rehabilitation clients’ virtues and character strengths. This stage in the development of the Adapted Virtue Inventory of Strengths (AVIS) included scale item construction and the establishment of face validity indicators. Specifically, this study addresses the following research question: *Is the AVIS a qualitatively face valid instrument for measuring virtues and character strengths?*

If an inventory existed that could reliably measure virtue and character strengths in rehabilitation clients, the implication and benefit to rehabilitation counselors and clients could be significant. Although few existing studies explore virtue factors in individuals with various mental illness, none have honed in on those strengths of character inherent within those with physical or debilitating illness. Factor analysis of the CSV framework has been highly inconclusive, making the application to the counseling field difficult. Along with the positive psychology literature, Dunn and Brody (2008) identify positive behavioral correlates for individuals with acquired physical disability to be able to live satisfying lives, including autonomous and prosocial behaviors. To better understand the strengths of individuals with physical disabilities would provide rehabilitation counselors a bridge between client-centered interventions to increase these behaviors and positive subjective psychosocial adaptation to issues concerning a physical disability and beyond.
In order to better understand the topics relevant to the current study, a review of pertinent literature is presented in three parts. The first section will be a brief synopsis dedicated to the principles inherent in positive psychology, virtue, and character strengths. The second section will examine the factor structure of the Values-In-Action Inventory of Strengths. The third section will introduce the idea of positive rehabilitation psychology and explore psychosocial interventions pertaining to individuals with chronic illness and physical disabilities.

**Positive Psychology and the Study of Character Strengths**

In 1998, the American Psychological Association (APA) president Martin E. P. Seligman reminded psychologists that two of the three main objectives of psychology before World War II had been abandoned. Those three missions were curing mental illness, making the lives of individuals more fulfilling, and fostering the remarkable talent of individuals. He cited the inception of the Veterans Administration (VA) and the National Institute of Mental Health (NIMH) as outstanding yet distracting entities, as mental health professionals were able to receive grant funds to conduct research and provide treatment to individuals suffering psychosocial issues due to mental and physical illness. Seligman summarizes his thesis in the following paragraph:
“Fifty years of working in a medical model on personal weakness and on the damaged brain has left the mental health professions ill equipped to do effective prevention. We need massive research on human strength and virtue. We need practitioners to recognize that much of the best work they do is amplifying the strengths rather than repairing their patients’ weaknesses. We need psychologists who work with families, schools, religious communities, and corporations to emphasize their primary role of fostering strength” (Seligman, 1998, p. 2; retrieved from Snyder & Lopez, 2007, p. 5)

Seligman picked up and succeeded where Maslow (1954) left off. It was Maslow who first introduced the term “positive psychology,” emphasizing the success of the psychopathology focus and subsequent lack of focus on the strengths and virtues of humankind. The call has been answered and positive psychology research has significantly increased over the past ten years. Those three main areas positive psychology researchers have focused their efforts on are those described by Seligman and Csikszentmihalyi (2000) to be positive emotion, positive traits, and positive institutions. Positive emotion highlights those subjective experiences of well-being felt at the individual level and they may be induced by the individual’s perspective or as a function of the other two main areas. Positive traits pertain to those character strengths and virtues outlined in the CSV. Positive institution includes those organizational entities at the macro level, serving a social justice purpose to increase quality of life and well-being beyond the individual to include schools, businesses, and services targeted at the greater population of humans. As a prime example of this third area, the VIA Institute frames their efforts to expand the scope of their research and services around all three areas of
focus in positive psychology. The classification of virtues and character strengths (Peterson & Seligman, 2004) serves as the backbone of empirical research in the field. Entities like the Values In Action Institute and The Journal of Positive Psychology (conceived in 2006) provide a mainstay for positive psychology researchers. In the advent of the CSV and VIA-IS, researchers have taken advantage of the opportunities afforded by Peterson and Seligman (2004) but the replication process continues to validate both the classification and empirical measures. Some elaboration of the CSV, however, may be necessary. Peterson and Seligman (2004) organize corresponding character strengths abiding by a stringent set of criteria. Critics recognize flaws in the structural integrity of the criteria based on the nature of virtues and character strengths as boundless and overlapping. These critiques become evident in the review of the CSV factor structure.

In addition to and as a result of the cultural review of virtue, Park, Peterson, and Seligman (2004) outline seven remaining criteria under which each character strength abides (Appendix A). These seven criteria are whittled down from the ten criteria proposed in the CSV handbook, yet all seven were original criteria and some tenets have been collapsed. Those criteria explain how strengths must be manifest within the range of an individual’s behavior and contribute to the varying fulfillments of their own life as well as others’. Furthermore, each strength is said to uniquely produce desirable results for the individual and those around them, they are also valued in their own right, regardless of the beneficial outcomes. One’s behavior that could be indicative of strength possession must also not diminish others around them however bring others to a positive state along with the individual. Allusions to Erikson and the stages of psychosocial
development are relevant in that virtue may be obtained as an individual conquers each stage. The authors recognize that environmental factors provided to resolve Erikson’s core conflicts (positive institution) enhance the cultivation of character strength, but also that character will invariably be manifest through a subjective lens. The final criterion is one of great debate in that a strength “is arguably unidimensional and not able to be decomposed into other strengths in the classification” (Peterson & Seligman, 2004). The authors recognize that some constructs of virtue may be inherently and empirically parallel (curiosity vs. love of learning), yet at the time of publishing the CSV, they maintained that their theoretical factor structure was malleable, just not withstanding future research results.

Applied Research with the VIA-IS

In 2003, Peterson and Seligman provided evidence of a cultural shift in the values of individuals in the United States following the 9/11 terrorist attack. Using the VIA database of respondents from January 2001 to June 2002 (n = 1088 before 9/11; n = 3729 after 9/11), the researchers examined collective scores of character strength for American citizens. Following 9/11, the strengths of gratitude, hope, leadership, kindness, love, spirituality, and teamwork spiked and maintained the elevated position for the two months following the attack and hit a plateau by nine months after. The results suggest a change in the core cultural emphasis for US citizens after 9/11 and sparked an interest in the progression of research on virtue and character strengths.

Worth noting are the efforts in validation of the Values in Action Inventory of Strengths for Youth scale (VIA-Y). Peterson and Seligman (2004) developmentally adapted the language, format, and phrasing of the VIA-IS informed by research by
educational and developmental psychology research (Steen, Kachorek, & Peterson, 2002). The inventory contains 198 items (6-12 items for each character strength) and is suitable for children age 10-17. There are several reverse-scored items, which the VIA-IS does not employ, however similar to the adult version, a 5 point Likert scale format is used. The scale was validated on a sample of 2,300 middle and high school students of differing ethnicity and socioeconomic status across seven states (Alabama, California, Nebraska, New Jersey, Ohio, Pennsylvania, and Texas). Students completed the assessment in an average of 30-45 minutes and all scales achieved near satisfactory alpha levels ($\alpha > .65$). Strengths of temperance proved most difficult to measure and girls scored higher than boys in many strengths. Older students generally scored higher than younger students and no significant differences were found between ethnicities except for spirituality where African-American students scored higher than Caucasian students. Like their adult counterparts, children scored higher in strengths of humanity and life satisfaction and happiness measures correlate with most strengths (Peterson & Seligman, 2004; Dahlsgaard, 2005; Park & Peterson, 2005; 2006).

Well-being and life satisfaction remain pertinent topics in relation to positive character traits. Naturally, Park, Peterson, and Seligman (2004) found character strengths to be strongly related to subjective life satisfaction in a sample of 5,299 individuals with an average age of 35–40 years; 70% were females, and 80% were U.S. citizens. Participants completed online versions of the VIA-IS and the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). The character strengths showing the strongest relationship with life satisfaction were zest, hope, gratitude, curiosity and love. Modesty and other intellectual strengths (creativity, love of learning, appreciation of
beauty, and judgment) were only mildly correlated with life satisfaction. Zest can be loosely defined as living life to the fullest and enthusiastically engaging in life’s activities, relating to Csikszentmihalyi’s (1990) idea of flow and clearly showing the connection to a happy life. Park and colleagues adeptly describe how gratitude links us to the past, hope to the future, and how love and curiosity keep us grounded in the present.

Cross-cultural studies of virtue have been successful in finding a common thread of virtue constructs across the globe. Biswas-Diener (2006) examined three vastly different cultures using the VIA framework including the Inughuit tribe of Northern Greenland (n = 71), the Maasai tribe of Western Kenya (n = 123), and students at the University of Illinois – Urbana-Champaign (n = 519). Each group aside from the Maasai were given written statements and asked to respond on a scale of 1-3 (1, I strongly do not wish to have/my child to have X virtue/character strength; 2, I moderately wish to have/my child to have X virtue/character strength; 3, I strongly wish to have/my child to have X virtue/character strength). The Maasai are an illiterate tribe communicating only in their native language, Maa, so interviews were administered orally by trained tribal members. The Inughuit were randomly assigned to respond to six of the twenty-four character strengths while the Maasai and university students were randomly assigned two character strengths. Results show that all three groups emphasized the existence, importance, and desire to possess all twenty-four character strengths, supporting the trans-cultural ideology of virtue.

The VIA-IS has also been translated into 15 languages, including Japanese, which Shimai, Otake, Park, Peterson, and Seligman (2006) completed to confirm cross-cultural effects of happiness and strength of character. An American sample of 1099 young adults
(312 males, 787 females; ages 18-24), 88% of which were or had been college students was extracted from the same sample of online participants completing the VIA-IS used by Park et al. (2004). Within this sample, 789 also completed the Subjective Happiness Scale (Lyubomirsky and Lepper, 1999). A Japanese sample of 308 students (133 males, 175 females; ages 18-24) completed the translated Japanese VIA-IS, and 245 of them also completed the translated Japanese Subjective Happiness Scale. Results were similar to Park et al. (2004) in showing zest, curiosity, gratitude, and love to correlate highest with happiness.

Park, Peterson, and Seligman (2006) examined a large cross-cultural sample \((n = 117,676)\) in an effort to show ubiquity of virtue and character strength across lines of ethnicity and environment. A large portion of the sample \((n = 83,576)\) were American and the remainder \((n = 34,100)\) came from 54 other countries, all of whom had a representation of at least 20 participants. Data was retrieved in the same fashion as previous studies. Participants completed an online version of the VIA-IS in English, as the survey was yet to be translated to the capacity it is available today. Results for the American sample show the following top character strengths in rank order: kindness, fairness, honesty, gratitude, and judgment. Ranks from the bottom up include prudence, modesty, and self-regulation. Interestingly, 53 of the 54 countries converged with the US sample for the top and bottom ranked character strengths. These findings explicitly demonstrate the common thread of how individuals all over the world share the virtue of humanity and perceive themselves to be lacking in the virtue of temperance. A powerful suggestion can be made to those who argue that differing cultural values and ideologies vastly separate the citizens of the world.
Several additional research efforts have demonstrated cross-cultural and cross-temporal validity regarding well-being, gender, and age. Linley and colleagues (2007) used an online sample ($n = 17,056$; 6,332 men; 10,724 women; 81.5% aged 25-54) of participants in the United Kingdom and found women to be slightly greater than men in overall character strength with the exception of creativity. However, four out of five top character strengths were the same for both men and women (open-mindedness [judgment], fairness, curiosity, and love of learning. It was also noted that more similarities than differences existed across gender. Character strength was positively associated with age, most notably with strengths of wisdom (curiosity, love of learning), justice (fairness), and temperance (self-regulation, forgiveness) supporting the tenets of developmental and humanistic psychology that personal growth, self-actualization, and wisdom come with age.

Peterson, Ruch, Beerman, Park, and Seligman (2007) explored life satisfaction in a US sample ($n = 12,439$) and German-speaking Swiss sample ($n = 445$). Character strength was measured with the translated German VIA-IS and life satisfaction was measured using the SWLS as well as the Orientations to Happiness Scale (Peterson, Park, & Seligman, 2005a), which measures the fulfilled life as a function of subjective pleasure, engagement (flow), and meaning in life (Seligman et al., 2005). The researchers found the character strength most indicative of life satisfaction to be gratitude in the US sample and perseverance for the Swiss. The Swiss sample showed higher levels of life satisfaction overall while the US sample endorsed higher levels of meaning. Ruch et al, (2010) examined a sample of 1,674 German-speaking individuals in an effort to validate the German version of the VIA-IS and previous findings regarding life satisfaction. Both
of these studies were able to replicate reliability and validity measures of the VIA-IS achieved in previous studies of psychometric validation (Peterson & Seligman, 2004; Park et al., 2004; Peterson, et. al, 2006; Shimai et al., 2006) and strong associations of character strength with well-being and life satisfaction (Park et al., 2004). Brdar and Kashdan examined a sample of Croatian students (n=881) mainly for the analysis of the virtue factor structure, however also found results consistent with the previous studies regarding life satisfaction as measured by the SWLS.

In summation, the findings discussed thus far illuminate how individuals across the world recognize and endorse the values of the CSV framework constructed by Peterson and Seligman (2004). Their pioneering work is not solely a western ideal and further research and application of the CSV framework will have widespread subscription and functionality. The works discussed in this section echo that virtue is likely a function of personality, not necessarily one of moral reasoning and cognitive development (Cawley et al., 2000).

Factor Structure of the VIA-IS

Although Peterson and Seligman (2004) firmly maintain that the classification is a malleable production, Ruch and colleagues (2010) further emphasize the need to inspect the factor structure of the VIA taxonomy, if not “to evaluate a potential redundancy of the scales, which might be important when revising the inventory or deriving a shorter form” (p. 147). Upon construction of the VIA classification of virtues and character strengths, considerable research has been produced exploring the factor structure therein.

As stated previously, operating out of the VIA classification and achieving consensus on the factor structure has been a trying task. Little evidence exists supporting
the originally proposed six factor model (Peterson & Seligman, 2004), however variable support has been determined for a five factor model (Peterson & Seligman, 2004; Peterson & Park, 2004; Peterson, Park, Pole, D’Andrea, & Seligman, 2008; Ruch et al., 2010), a four factor model (VIA-Y; Peterson & Seligman, 2004; Dahlsgaard, 2005; Park & Peterson, 2005; 2006; VIA-IS; Brdar & Kashdan, 2010; Macdonald et al., 2008; Shryack et al., 2010), a three factor model (Ruch et al., 2010; Shryack et al., 2010), a two factor model (Peterson, 2006) and one factor model (Macdonald et al., 2008; VIA-Y; Van Eeden, Wissing, Dreyer, Park, & Peterson, 2008) have also been uncovered.

The original authors’ factor analyses have been previously discussed. Five factors suggested by the factor analysis of Peterson and Park (2004) were identified as cognitive strengths (e.g., love of learning, creativity, curiosity), emotional strengths (e.g., playfulness, zest, intimacy, and hope), conative strengths (e.g., open-mindedness, industry, prudence, and self regulation), interpersonal strengths (e.g., leadership, forgiveness, teamwork, and kindness), and transcendence strengths (e.g., awe, gratitude, and spirituality). The five factors found by Peterson et al. (2008) include interpersonal (humor, kindness, leadership, social intelligence, love, teamwork), fortitude (bravery, honesty, judgment, perseverance, perspective, self regulation), cognitive (appreciation of beauty, curiosity, love of learning, creativity), transcendence (gratitude, religion, hope, zest), and temperance (fairness, modesty, forgiveness, prudence). Peterson (2006) explored a factor solution based on the analysis of ipsative data. Two factors emerged entailing emotional expression vs. intellectual restraint, and strengths that focus on the self vs. others. The short labels are strengths of the heart (e.g., religiousness, humor) vs. mind (e.g., self-regulation, perseverance) and strengths focusing on self (e.g., creativity,
curiosity) vs. on others (e.g., teamwork, leadership). These factor loadings show many similarities in their structure. For example, in Peterson and Park’s (2004) structure, many of the *cognitive strengths* and *interpersonal strengths* align with that of Peterson and Seligman’s (2004) *intellectual strengths* and *interpersonal strengths*, respectively. Peterson and Seligman’s (2004) *restraint strengths* overlap Peterson and Park’s (2004) *conative strengths* and the *temperance* strengths of Peterson and colleagues’ (2008) structure.

The pioneering authors (Peterson & Seligman, 2004) seem to have created a solid network of collaborators that expend research effort attempting to validate and explore the factor structure of the VIA. Up to this point, the discussion of the factor structure of the VIA has not mentioned those research efforts which invalidate the structure proposed by the original authors and their colleagues. Either Peterson or Seligman has been primary or secondary author on much of the literature pertaining the VIA, and deservedly so. However, an opposition does seem to exist. Recall that Macdonald and colleagues (2008) found evidence of a four factor model and a one factor model. Employing second order principal components analysis, the authors’ four factor model found factors loading for *positivity* (teamwork, love, hope, humor, zest, leadership), *intellect* (creativity, love of learning, curiosity, social intelligence, bravery, perspective), *conscientiousness* (self regulation, perseverance, judgment, honesty, prudence), and *niceness* (modesty, fairness, kindness, spirituality, forgiveness, gratitude). Pertaining to the one factor model of virtue, all character strengths loaded reasonably well except for modesty and prudence. The authors emphasize that factor loadings were disorganized and incapable of interpretation due to excessive cross-loading.
Shryack and colleagues (2010) used multiple criteria (principal components analysis, parallel analysis, component saturation and identification, and the Goldberg approach) to extract a strong three factor model (agency/self assuredness, socialability and conscientiousness strengths) and a four-factor model (intellectual, interpersonal, temperance, and spiritual strengths). The authors neglect to declare exactly what character strengths make up their factor models, particularly the four factor model, declaring that it “may be justified” (p. 717). Brdar and Kashdan (2010) confirm their four factor model to load on interpersonal strengths, fortitude, vitality, and cautiousness. The authors compare their factors to Macdonald and colleagues (2008) as follows and state that the comparison is not exact, but similar across several character strengths: interpersonal strengths are consistent with niceness; fortitude are consistent with intellect; vitality are consistent with positivity; and cautiousness are consistent with conscientiousness. Similarly, the structure constructed by Peterson and colleagues (2008) match well against Brdar and Kashdan’s (2010) factors of the same and similar nomenclature (interpersonal, fortitude, vitality, [what Peterson and researchers term transcendence], and cautiousness [temperance].

The results found in the preceding research were determined using several different methods of analysis and find decent evidence of a four or five factor model. However, it should be noted that Brdar and Kashdan’s (2010) findings (n = 881), Shryack and colleagues’ (2010) work (n = 332), and Macdonald and researchers’ (2010) findings (n = 123) all have serious implications regarding sampling. Respectively, each study uses a Croatian university student sample, a sample of adults from the Minnesota Twin Registry, and a considerably small Australian university student sample. In order to gain
reliable and acceptable factor loadings, Gorsuch (1983) stated that there should be at least 5 participants per variable and that a sample size of at least 200 is preferred. Streiner (1994) recommended that adequate solutions will be obtained with 5 participants per variable as long as there are 100 participants in the sample, and with 10 participants per variable when there are less than 100. Floyd and Widaman (1995) assert that the old adage regarding sample size for factor analyses is “the more the better.” The researchers discussed previously do meet some of the criteria for an acceptable factor analysis, however those researchers affiliated with the founders of the VIA classification utilize the vast sampling capacity of the VIA Institute. Currently, over 1.3 million individuals have completed the VIA-IS (www.viacharacter.org) through the VIA institute. Furthermore, the results by Macdonald and colleagues (2010) were concluded using an outdated version of the VIA-IS from 2001 containing only 213 items.

It is important to consider all factor structures determined by research into the structure of the VIA-IS. Those studies utilizing the VIA institute boast exponentially larger sample sizes and therefore merit closer attention regarding factor structure. To date, no study has explored the factor structure using a sample of individuals with physical disabilities. It remains difficult to hypothesize what kind of factor structure may result from this population, however significant research may be referenced for comparison.

**Positive Psychology and Rehabilitation Psychology**

The focus on strengths in rehabilitation psychology has existed since Wright’s (1983) treatise on psychosocial effects of chronic illness and disability (CID). She explicitly states how “assets of the person must receive considerable attention in the rehabilitation effort” (p. xiii). The dichotomous framework offered by Wright has the
individual with CID choosing a path of coping versus succumbing. In coping with CID, the individual perceives their situation to be a challenge worthy of their efforts toward well-being. Succumbing individuals maintain a focus of loss and helplessness, perpetuating a bleak outlook without recognition of their inherent strengths as a human. Dunn and Elliot (2005) confirmed that an orientation toward coping rather than succumbing more often leads to overcoming and thriving as an individual with CID.

Linking the CSV to elements of rehabilitation, Peterson, Park, and Seligman (2006) found that certain strengths were related to recovery from illnesses. A sample of 2,087 adult respondents (33-44 years old on average; 88% Caucasian; 87% women; 85% US citizens) completed the VIA-IS and the SWLS while disclosing various mental and physical illness including but not limited to cancer, chronic pain, arthritis, obesity, substance abuse, depression, anxiety, diabetes, and autoimmune diseases. Participants in the study who had recovered from a psychological disorder were higher in appreciation of beauty and excellence, creativity, curiosity, gratitude, and love of learning than participants who had never suffered from a psychological disorder. For physical illness (arthritis, cancer, chronic pain, etc.), possible mediating character strengths include humor, bravery, and kindness. In those suffering psychological illness (anxiety, depression, substance abuse, etc.), possible mediators include appreciation of beauty and love of learning. The authors suggest that those individuals who recover from chronic illness show high positive trait levels in certain areas compared to those yet to overcome their debilitation. (Peterson, Park, & Seligman, 2006).

In a recent study, Peterson, Park, Pole, D’Andrea, and Seligman (2008) showed that the experience of trauma is associated with an increase in character strengths
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(posttraumatic growth). The authors examined a sample of 1,739 adults (40 years old on average; 80% Caucasian; 69% women; 72% US citizens) who completed the VIA-IS and the Post-Traumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996), which measures how individuals change their behavior following traumatic experiences. Over half of the respondents reported experiencing trauma. Traumas included life-threatening trauma (32%), sexual assaults (23%), and physical assaults (19%). Positive correlations were found between the VIA-IS and PTGI for all character strengths, notably religiousness ($r = .35$), kindness ($r = .30$), bravery ($r = .29$), hope ($r = .29$), zest ($r = .28$), and appreciation of beauty ($r = .28$).

In their progress report on positive psychology, Seligman and colleagues (2005) identify specific strength-based interventions en route to a declaration of positive psychotherapy (Seligman et al., 2006). Centering on those three elements proposed to lead to a fulfilling life (pleasance, engagement, and meaning), the authors tested five positive interventions and a control on a convenience sample of 411 participants (77% Caucasian, 58% female; 64% between 35-54 years old) from a link on the lead author’s website titled “happiness exercises.” The different interventions were as follows: a gratitude visit to someone they value in their life; writing down three good things that happen every day for a week; reflecting on you at your best, a time when individuals excelled and the strengths that they experienced; using signature strengths in a new way after taking the VIA-IS online and receiving feedback on signature strengths and then using them in new and different ways for a week; and identifying signature strengths, a similar intervention to the previous intervention described, however without the instruction to utilize strengths in a new and different way; and a control, whereby
respondents reflected on and wrote about fond childhood memories every day for a week. The authors found that using signature strengths in a new way and three good things predicted higher levels of happiness and lower levels of depression for six months, as indicated by the Steen Happiness Index (SHI) and Center for Epidemiological Studies–Depression Scale (CES-D; Radloff, 1977). The SHI was constructed by the authors in this study as a measure of happiness in direct opposition to the structure of the Beck Depression Inventory.

In light of the promising findings herein, Seligman and colleagues (2006) elaborate on how to use positive interventions and PPT in greater detail. Retaining the interventions that predicted greater happiness and less depression, the authors identified three additional interventions: obituary/biography, whereby individuals construct a 1-2 page summary of what they would want to be remembered by; active/constructive responding to good news from others in an enthusiastic and deliberate manner; and savoring the everyday routine efforts that an individual may normally rush through without consideration.

In application to rehabilitation psychology, Dunn and Brody (2008) discuss life experience variables and how they pertain to living a fulfilling life following acquired physical disability. Dunn and Brody (2008) theorize three behaviors consistent with Seligman and colleagues (2006) that lead to living a flourishing life for individuals following an acquired physical disability. These include building meaningful relations with others, cultivating positive traits, and making efforts toward autonomy and management of one’s own life. Building connections with others entails socializing with others, positive social comparisons, and helping others. Identifying positive personal
qualities includes finding meaning, resilience, expressing gratitude, humor, and savoring. Autonomous behavior encompasses how an individual might exercise and expend energy, be comfortable under their own devices, engage themselves in life’s activities, special rewards that are meaningful to the self, and giving back socially through the generation of one’s own greater ideals. The PPT elements of Seligman and colleagues are evident in Dunn and Brody’s (2008) efforts to describe how individuals with physical disabilities can realize a satisfying life. The authors emphasize that these circumstances are not necessary for individuals with physical disabilities however they may substantially contribute to an individual adopting the coping orientation described by Wright (1983).

The tenets of positive psychology and rehabilitation psychology are apparent. Chou, Lee, Catalano, Ditchman, & Wilson (2009) provide an outstanding overview chapter of the link between these two disciplines in Chan, Cardoso, and Chronister’s (2009) desk reference volume on psychosocial adjustment to CID.
CHAPTER III

METHODOLOGY

This chapter describes the process and design. A discussion of the research design, scale preparation, population, sampling procedure, and statistical analysis are included in this chapter. The purpose of this study is to help development of a psychometrically valid instrument that would measure virtues and character strengths. The final aim of the development of such a measure would be to sample individuals with physical disabilities. The process of developing the AVIS includes scale item construction.

Scale Development

The primary purpose of this effort was to develop the Adapted Virtue Inventory of Strengths (AVIS; Appendix B). The inventory aims to measure virtues and character strengths and has been developed under faculty supervision utilizing the research team of six doctoral and four master’s students at Ball State University. Developed items were adapted from the explicit definitions of the 24 character strengths provided by the CSV. In an effort to create a fresh, behaviorally-minded inventory, items from the VIA-IS are not retained however much like the VIA-IS, the CSV served as the theoretical base for the items. In order to ensure face validity and content validity, over 350 items were initially developed. Group members individually developed items for each character strength and
the items were discussed among the group. Those items achieving a consensus rating of initial acceptability were included for a second round of consideration. This second review had group members individually rating each item on clarity (yes or no), absence of qualifier (very, rarely, always, never, etc.), and behavior-base (inclusion of action verbs). Items that were deemed clear, without qualifiers, and behaviorally-driven were discussed as a group and accepted for a third round of consideration. Group members then individually rated the remaining items on a 5-point Likert scale of clarity, behavior, and representation of the character strength as stated in the CSV. In all judgments, clarity was gauged as a function of consistency between group members’ interpretation of an item. Members of the group include individuals from Iceland and Korea, helping to create a strong multicultural inventory as English is not the first language of all members. A qualifier consisted of any adjective or adverb that preceded the action verb in a given item. An item was judged as behaviorally-driven by the presence of a directional action verb with the participant as the subject of the item. To maintain face validity, representation of CSV constructs was gauged by group discussion comparing items to the literal definitions of the constructs. The 161 retained items for the current study will be submitted for an expert review with six individuals savvy in positive psychology, rehabilitation psychology, and scale development and then a pilot study will be conducted. Criteria for expert reviewers are at least one publication in positive psychology and chairing or serving as a dissertation committee member on this topic.

Panel of Experts

The panel of experts was utilized to establish the face and content validity of the AVIS. A total of 5 experts were contacted and requested to review the instrument for its
appropriateness and relevance to the topic of virtue and character strengths. The panel of experts consisted of two full professors of rehabilitation psychology full professors, two assistant professors of rehabilitation psychology, and one full professor in counseling psychology. In addition, the panel consisted of one female and four males. The expert panel was asked to provide feedback on overall usefulness of the survey, including time to administer, grammatical errors, readability, use of colloquial language or idioms, biased language, and any comments on the item. Experts will be asked to rate each item for clarity on a 5-point Likert scale ranging from (1) vague to (5) clear/concise. Items receiving less than a 3 were eliminated or revised. Furthermore, experts were encouraged to submit additional items or topics that the survey may not have adequately addressed. A total of 52 items were retained for further review from the research team before the field test.

Field Test

Once the primary researcher received feedback from the review, the research team processed the comments from the experts. The revised questionnaire was made available for the field test and using the expert feedback, 51 of the 52 items from the expert review remained. This field test asked for comments on the clarity of the instructions and the developed items. The purpose of the pilot study was to gauge practical face validity.

The primary researcher contacted a sample of 15 individuals and the first 10 respondents were retained to participate. All respondents were sent a cover letter with instructions and list of 51 developed items. They were also sent a list of the 24 character strengths to reference during their review. The respondents were asked to read the items, state which character strength they believed coincided with each item, and provide any
feedback they had about the experience including clarity of items, difficulty discerning between strengths, etc. Participants had no previous knowledge of the classification of virtue and character strengths and this was the only exclusion criteria used at this stage. The research team then analyzed the responses of the 10 participants. In order for an item to be retained from the first stage of the field test, 70% accuracy (7/10) was needed. After the initial 57 items were sent out, 21 items remained to be further developed. The research team met to review the responses and develop further items that may alleviate the issues identified from the first respondent review. A second stage of respondent review was initiated in similar fashion. Participants were again sent a list of items. The 21 items had been developed into 30 items by the research team. The list of character strengths included were only those that remained regarding the 30 items and this list included 18 of the 24 strengths. The same 10 participants were again asked to read the items and state which character strength they believed coincided with each strength and provide any feedback regarding the item. The results of the pilot review of items are discussed in further detail in the following section.
CHAPTER IV
RESULTS AND DISCUSSION

This chapter outlines the results and discusses the implications therein. The discussion is organized by the two reviews conducted and the subsequent development process that followed the receipt of each review.

Review of First Field Test

The initial review included 51 items. Each character strength was represented by two items except for Bravery, Perseverance, and Self-Regulation which all had three items each. Upon receipt of the respondent review from all 10 participants, 21 items were determined to be underdeveloped, needing further review from the research team. Items needing further revision included those character strengths of Creativity (1), Curiosity (2), Judgment/Openmindedness (1), Love of Learning (1), Perspective (2), Bravery (3), Zest (1), Kindness (2), Social Intelligence (2), Fairness (1), Forgiveness (2), Prudence (2), and Self-Regulation (1). Those strengths that were most commonly confused by participants were Curiosity and Love of Learning; Prudence and Self-Regulation; Bravery and Religiousness and Perseverance; Perspective and Judgment/Openmindedness; and Forgiveness, Kindness, and Capacity to Love and Be Loved.
The research team met after receiving the results for the initial review. We attempted to develop items in a way to distinguish between the character strengths that the reviewers seem to get confused. This process was a difficult one. For example, distinguishing between curiosity and love of learning is something that Peterson and Seligman (2004) have identified from the beginning. It has always been questionable if these constructs should be included together in the same virtue factor. In the current study, sample items for curiosity include “I am fascinated by many topics” and “I try to find answers to the questions I have.” These items have been able to withstand the rigorous review process through the expert review and many trials with the research team but when given to the general public, these constructs are often muddled together.

**Review of Second Field Test**

The research team completed their development process and the 21 problem items were developed into 31 items for the participant’s second review. This review went decidedly positive as only six items returned needing further development meaning the research team addressed the ambiguity of the items well. The final six items were developed with less input from the team and the principal faculty investigator ultimately controlled which items were retained or developed further. These items were added to balance the number of items for each individual character strength to help maintain internal consistency.

The strengths that required final revision were those ambiguous items pertaining to prudence/self-regulation and perspective. According to the definitions of prudence and self-regulation in the classification, they both seem to include elements of keeping one’s personality somewhat neutral and safe in social situations that might ignite strong
emotional expression. The virtue of temperance, or “strengths that protect against excess,” include both of these and also modesty and forgiveness. The constructs of modesty and forgiveness were easily distinguished in the item development, i.e. “I let my accomplishments speak for themselves” and “I give others a second chance when they have done wrong,” respectively. To distinguish between prudence and self-regulation was not so easy, i.e. “I am careful about what I say because I might regret it” and “I am in control of myself,” respectively. The latter pair of items may have lower face validity than other items and further exploration of factor structure with this developed scale would be necessary to determine this. The same idea holds true for the constructs of curiosity and love of learning. According to the classification, the main difference between the two is the “systematic” approach to education inherent with a love of learning. This is difficult to convey to participants aside from plainly stating “I actively pursue new learning opportunities” as opposed to the more vague statement “I am intrigued by my environment.”

**Implications and Limitations**

The implications for the development of this scale could be large. As stated previously, the assessment of positive traits in individuals with disabilities is a new field in rehabilitation psychology and the research remains thin. To first get to a point where we can accurately and confidently state that this measure is reliable and valid, a factor analysis must be conducted within a sample of individuals with physical disabilities. Limitations in the current study are that no individuals with disabilities participated in the pilot field review and the respondents were only 10 individuals. However the establishment of face validity in a small sample of the general population is a step toward
the validation of the scale as a whole. The ultimate goal would be to have a scale that could not only measure virtue and character strength in the disability population but also the general population. The following section outlines potential statistical steps toward validation of the scale.

**Future Statistical Analysis**

Through exploratory factor analysis, it is hoped that the underlying virtue factors comprised of the 24 character strengths can first be extracted. Although the CSV has provided the basis on which to empirically study character strengths, it has been scrutinized due to the void of research validating the factor structure. As the CSV is the positive answer to the deficiency focus of the DSM-IV, virtue psychology argues that this classification overlooks the interplay of character strengths (Fowers, 2005). In an effort to begin the process of determining how a factor structure may implicate for individuals with CID, exploratory factor analysis will yield answers to how virtue contributes to living the good life for these individuals. Those individuals experiencing perpetual inhibitory circumstances in their physical functioning share fundamental underlying experiences in the world that the general population does not. Understanding how virtue contributes to these experiences could be of significant utility to rehabilitation professionals.

Another purpose of exploratory factor analysis is to provide psychometric information and to validate the construct validity of the newly developed AVIS. Specifically, factor analysis can be used for any of the following purposes: (a) to reduce a large number of variables to a smaller number of factors for modeling purposes; (b) to establish that multiple tests measure the same factor, thereby giving justification for
administering fewer tests; (c) to validate a scale or index by demonstrating that its constituent items load on meaningful factor related to the constructs measured, and to drop proposed scale items which cross-load on more than one factor; (d) to create a set of factors to be treated as uncorrelated variables, providing an approach to handling multicollinearity in statistical procedures; (e) to identify clusters of cases and/or outliers; and (f) to determine network groups by determining sets of people clustering together (Bartholomew, Steele, Moustaki, & Galbraith, 2002).

Convergent Validity

To examine potential evidence for convergent validity, bivariate correlations analysis will be conducted for the AVIS subscale scores, scores on the Satisfaction With Life Scale (SWLS; author and year of development), and subscale scores on the Connor Davidson-Resilience Scale (CD-RISC; author and year of development) and Sense of Well-Being Inventory-Revised (Catalano, Kim, Ditchman, Shin, Lee, & Chan, 2009). Bivariate correlation stands the subscales from the AVIS and the SWLS, CD-RISC, and SWBI next to each other to find out if they are positively correlated. That is to say, high scores on particular character strengths should beget high scores on the subscales of the well-being and resilience measures also.
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Appendix A: Classification of Virtue and Character Strengths and Criteria

CRITERIA FOR THE VIA CLASSIFICATION CHARACTER STRENGTHS

1. A strength needs to be manifest in the range of an individual's behavior—thoughts, feelings, and/or actions—in such a way that it can be assessed.

2. A strength contributes to various fulfillments that constitute the good life, for the self and for others. Although strengths and virtues determine how an individual copes with adversity, our focus is on how they fulfill an individual. In keeping with the broad premise of positive psychology, strengths allow the individual to achieve more than the absence of distress and disorder. They “break through the zero point” of psychology's traditional concern with disease, disorder, and failure to address quality of life outcomes.

3. Although strengths can and do produce desirable outcomes, each strength is morally valued in its own right, even in the absence of obvious beneficial outcomes. To say that a strength is morally valued is an important qualification, because there exist individual differences that are widely valued and contribute to fulfillment but still fall outside of our classification. Consider intelligence or athletic prowess. Talents and abilities can be squandered, but strengths and virtues cannot.

4. The display of a strength by one person does not diminish other people in the vicinity but rather elevates them. Onlookers are impressed, inspired, and encouraged by their observation of virtuous action.

5. The larger society provides institutions and associated rituals for cultivating strengths and virtues. These can be thought of as simulations: trial runs that allow children and adolescents to display and develop a valued characteristic in a safe (as-if) context in which guidance is explicit.

6. Yet another criterion for a character strength is the existence on consensually recognized paragons of virtue.

7. A final criterion is that the strength is arguably unidimensional and not able to be decomposed into other strengths in the classification. For example, the character strength of “tolerance” meets most of the other criteria enumerated but is a complex blend of open-mindedness and fairness. The character strength of “responsibility” seems to result from perseverance and teamwork. And so on.

Criteria for Character Strengths

1. Ubiquity—is widely recognized across cultures.

2. Fulfilling—contributes to individual fulfillment, satisfaction, and happiness broadly
construed.

3. Morally valued—is valued in its own right and not for tangible outcomes it may produce.

4. Does not diminish others—elevates others who witness it, producing admiration, not jealousy.

5. Nonfelicitous opposite—has obvious antonyms that are “negative.”

6. Traitlike—is an individual difference with demonstrable generality and stability.

7. Measurable—has been successfully measured by researchers as an individual difference.

8. Distinctiveness—is not redundant (conceptually or empirically) with other character strengths.

9. Paragons—is strikingly embodied in some individuals.

10. Prodigies—is precociously shown by some children or youth.

11. Selective absence—is missing altogether in some individuals.

12. Institutions—is the deliberate target of societal practices and rituals that try to cultivate it.

Appendix B: Adapted Virtue Inventory of Strengths (AVIS)

I notice the beauty of nature.

I appreciate watching a skilled performance, whether in athletics or the arts.

I do not fear pain

I am not afraid of the consequences when I act on my convictions

I stand up for what is right even when I am threatened

I make efforts to have close relationships with people around me.

There are many people in my life that I care about deeply.

I express my thoughts in original ways

I “think out of the box” when formulating an idea

I am intrigued by the world around me

I have many questions

I am intrigued by my environment

I treat others fairly.

I treat everyone equally.

I give others a second chance when they have done wrong

I do not seek revenge when others hurt me

I take time to express my thanks.

I am grateful for the things that happen in my life

I tell the truth.

I act in a way that is true to myself.

I believe that I can make a good future for myself.
I am optimistic about my future.

I make others smile with my humor.

I am good at making jokes

I change my mind about a situation if presented with good evidence.

I avoid jumping to conclusions

I keep an open mind when making a decision

I give my seat on a bus/train to elderly, disabled, or pregnant individuals.

I help others

I can motivate people to do good work.

I am able to encourage my group get things done.

I try to study new topics

I actively pursue new learning opportunities.

I let my own accomplishments speak for themselves.

When I do something good, I try not to make a big deal of it.

I finish the projects I start.

I will do whatever it takes to successfully complete a task.

I do not quit until I have achieved my goal.

I see things from my own and other's viewpoints

It seems like others value the advice I offer.

I see things from different points of view

I am guarded.

I am careful about what I say because I might regret it.
I believe in God or a higher purpose.

I believe that life has meaning.

I manage my emotions

I am in control of myself

I practice self-discipline.

I recognize the feelings of others

I am aware of socially appropriate behavior

I understand the motives of others

I work well as part of a team.

I cooperate well with others in a group.

I live life energetically

I approach my daily life with enthusiasm and energy.

I am full of life.