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Adaptation of an Adolescent Coping Assessment for Outdoor Adventure

Melissa Sue Russell

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Master of Science

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ABSTRACT

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The purpose of this study was to adapt a measure for coping in outdoor adventure activities that reliable and valid inferences could be made. To do this, the constructs were clearly defined; relevant items were written representing the constructs. An expert panel reviewed the items for content validity, and the instrument was administered to subjects to gather evidence supporting the reliability and validity of inferences. The instrument adapted will provide a foundation for future research and understanding related to outdoor adventure coping skills. In addition, evidence supporting the reliability and validity of inferences of the assessment serve to measure outcomes in adventure and wilderness therapy programs.

Keywords: assessment, adolescent coping, adolescent stress, adventure therapy

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Adaptation of an Adolescent Coping Assessment for Outdoor Adventure

Researchers are concerned about the rapid growth in negative stress increasingly complex and competitive environment, especially among adolescents (American Psychological Association, 2008). Negative stress causes several psychological, mental, and physical limitations (Lohman & Jarvis, 2000; McEwen, 2000). Negative stress is promoting the need for interventions to lessen its detrimental effects. Effective interventions have the potential to help many people. Relaxation and breathing techniques and cognitive restructuring are common methods used to cope with stress (National Institute of Mental Health, 2008).

Engaging in experiences that present high levels of perceived risk and challenge, thus promoting stress, while moderating actual risk, can directly increase coping self-efficacy (Bandura, 1977). Outdoor adventures can be designed to create high perceptions of risk and high challenge while moderating actual risk. Outdoor adventure activities are an area of increasing interest among researchers. For example, researchers have studied the effects of outdoor adventures on adolescent behavior (Duerden, Widmer, Taniguchi, & McCoy, 2009; Huff, Widmer, McCoy, & Hill, 2003; Lundberg, Widmer, McCormick, & Ward, 2006; Schenk, Widmer, Dureden, & Burraston, 2008; Widmer, Taniguchi, & Duerden, 2005; Widmer & Wells, 2002). Increases in positive behaviors accrued during outdoor adventures have also shown to generalize to home life after participation in the outdoor activity (Wells, Widmer, & McCoy, 2004; Widmer et al., 2005). Outdoor adventure activities can be a safe place for adolescents to learn coping skills. Little research exists examining the use of outdoor adventures to promote coping skills. Also a dearth of quality measures focusing on coping skills exist. Our ability to study phenomena like coping skills attained from outdoor adventure activities is limited by our ability to measure these constructs. Consequently, a need exists to develop instruments to

measure coping strategies or skills in the context of outdoor adventure experiences, to lay a sound conceptual foundation for a coping skills measure to be used in outdoor adventure experiences, and to address appropriate methods of test construction. This literature will review stress, coping, outdoor adventure, and assessment.

Review of Literature

Stress

Stress is ubiquitous and impossible to avoid (Finnicum & Zeiger, 1998). Over 100 billion dollars are spent annually on illnesses related to stress (Finnicum & Zeiger). Today, individuals experience multiple stressors occurring at once and therefore, more negative consequences are present (Bredar, 2008). Stress is defined as “a real or interpreted threat to the physiological or psychological integrity of an individual that results in physiological and/or behavioral responses” (McEwen, 2000, pp. 508-509).

In 2008, the American Psychological Association (APA) examined stress nationwide. The researchers discovered higher stress than any other previous year with 30% of the sample rating their stress as extreme. Interestingly, 81% of the participants stated they manage their stress very well or somewhat well, even though in the research physical and emotional effects demonstrate otherwise (APA).

Adolescent stress. Relationships, work, rearing children, housework, and other demands each day cause large amounts of stress for adults (Iwasaki & Schneider, 2003). Many adults consider adolescents’ stressors trivial compared to theirs, however; adolescents identify stress as a critical problem in their lives (Goldstein, 1988). Some stressors include “being made fun of by others, not being asked to a birthday party, being the last person selected for the team at recess”

(Goldstein, p. 367). These and other stressors affect the ability to adapt and cope, even for the most resilient (Johnson, 1986).

Some adolescent stressors come from major life changes of uncertainty and stressful situations (Cook & Furstenberg, 2002; Lohman & Jarvis, 2000). These transitions represent “social, academic, cognitive, physiological, and physical changes” (Stroud et al., 2009, p. 47). Compas, Davis, and Forsyth (1985) categorize causes of adolescent stress into three groups: major life transformations, chronically stressful circumstances, and everyday hassles. Examples of *everyday hassles* include family problems, school ability, and peer relationships (Compas et al., 1985).

Adolescents also experience stress outside of normal everyday stressors. Parental divorce is a risk factor in the lives of over one million children each year (Fagan & Rector, 2000), affecting many with psychological issues, financial distress, etc. Family conflict is another primary contributor to adolescent stress (Lohman & Jarvis, 2000) especially between parent and adolescents (Montemayor, 1983). As a result of so many stressors, the ability to cope with stress is essential for adolescents (Goldstein, 1988). Negative stress not eliminated or resolved is physically and psychologically detrimental to the adolescence (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001).

Outcomes of adolescent stress. Some outcomes of adolescent stress, include several psychological determinates; for example, problems with school adjustment (Rice, Kang, Weaver, & Howell, 2008), school performance (Flook & Fuligni, 2008; Fontana & Dovidio, 1984), delinquency (Caldwell & Smith, 2006; Craig, 2007), drug use (Byrne & Mazanov, 1999), depression (Olsson, 1998), suicide (Fordwood, Asarnow, Huizar, & Reise, 2007), anorexia

nervosa (Misra, Miller, Almazan, Worley, Herzog, & Klibanski, 2005), and maladjustment (Hampel, 2007).

Stress causes and escalates several mental disorders. The National Institute of Mental Health (NIMH, 2009) found one in ten children suffer from a mental illness. The findings also indicate half of mental illnesses are initiated by 14 years of age. The NIMH emphasized the importance of early intervention during the onset of mental illness. Otherwise, overcoming the illness becomes more difficult, and the likelihood of other illnesses ensuing in adulthood is greater (NIMH).

Stress is manifested in several different ways, through physiology, behavior, and psychology. Although stress cannot be avoided, “the degree and manner in which we experience stress, and ways in which we cope with stress, strongly influence how we live our lives” (Iwasaki & Schneider, 2003, p. 108). The ability to cope with stress is essential for promoting and maintaining positive outcomes in life.

Coping

Researchers in the 1970s initiated the examination of coping for children and adolescents (Compas, 1987). Compared with adults, little research has addressed adolescent stress and coping (Stern & Zevon, 1990). The techniques adolescents use to cope with stress indicate their psychological symptoms and adjustments (Compas et al., 2001; Lohman & Jarvis, 2000), and therefore, needs to be a focal point in research. Researchers suggest psychological well-being is influenced more by the ability to cope than the amount of stress present. This is an example of why examining adolescent coping is crucial in research.

Up until around 2001, no uniform or explicit definition for adolescent coping existed (Compas et al., 2001). Consequently, comparative analysis of studies on coping was difficult.

Identifying future directions for research was also difficult. In the rare cases where researchers define coping, they usually used a definition of adult coping (Compas et al.). It is critical to define adolescent coping and come to a consensus in order to establish progress within the research. In an effort to address this issue, Compas et al. developed a specific definition for adolescent coping for researchers to utilize. For this study, the definition of Compas et al. will be used in order to form consensus within the research. Compas et al. defines coping as “conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances” (Compas et al., p. 89).

Individuals naturally implement approaches to help cope with stress (Iwasaki & Schneider, 2003). Generally, these approaches fall into either problem-focused or emotion-focused methods. The problem-focused method usually uses direct actions, for example, active coping and preparing. The emotion-focused method is usually indirect and typically uses methods to control emotions and distancing (Folkman & Lazarus, 1980; Iwasaki & Schneider). Generally, the problem-focused method is related to better adjustment than emotion-focused (Compas et al., 2001). Phelps and Jarvis (1994) extended this definition to adolescents and added two more coping approaches: acceptance coping (accepting the situation as it is) and avoidant coping (remove either the situation or oneself from the situation, sometimes done through alcohol and drugs). People will cope with situations differently; however, the coping methods usually fall into one of these four areas.

When developing a measurement for adolescent stress and coping, Compas, Worsham, Ey, & Howell (1996) discerned that using problem-focused and emotion-focused methods to measure adolescent coping was too broad and did not specify exactly what was being measured. In response to this, Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman (2000) developed

the Response to Stress Questionnaire (RSQ). The RSQ measures a broad range of coping responses to stress. Throughout the studies, the inferences made with the RSQ have been determined to be valid and reliable. The researchers used four specific domains to assess adolescent coping. These domains included engagement responses (responses “directed toward a stressor or one’s reactions to the stressor and include approach responses” (p. 977)), disengagement responses (responses are “oriented away from a stressor or one’s reactions and include avoidance responses” (p. 977)), primary control coping strategies (“aimed directly at altering objective conditions, such as the stressor or one’s emotional response to the stressor” (p. 977)), and secondary control coping strategies (“focused on adaptation to the problem” (p. 977)). Developing assessments in several domains is essential for specific and accurate measurements in all situations in the adolescents’ life. Connor-Smith et al. suggest development of domain specific coping skills measures.

Within the broad spectrum of coping methods are many techniques people use to cope with stress. In the APA 2008 report, *Stress in America*, 52% of people reported listening to music as a coping mechanism for stress. Other mechanisms included exercising (47%), reading (44%), being with family/friends (41%), viewing media for two or more hours per day (41%), and napping (38%). Eighteen percent reported drinking alcohol, 16% smoked, and 8% did nothing to manage stress (APA). Thirty-seven percent of the people said they pray to reduce stress and praying (77%) was the most effective stress management technique reported from the sample population. Exercising (65%) and playing sports (63%) were also both reported as effective coping techniques for stress (APA). Therefore, praying and physical exercise are the most effective stress coping methods reported by *Stress in America*.

Louv (2005) found being in nature directly influences physical, mental, and emotional health. In regards to stress, Louv suggests children are more resilient to cope when they have contact with nature. In addition, Louv discovered even adults have less stress when spending time in nature. This suggests being outside helps reduce stress and also helps cope with stress. Other illnesses are dramatically reduced by spending time outside for children and adults (i.e. blood pressure, attention deficit hyperactivity disorder (ADHD), anxiety). Most people have enough free time to engage in outdoor activities, yet extensive research on time use by Robinson and Godbey (1997) suggests Americans spend two thirds of their free time with electronic media such as TV, videogames, and the Internet. In fact, "Americans spend more free time watching television than doing anything else, but they rate it ... lower than most other free time activities" (Robinson & Godbey, 1997, p. 245). Given the benefits associated with outdoor activities, and the problems associated with inordinate time spent with electronic media, why do people continue to choose virtual experiences over unstructured time outdoors? It may be that outdoor adventure activities initially take more effort than surfing the internet or watching TV. The positive influence of nature Louv identifies is well worth the effort. Outdoor adventure activities are an outlet for stress, but also a solution for learning how to cope while participating in safe, yet stressful, activities.

Outdoor Adventure

Outdoor adventure activities include both physical and psychosocial stress (Bunting, Tolson, Kuhn, Suarez, & Williams et al., 2000). The outdoor environment creates many demands, challenges, and risks (Bunting et al.). Rappelling for the first time, rafting down a Class IV rapid, starting a fire in the rain, and maintaining group morale while carrying a 50-pound pack for a week are just a few of the demands of participating in outdoor activities. Stress increases once

interaction is initiated in a new environment or situation (Bijlsma & Loeschke, 2005).

Adolescents are forced to use active coping, instead of other alternatives, such as avoiding or accepting. Clarke's (2006) study suggests using active coping in a controllable situation is positively related to less externalizing problems and better social ability in adolescents. When the situation is out of the adolescents' control other approaches should be used.

Outdoor activities contribute to emotional, social, physical, and spiritual benefits (Finnicum & Zeiger, 1998). Several outdoor youth programs have seen these benefits of fostering growth, leadership, and education (Russell & Farnum, 2004). Programs have also produced higher self-efficacy (Propst & Koesler, 1998), lowered recidivism rates in adolescents with at-risk behaviors (Wilson & Lipsey, 2000), improved self-concept and leadership qualities (Hattie, Marsh, Neill, & Richards, 1997), identity development (Duerden et al., 2009) and provided an increased internal locus of control (Hans, 2000).

Researchers examined a group participating in a nine-day adventure course of rock climbing, backpacking, and canoeing (Bunting et al., 2000). Before and after each activity, urine samples were collected from each participant to determine their stress levels. The results stated stress increased during each adventure activity. This relates to a safe, yet stressful, environment to manage stress (Bandura, 1977). In discussion, the researchers applied the outdoor activities as a coping mechanism for stress today. The participants participated in the stressful activity, managed their stress, and were successful in finishing (Bunting et al.). Although it was not part of the study, successfully finishing an activity leads to higher efficacy (Bandura, 1977).

Outdoor adventure has many unknown challenges, including coping with social, psychological, and physical risks (Bunting et al., 2000). Although these unfamiliar challenges "are usually perceived as stressful, the experience of performing adequately outside of one's

comfort zone (under stress) can stimulate a holistic type of growth” (Bunting et al., pp. 1-2). This growth helps people adapt and become accustomed to everyday stress. Overall, outdoor adventure could be an anecdote for 21st century stress. Those participating in it are those gaining resilience for challenges in life (Bunting et al.; Iwasaki & Schneider, 2003).

Leisure activities are especially helpful when coping in negative events and finding new direction (Iwasaki & Schneider, 2003). Leisure benefits include empowerment, instilling a positive outlook on life, and learning effective skills to cope with constraints and challenges (Iwasaki & Schneider). Although several benefits are in the literature, a dearth of research exists on how adolescents respond to stress in leisure situations (Hutchinson, Baldwin, & Oh, 2006). In order for this research to be addressed and advanced in the field of adolescent coping, better measurement must be undertaken. Researchers do know, through the APA (2008) *Stress in America* report that physical exercise (47%) is one of the coping mechanisms most chosen by people to cope with their stress. In addition, exercising (65%) was second to praying (77%) for the most effective coping mechanism as stated by the participants. Because of the increase in outdoor adventure activities and adventure/wilderness therapy programs, it is imperative that research is able to measure how these activities and programs are helping adolescents cope with stress.

Assessment

Addressing the need for refined measurements in research is essential for advancement in adolescent coping (Compas et al., 2001). The need exists for accurate and standardized measurements for building strong links within the coping research.

Existing measurements. Only a few measurements for adolescent coping and stress exist, several other coping and stress measurements exist; however, they are mainly targeted toward

adults. One measure developed for adolescent coping is the Adolescent Coping Scale (ACS) (Leong & Oehler Stinnett, 1993). This coping scale measures 18 coping strategies used by adolescents. Among other problems, this assessment has “no concurrent or predictive validity studies” (Leong & Oehler Stinnett, 1993). In relation to the reliability, the ACS’ “test-retest reliabilities for the 18 strategies on the Long Forms are also below acceptable levels” (Leong & Oehler Stinnett).

Leong & Oehler Stinnett (1993) critiqued the ACS. This scale had several weaknesses. The authors did not give evidence on how this scale was unique to adolescents. Another weakness was the lack of reliability and validity within the scale. The factor analysis measured some validity in the test; however, no basic level validity was measured.

Another scale relating to adolescent stress is the Stress Management Questionnaire (SMQ) (Stake, 1986). The purpose of this questionnaire “identifies how one responds to life stressors and copes with stress” (Stake, p. 1). A review given of the SMQ relates poor validity checks due to small samples and no cross validation. In addition, this scale is more biased towards adults than adolescents, including questions on divorce and major financial loss. A critique of this scale suggests the authors did not have sufficient information for making assumptions for the levels of the scale.

The Adolescent Stress Questionnaire (ASQ) is another questionnaire produced to assess adolescents stress level. This questionnaire assesses several perspectives of the adolescents’ life (i.e. home, school, romantic relationships, peer pressure, teacher interaction, future uncertainty, school/leisure conflict, financial pressure, and emerging adult responsibility). The researchers are still undergoing validity and reliability tests. For the scope of this study, the ASQ would be considered too broad and does not focus sufficiently on outdoor adventure/wilderness therapy.

Currently, Connor-Smith et al. (2000) have a well-developed measurement called the Response to Stress Questionnaire (RSQ) for assessing coping and involuntary stress responses in adolescents for social situations. Connor-Smith et al. stresses the importance of measurements assessing coping and stress within specific domains. Developing assessments for each domain will give more understanding of what is happening and be more reliable for inferences. A measurement for adolescent coping in outdoor adventure activities is a domain still lacking.

Test construction. When first creating an assessment, researchers need to know what constructs they are measuring. A construct can include “feelings, emotions, moods, beliefs, knowledge, opinions, dispositions, and attitudes” (Sylvester, Voelkl, & Ellis, 2001, p. 10). Constructs need to be important and ubiquitous. Second, constructs need to offer variability. No two people are the same and constructs must expand to reach the different highs and lows of each person. Third, constructs are not tangible; however, observable changes happen to the environment because of them. Theory should always be the underlying component in creating and defining the constructs (Sylvester et al.).

The purpose of this study is to develop measures of adolescent coping in outdoor adventure activities. Measurements of coping are not global and therefore, each construct must have its own assessment (Connor-Smith et al., 2000). In other words, making specific tests produces less ambiguity and provides more reliability and validity.

Once constructs are defined, they are then used in psychological measurement. Essentially, psychological measurement gives a number to intangible constructs (Nunnally, 1978; Suen, 1990; Sylvester et al., 2001). Scholars have called for new and better measurements of stress and coping constructs. Therefore, one purpose of this study is to create a coping

measurement specifically for outdoor adventure activities. To do so, two major components of test construction must be examined: reliability and validity.

Reliability. Reliability is a “statistical concept and statistical tool that provides an estimate of the extent to which scores on an assessment tool are the result of the effects of a construct” (Sylvester et al., 2001, p. 17). Nunnally (1978) defined measurements as reliable “to the extent that they are repeatable and that any random influence that tends to make measurements different from occasion to occasion or circumstance to circumstance is a source of measurement error” (p. 225). Suen (1990) further defines reliability as the “extent to which the observed score reflects the true score” (p. 7). Kline reiterates the two essential ingredients of a test being reliable: self-consistent and gives the same score for each person through a retest.

The main concern with reliability is the variation within the test (Nunnally, 1978; Suen, 1990; Sylvester et al., 2001). Test reliability relates to the amount of appropriate variance in the assessment in order to make valid inferences. Two types of variance exist, one being the desirable variance (true score) and the other undesirable (error score). True score variance is the amount of variance in the sample due to extensive and proper measurement of the construct and sample. Error score variance is the variance researchers do not want to occur in assessments. Error score variance comes from outside influences; for example, poorly worded questions, sickness, lack of concentration, tiredness, or perhaps from just being lucky (Sylvester et al.). Another issue causing error score variance is culture based questions; in other words, if the questions are not clear because of language or culture issues (Cronbach, 1990). Several other sources exist for error score variance, and these need to be taken into consideration when evaluating the reliability of the test.

Statistically, error score and true score variation is summed to determine the total variance of the assessment (Sylvester et al., 2001). Sylvester et al. stated, “In evaluating psychometric tests and understanding the concept of reliability, it is vitally important to distinguish between true score and error of variance” (p. 18). Essentially, the best assessment would only produce true score variance; however, error score variance is always present for all assessments to some extent. For an assessment to be reliable a coefficient score should be at or above .85 (85% true score variance and 15% error score variance). In order to decrease the error score, it is important for researchers to remember to include sufficient items to measure the construct, appropriate wording in the questions, and organized administration procedures when developing and assessing a measurement (Sylvester et al.).

Several steps need to be taken to establish reliability when writing a test. Items should be written for easy understanding. Therefore, when writing questions, Kline (1986) suggests researchers be as brief as possible, write clearly, do not be ambiguous, and use examples to clarify instructions. Most importantly, be specific in what is asked. For example, the question “do you cope well?” can be interpreted differently for each person. Some may assume avoiding the situation is coping well, while others assume eating is a strategic coping mechanism. A better, specific question is to ask, “Do you avoid the situation when coping by eating?” Through being specific, the test is more reliable and obtains more information on the construct.

When constructing a test, each item should only ask one question. If an item asks more than one question, the test will be considered unreliable because of its ambiguous nature. Each item must be specific and clear, eliminating confusion of responding once to two different aspects of the question. This includes eliminating terms such as “few” or “many” or other types of frequency that may vary from person to person. Questions must be written with specificity and

clearness to create ease in reading and responding, and increase overall true score reliability (Kline, 1986; Suen, 1990).

Another important component of reliability is the inferences that can be made. One method in determining this is by utilizing the alternative form method (Crocker & Algina, 1986). To accomplish this, a researcher must create two similar forms of the test. Both forms are then given to the same respondents. Both tests are then computed and given a coefficient of equivalence. The coefficient implies the reliability of the test: the higher the coefficient the more reliable the test (Crocker & Algina). Reliability can also be measured by giving the same test twice to the same respondents but in an elapsed period of time.

In some situations the test can only be administered once. In this scenario, a split-half method is utilized. Essentially, it is identical to the alternative form method, except instead of having two tests, the one test now has two subtests. One subtest could include even numbers, while the other includes odd. Or the items can be distributed randomly throughout the test.

Overall, it is important to know the intercorrelations between tests, but also the internal consistency among the items in the test. It is important to remember true and error score variance are separate (assumption of independence) (Suen, 1990). Statistically, researchers can measure true score variance and give an estimate called a reliability coefficient. One efficient method in measuring variance is using Cronbach's alpha (Suen).

In conclusion, obtaining reliability is an essential step in test construction in order to make inferences. Kline (1986) states, "high reliability is a prerequisite of validity" (p. 2). Although reliability is one essential step for inference in an assessment, it cannot set the criteria alone without validity (Sylvester et al., 2001).

Validity. Validity is another element in assessing the soundness of a measurement. The American Educational Research Association (1985) stated validity is the most vital component in evaluating measurements. Validity is defined as an “integrative judgment of the appropriateness of inferences made about constructs based on scores from tests” (Suen, 1990, p. 20). Validity helps assure the questions on the assessment are actually measuring the construct. Three types of validity help with this process: content related evidence, criterion related evidence, and construct related evidence.

Content-related. Content related evidence of validity assesses “the extent to which the questions (behavior, etc.) adequately represent the construct of interest” (Sylvester et al., 2001, p. 22). Essentially, evidence of content validity exists if each question and other elements of the test are related and represent the construct. For example, self-efficacy should be differentiated from other constructs “such as self-esteem, locus of control, and outcome expectancies. Perceived efficacy is a judgment of capability; self-esteem is a judgment of self-worth” (Bandura, 1997, p. 308). When constructing a test, using systematic methods is essential to assure validity (Nunnally, 1978). This systematic method includes mapping the different sections of the test to ensure an equal number of items for each content area. By the end, Kline (1986) states, “If the items of a test can be shown to reflect all aspects of the subject being tested, then it is per se valid, given that the instructions are clear” (p. 6). For content-related validity, it is important to map the questions, make the subject matter clear, and give thorough instructions.

In order to investigate content validity, a team of experts is needed to evaluate each item and its relationship to the construct (Messick, 1989; Suen, 1990; Sylvester et al., 2001). This team needs to include “theory experts, population experts, and test development experts” (Sylvester et al., p. 23). Researchers need to examine “the definition of the construct, the component parts of

the construct, and the wording, clarity, readability, and response format associated with the items” (Sylvester et al., p. 22). This can be done by asking a panel to blindly map items on an item map.

Criterion-related. The second type of validity is criterion related evidence. Researchers usually establish criterion validity through testing the assessment with a similar test (Sylvester et al., 2001). Criterion-related evidence of validity demonstrates the scores from the test are related to other criteria as well. For example, if a test measures appropriate adolescent coping self-efficacy and the criterion-related evidence is an adolescent stress questionnaire, sample scores for the tests of these two constructs should be correlated. If they are correlated, the validity of inferences is supported for criterion validity.

Two subgroups of criterion-related evidence are predictive and concurrent. Predictive evidence of validity examines the extent to which the results on the test can predict future behavior. Concurrent evidence of validity examines the results of a test and a criterion measure assessed at the same time and establishes a relationship between the two (Messick, 1989; Suen, 1990). Both of these have an equal amount of impact on validity.

Construct-related. Another category of validity is construct validity. Construct validity integrates all related information in order to confer meaning to the test score (Messick, 1989). Information can include relationships between test scores and other variables, intercorrelations among items (convergent evidence of validity), and even information from participant responses. Furthermore, the construct should be independent of other constructs (discriminate evidence) (Messick).

Reliable and valid measures are vital to the progress of adolescent coping and stress. Once a measure is valid and reliable, it can assign numbers to “represent the existence, level, magnitude, frequency, or quantity of a characteristic” (Sylvester et al., 2001, p. 14). The need

exists for good assessments in all fields, but especially in studying stress and coping in adolescents. As the research indicates, adolescents specifically have a need for assistance from research professionals in examining healthier alternatives to stress and coping.

Therefore, the purpose of this study is to provide a better assessment in coping and stress research, especially in relation to outdoor adventure activities. The study will create an adolescent outdoor adventure coping assessment and gather evidence to examine the reliability and validity of inferences made from the assessments. Overall, this research will provide a foundation for researchers to better address the needs of stress on adolescents, while providing improved, reliable, and valid measurements for assessing their needs.

Methods

The purpose of this study is to adapt an assessment measuring adolescent coping in outdoor adventure activities, and gather and evaluate evidence of reliability and validity. This chapter discusses (a) selection of subjects, (b) instrumentation, (c) defining the construct, (d) Phase I, (e) Phase II, and (f) Phase III. Phase I will go over the test construction and the expert panel, Phase II will cover the administration, procedures, and analysis of the assessment, while Phase III will discuss the factor analysis.

Selection of Subjects

A purposive sampling technique will be used (Babbie, 2007). Participants will include adolescents attending traditional high schools, alternative high schools, and students living in adventure/wilderness therapy programs in the western United States.

Instrumentation

In order to measure coping, the construct was defined, items were adapted, written, and evaluated by a panel for face validity and the new assessment was administered to participants.

Results were analyzed to evaluate the reliability and validity of inferences of the measure. Like previous studies with coping, the assessment was tested against itself for discriminate and convergent evidence of validity (Connor-Smith et al., 2000). The questions related to primary control should all correlate with each other (convergent validity) and not correlate with the secondary control items (discriminate validity); likewise for engagement versus disengagement items. The assessment was distributed to 144 participants in order to create a sample large enough to examine validity through a factor analysis. The specific methods used to create this instrument are described below in the section titled Phase I.

Defining the Construct

Defining the construct is the essential initial step in the development of the assessment. This definition frames the development of content validity. Adolescent coping is defined in different ways (Compas et al. 2001). Most of these definitions are based conceptualizations derived from adult coping scales. The use of varied definitions, not specified towards adolescents, has caused ambiguity in the results of adolescent coping research.

In an effort to provide clarity in this area, in 2001, Compas et al. proposed a theoretically based definition of adolescent coping. Compas et al. state adolescent coping is “conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances” (p. 89). This perspective of coping will serve as a foundation for the measurement of coping in outdoor adventure activities.

Phase I

Test construction. Connor-Smith et al. (2000) developed the RSQ and gathered data to evaluate the reliability and validity of the instrument. Results indicated the RSQ was an accurate measure for adolescent coping. When developing and testing the RSQ, Connor-Smith et al.

suggested other assessments, similar to the RSQ, be developed for specific domains within adolescent coping. The coping assessment for outdoor adventure activities was modeled after the RSQ. The new instrument provides an additional domain for measuring adolescent coping.

Identification of adventure stressors. To adapt this measure, stressors were identified specific to outdoor adventure activities. Adolescents and staff from a residential treatment center and an adventure therapy program were asked to identify key stressors in their outdoor adventure experiences. The list of 56 stressors was organized into a questionnaire where each stressor could be rated on a 1-10 scale, 1 represented low stress and 10 high stress. Forty-five youth and seven staff completed the questionnaire by rating the level of each stressor (see questionnaire in Appendix A). Mean scores and standard deviations were calculated and the ten factors identified as causing the highest level of stress were presented as the stressors in the Outdoor Adventure version of the RSQ. These top stressors included frustration with others in the group, out of comfort zone, peers refusing to complete activities, preparing and cooking food, thinking about meeting parents at the end of the program, fear of getting hurt, equipment breaking, physical challenges, outdoor activities, and weather. With the outdoor stressors identified, the RSQ's item map was used and the outdoor stressors were inserted in the questionnaire. The central component of the adaptation was collecting data on the most crucial outdoor stressors. Once the outdoor stressors were identified, they were inputted in the first section of the RSQ under the list of stressors affecting the adolescent. After identifying the stressors in the first section, the adolescents answer the following 57 questions on how they cope with those stressors in outdoor adventure. Some of the questions were adapted to fit the outdoor adventure climate; others were unchanged due to the synonymous nature of the original question to outdoor adventure.

Writing items involved the original item pool to represent the domains of the constructs of coping in adolescents. An item map was used from the original RSQ to organize and evaluate the item pool. After the item map was organized, an expert panel reviewed the items for representativeness and relatedness. The expert panel consisted of “theory experts, population experts, and test development experts” (Sylvester et al., 2001, p. 23). The expert panel examined “the definition of the construct, the component parts of the construct, and the wording, clarity, readability, and response format associated with the items” (Sylvester et al., p. 22). The results from the expert panel supported content-related evidence of validity.

Phase II

Administering the assessment. To collect evidence of reliability for the adolescent adventure coping self-efficacy scale, the instrument was administered to 144 participants. Each adolescent took between twenty to thirty minutes to complete the questionnaire. Data was collected in classrooms of each participating agency and in the field for the adventure therapy program.

Procedures. One hundred and forty-four adolescents (13-17 years old) were conveniently selected to participate in the study (Babbie, 2007). These adolescents came from therapeutic programs and other adolescents were selected through public schools in Hawaii. Recruitment was a key issue at public schools. The investigators contacted the public schools and sent permission slips home with potential participants. Once the majority of the permission slips were collected from the school, the investigator returned to gather assent from the adolescents and distributed the questionnaire in a classroom setting. Participants were read standardized instructions for completing the questionnaire. The permission and assent forms were collected directly by the investigator prior to administration of the questionnaire. The

questionnaire was administered during classroom hours. Students not participating in the study had optional activities or extra study time.

The therapeutic programs, located in the Rocky Mountain region of the United States, had parental rights over the adolescents and consented to their participation upon the adolescents' assent (see Appendix A-1). Even though both programs had parental rights, the programs still informed parents of research procedures.

Data analysis. Data for Phase II was analyzed in two steps. First, alpha reliability estimates were calculated for the coping self-efficacy outdoor adventure assessment. The estimate was calculated for all groups together. The hypothesis for the reliability analysis estimated internal consistency with a coefficient score of .85 or above. Alpha-if-item deleted analysis was performed to identify any items that introduced higher levels of error variation.

Phase III

Factor analysis. The 150 adolescents completed the instrument. In order to examine evidence supporting construct-related evidence of validity, a confirmatory factor analysis determined if the latent structure of the instrument is in harmony with the domains.

Results

Demographics

Socio-demographic data were collected from the adolescents to identify the underlying characteristics of the sample. The sample ($N = 144$) consisted of 78 (54%) males and 66 (46%) females aged between 13 and 17 years old, drawn from three different schools/program: a public high school (49%); a private therapeutic high school (42%); and an adventure therapy program (9%). The majority of the participants were Caucasian (49.3%) or Asian/Pacific Islander (36.1%).

Confirmatory Factor Analyses

Maximum-likelihood confirmatory factor analyses (CFA) were conducted using Amos 18 to test the hypothesized model of voluntary and involuntary responses in stress. The Comparative Fit Index (CFI) needs to yield a value greater than .90 and other models with good fit need to a .95 or greater (Connor-Smith et al., 2001). Root mean square error (RMSEA) compares non-nested models and needs a value of .10 or less to indicate an adequate fit; values of .06 or less represent a good fit. The assessment was analyzed in separate tests for the voluntary and involuntary portions (see Figures 1 and 2).

Voluntary coping responses. We began testing the voluntary coping responses, including Engagement Coping and Disengagement coping. Primary and Secondary Control are two sub-groups measured under the Engagement Coping variable. Primary Control Engagement included items on problem solving, emotional expression, and emotional regulation. Secondary Control Engagement included items on cognitive restructuring, positive thinking, acceptance, and distraction. Disengagement coping included denial, avoidance, and wishful thinking. Engagement and disengagement were allowed to correlate with each other.

Results of the model testing indicated that all factors loaded strongly with the corresponding latent variable. The model presented in Figure 1 was an adequate fit to the data for the adventure version of the RSQ, $\chi^2(32, N = 144) = 51.163, p < .017, CFI = .94, RMSEA = .065$. Although other modifications could have been done or other correlating error terms could have been added, it seemed these modifications would not have added to the overall structure of the model or validate the theory. Therefore, no modifications were made to this version.

Involuntary responses to stress. A two-factor model was analyzed for involuntary responses to stress. The model included involuntary engagement and involuntary disengagement.

Involuntary engagement consisted of rumination, intrusive thoughts, emotional arousal, physiologic arousal, and impulsive action. Involuntary disengagement included cognitive interference, involuntary avoidance, inaction, and emotional numbing (see Table 2). This model was an adequate fit to our data, $\chi^2(36.37, N = 144) = 36.373, p < .085, CFI = .98, RMSEA = .053$.

Reliability

Initial studies of the RSQ report internal consistency estimates for the five factors ranging from .63-.85 (Mean (α) = .75). Test-retest reliability estimates ranged from .69-.81 (mean $r = .77$) when administered 1-2 weeks apart (Conner-Smith et al., 2001).

Our own reliability analysis for the 57 items resulted in an internal consistency estimate of $\alpha = .91$ ($n=144$). An Alpha if items deleted analysis resulted in alpha's ranged from .911 to .916, suggesting no single item introduces inordinate error variation. Overall, the analysis provides strong evidence of internal consistency among all items in the instrument, even after adapting the instrument to adventure/wilderness therapy.

Discussion

In response to the need to develop better measures of coping skills for research and treatment, Connor-Smith et al. (2001) developed the Response to Stress Questionnaire (RSQ). Their initial research suggests the RSQ may be an excellent instrument to measure adolescent coping. When developing and testing the RSQ, Connor-Smith et al. suggested other assessments, similar to the RSQ, be developed for specific domains within adolescent coping. The present study is an effort to respond to this call for domain specific coping measures. In this study the RSQ was adapted to focus on wilderness and adventure therapy experiences. These programs seek to help youth and adults with behavioral and emotional problems by placing participants in new and stressful environments to enhance therapy. As indicated earlier, one key aspect of these

programs is the focus on coping in this new and stressful environment. Clearly, developing better coping skills is a fundamental outcome targeted by these agencies. Thus, the ability to measure coping skills in order to determine individual development and program effectiveness is vitally important.

Stress receives attention from several fields of research. Scholars are concerned with the increasing negative effects of stress, especially in the areas of emotion, health, and behavior (Lohman & Jarvis, 2000; McEwen, 2000). The APA (2008) studied stress in America; the results indicated an alarming increase in stress and a number of associated health problems. Adolescents are among those struggling with stress and the negative consequences. High levels of stress and inability to cope produces psychological distress among many adolescents (Compas et al., 2001). The ability to measure stress in adolescents is important to both research and practice. Compas suggests few if any reliable and valid assessments of adolescent coping are available to researchers and practitioners.

More specifically, no reliable and valid assessment exists to measure outdoor adventure coping. The need for establishing an assessment to move the research and practice forward is essential for alleviating poor coping strategies and negative outcomes of stress in adolescents. The RSQ-OAV was developed to aid research and practice in the area of adventure/wilderness therapy. The RSQ-OAV will allow us to gain greater understanding of coping and adventure/wilderness interventions, and the impact the programs have on participants. Outdoor adventure activities provide a unique atmosphere to experience stress in a natural environment. The inherent physical demands and risk involved in outdoor adventures allow adolescents to experience heightened stress and provide opportunities to learn meaningful coping strategies. Measuring the effectiveness of these programs to enhance adolescent coping will allow

researchers and practitioners to build theory in this area and develop effective programming. The RSQ-OAV can play a role in a number of areas. The instrument could potentially be used to compare traditional coping skills programs with wilderness/adventure programs. We hope researchers will find the RSQ-OAV a useful instrument to further their work.

The RSQ was used as a framework to create an instrument to measure adolescent coping in a wilderness/adventure setting. The development of the RSQ Outdoor Adventure Version (RSQ-OAV) will have application in research and theory building, and can also be used by wilderness and adventure therapy practitioners.

After identifying appropriate content and adapting the RSQ, data were collected to examine the reliability and internal validity of this version of the RSQ. Results of the analysis supported both hypotheses. The RSQ-OAV demonstrated a strong internal consistency. In addition, the assessment demonstrated appropriate factorial validity, with all items loading appropriately and strongly within the hypothesized five-factor structure. The results of this study indicate initial success in the development of the RSQ-OAV. Although further reliability and validity studies are warranted, we believe the instrument will fill its intended purpose.

Many practical implications exist for the RSQ-OAV. The RSQ-OAV is applicable for practitioners to use in adventure therapy programs. The questionnaire is related directly to the practices and stresses in the outdoors. A concerted effort should be made to develop norms. The current study included a sample representing middle class Caucasian youth from the western United States, and youth representing Asian-Pacific islanders. Normative data should be gathered to represent other groups including Latino youth, African American youth and from other areas of the United States and even other countries.

After developing norms for program participants, the RSQ-OAV can be used to identify the level of coping skills. Program participants who demonstrate high levels of coping skills can be grouped with individuals who demonstrate low levels of coping skills. This would allow staff to identify appropriate coping behavior in the high functioning individuals as a source of vicarious experience (Bandura, 1997). For individuals with low coping ability, this modeling provides important efficacy information and an example of effective coping. After stressful situations such as hiking through a thunderstorm, or climbing along an exposed rock face, staff can process the stressful experience with the group. They can share the thoughts, feelings, and behaviors they experience. This processing provides an opportunity for individuals to reflect, receive feedback, and consider ways to better cope with stress in the future. The inherent stress in wilderness/adventure provides a unique and powerful opportunity to face stress and learn from the experience.

The RSQ-OAV can be used as an outcome measure to evaluate program effectiveness at promoting coping skills. By using a pre-post design, agencies can determine to what extent the participants' ability to cope with stress is changed. More specifically, researchers and practitioners can potentially use pre-post measures or repeated designs to examine specific contexts or situations in wilderness and adventure therapy. The RSQ-OAV may allow researchers to determine if some wilderness adventure experiences are more effective than other experiences at promoting coping skills. For example, does it matter if the experience occurs in a simulated adventure environment, like a ropes course, or a natural environment, like a rock face? Do experiences that promote fear, such as whitewater rafting affect coping skills differently than experiences that cause fatigue, or exhaustion, such as a survival or extended backpacking experiences? Environmental conditions like heat, snow, rain, wind, blowing sand, and lightning

may play an important role in learning coping skills. Other variables such as group size and makeup may influence coping skills. Clearly, the RSQ-OAV has the potential to allow both researchers and practitioners to begin to address these kinds of questions and eventually develop more effective programming to promote coping skills in wilderness/adventure therapy programs.

By identifying program participants with low coping skills, therapist can develop more individualized programming within wilderness/adventure therapy. Individualized programming can enhance the overall program effectiveness. In a broader view, gathering pre-post data can provide information regarding overall program effectiveness. This information can be used for quality improvement. The data may also be a source of information regarding a programs efficacy for parents seeking placement for their children.

One additional application for the RSQ-OAV is the role it can play in the positive youth development movement. Currently the area of positive youth development is receiving a great deal of attention. Researchers are moving away from deficit or pathology model, to focus instead on programs and environments that promote healthy development. At present, no adventure therapy coping measurement exists in their database for questionnaires. The development of this could help initiate the study of stress/coping in this movement.

In addition to the research implications of the RSQ-OAV, the administration techniques were consistent and clear. The instructions the administrator gave beforehand were concise and addressed any additional questions the participants had. The directions on the questionnaires were thorough and led to no questions from the students. The majority of the students answered each question and displayed no confusion about the wording.

Limitations and Recommendations for Future Research

This study provides initial reliability and factorial validity information about the RSQ-OAV. Although the RSQ-OAV demonstrates positive results, more reliability and validity studies can gather further evidence regarding the soundness of inferences made from the instrument. While more results are being established, the RSQ-OAV is already established on a foundation of the RSQ assessment. The RSQ has sound validity and reliability and the initial study of the RSQ-OAV has also demonstrated reliability and validity. Therefore, practitioners are able to use the RSQ-OAV currently while more studies are being performed. In addition to more reliability and validity studies, larger and more diverse samples will provide key normative data to help practitioners interpret scores. Furthermore, collecting more data in the future is essential to see if this assessment works well in generalizing home coping behavior from the outdoor adventure/wilderness programs.

Researchers usually establish criterion-related validity through exploring hypothesized correlations between the assessment of interest and other tests conceptually related to the construct (Sylvester et al., 2001). The researchers did not perform criterion-related validity studies, or direct tests of construct validity, such as known group studies. Future studies may address these issues. Further reliability evidence may employ test-retest or split half methods. This initial research is limited to 13-17 years of age adolescents in high school, treatment centers, and wilderness adventure programs. Although the sample represents substantial diversity, Latino and African American groups are underrepresented, thus limiting the generalizability of the findings to these groups. Consequently, data should be gathered to determine if norms vary across race and other demographic variables such as age, gender, and socio-economic status. The

establishment of norms may also help practitioners determine if specific clients struggle with the ability to cope with stress.

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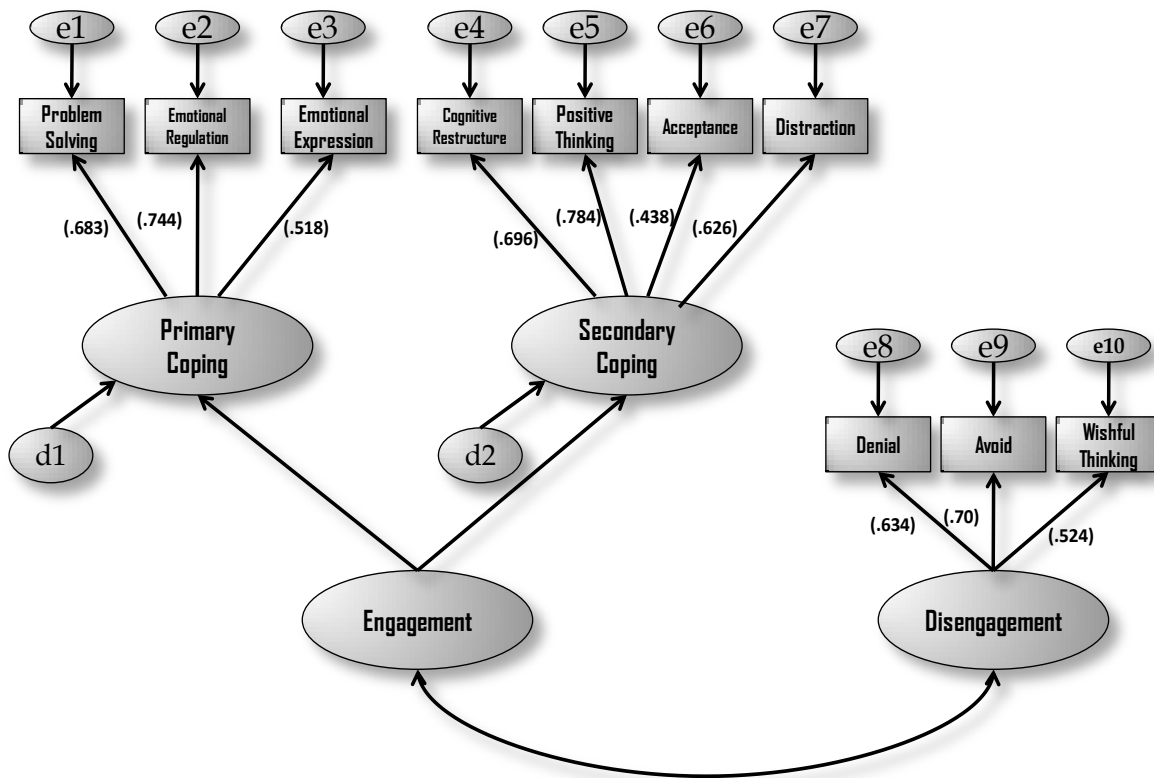
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Figure 1 - Factor Analysis: Voluntary Coping

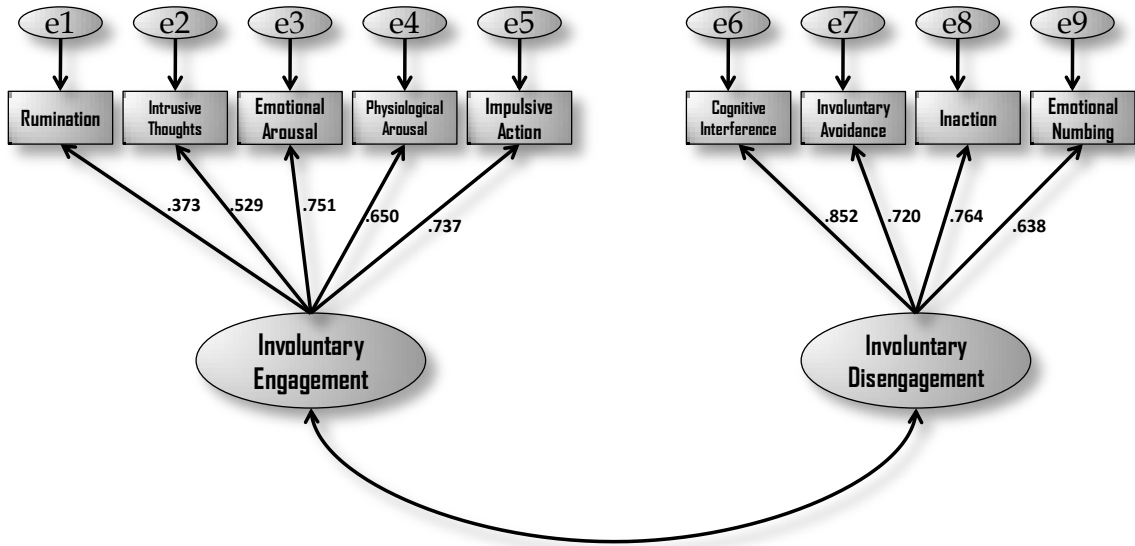
Figure 1. Model of voluntary coping in adolescents 13-17 years-old



* All significant at the .05 level

Figure 2 - Factor Analysis: Involuntary Coping

Figure 2. Model of involuntary coping in adolescents 13-17 years-old



* All significant at the .05 level

Appendix B

The Responses to Stress Questionnaire: Outdoor Adventure Version

Name:									
Age:									
<input type="checkbox"/> Male		<input type="checkbox"/> Female							
Race: (Please check one)									
<input type="checkbox"/> White/Caucasian				<input type="checkbox"/> Asian/Pacific Islander					
<input type="checkbox"/> Black/African American				<input type="checkbox"/> Arabic/Middle Eastern					
<input type="checkbox"/> Hispanic				<input type="checkbox"/> Native American					
How much outdoor experience do you have? <i>(Rate from 1-10; 1 being None and 10 being Very Experienced)</i>									
1	2	3	4	5	6	7	8	9	10

For each question below, circle the number to the right that best fits your feelings.

Question					
A.	Even when things are going well and you feel group members are your friends, at times it can be tough getting along with everyone when you are living outdoors 24/7.				
1	<p>So that we can find out how things have been going for you lately, please put a check mark by all the things on this list that have been a problem for you since the start of your therapy program.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Frustration with others in the group <input type="checkbox"/> Out of comfort zone <input type="checkbox"/> Peers refusing to complete activities <input type="checkbox"/> Preparing and cooking food <input type="checkbox"/> Thinking about meeting parents at the end of the program <input type="checkbox"/> Fear of getting hurt <input type="checkbox"/> Equipment breaking <input type="checkbox"/> Physical challenges, getting tired, blisters, bad ankle <input type="checkbox"/> Activities (hiking, biking, rock climbing, etc.) <input type="checkbox"/> Weather (i.e. rain, snow, sun, wind, heat) <input type="checkbox"/> Other: _____ 				

Question		Scale			
		Not at all	A little	Somewhat	A lot
2	Circle the number that shows how stressful, or how much of a hassle these problems are for you.	1	2	3	4
<p>This is a list of things that people sometimes do, think, or feel when something stressful happens. Everybody deals with problems in their own way—some people do a lot of the things on this list or have a bunch of feelings, other people just do or think a few things.</p> <p>B. Think of the situation(s) you just checked off. For each item on the list below, circle one number from 1 (Not at all) to 4 (A lot) that shows how much you do or feel these things when you have problems like the ones you just checked off. Please let us know about everything you do, think, and feel, even if you don't think it helps make things better.</p>					
1	I try not to feel anything.	1	2	3	4
2	When I have problems I feel sick to my stomach or get headaches.	1	2	3	4
3	I try to think of different ways to change my problems.	1	2	3	4
Write one plan you thought of:					
4	When problems happen I don't feel anything at all, it's like I have no feelings.	1	2	3	4
5	I wish that I were more skilled, communicated better, or didn't have as many problems, so that things would be different.	1	2	3	4
6	I keep remembering group problems or scary moments in the activities or other problems and can't stop thinking about what could have happened.	1	2	3	4
7	I let someone or something know how I feel.	1	2	3	4
	List all you let know how you feel.	<input type="checkbox"/> Letter to parent(s) <input type="checkbox"/> Other kids in the program <input type="checkbox"/> Field Staff <input type="checkbox"/> Therapist <input type="checkbox"/> God <input type="checkbox"/> Nature <input type="checkbox"/> None of these			

Question		Scale			
		Not at all	A little	Somewhat	A lot
8	I decide I'm okay with the way I am, even though I'm not perfect.	1	2	3	4
9	When I'm around the group or the staff I act like the problems never happened.	1	2	3	4
10	I go to my tent or sit alone when I have problems in the activity, I can't stop myself.	1	2	3	4
11	I deal with the problem by wishing it would just go away, that everything would work itself out.	1	2	3	4
12	I get really jumpy when I'm frustrated with the group or have difficulty with an activity or problem.	1	2	3	4
13	I realize that I just have to live with things the way they are.	1	2	3	4
14	When I have problems, I just can't be near anything that reminds me of the situation.	1	2	3	4
15	I try not to think about it, to forget all about it.	1	2	3	4
16	When I go through my problems, I really don't know what I feel.	1	2	3	4
17	I ask other people for help or for ideas about how to make the problem better.	1	2	3	4
	Check all you talked to:	<input type="checkbox"/> Letters to parent(s) <input type="checkbox"/> Other kids in the program <input type="checkbox"/> Field Staff <input type="checkbox"/> Therapist <input type="checkbox"/> God <input type="checkbox"/> None of these			
18	When I'm having problems, I can't stop thinking about them when I try to sleep, or I have bad dreams about them.	1	2	3	4
19	I tell myself that I can get through my problems, or that things will be different the next time.	1	2	3	4

Question		Scale			
		Not at all	A little	Somewhat	A lot
20	I let my feelings out.	1	2	3	4
	I do this by: (Check all that you did.)	<input type="checkbox"/> Writing in my journal/diary <input type="checkbox"/> Complaining to let off steam <input type="checkbox"/> Exercising <input type="checkbox"/> Crying <input type="checkbox"/> Drawing/Painting <input type="checkbox"/> Being sarcastic/making fun <input type="checkbox"/> Punching something <input type="checkbox"/> Yelling <input type="checkbox"/> Staying in my shelter <input type="checkbox"/> Talking with Staff <input type="checkbox"/> None of these			
21	I get help from other people when I'm trying to figure out how to deal with my feelings.	1	2	3	4
	Check all that you went to:	<input type="checkbox"/> Letters from parent(s) <input type="checkbox"/> Other kids in the program <input type="checkbox"/> Field Staff <input type="checkbox"/> Therapist <input type="checkbox"/> God <input type="checkbox"/> Nature <input type="checkbox"/> None of these			
22	I just can't get myself to face the person or the activity/situation I'm having problems with.	1	2	3	4
23	I wish that someone would just come and get me out of this therapy program.	1	2	3	4
24	I do something to try to face my problems or take action to change things.	1	2	3	4
	Write one thing you did:				
25	Thoughts about my problems in the program just pop into my head.	1	2	3	4

Question		Scale			
		Not at all	A little	Somewhat	A lot
26	When I am out of my comfort zone or am frustrated with other kids in my program, I feel it in my body.	1	2	3	4
	Check all that happen :	<input type="checkbox"/> My heart races <input type="checkbox"/> My breathing speeds up <input type="checkbox"/> I feel hot or sweaty <input type="checkbox"/> Butterflies in my stomach <input type="checkbox"/> None of these			
<p align="center">You're half done! Before you keep working, look back at the first page so you remember what kinds of problems with other kids you told us about. Remember to answer these questions thinking about those problems.</p>					
27	I try to stay away from people, things, or situations that make me feel upset or remind me of the problem.	1	2	3	4
28	I don't feel like myself when I have problems with other kids in the activity, it's like I'm far away from everything.	1	2	3	4
29	I just take things as they are, I go with the flow.	1	2	3	4
30	I think about happy things to take my mind off the bad weather, scary activities, or problems with group members.	1	2	3	4
31	When physical challenges or problems with other kids in the program come up, I can't stop thinking about how I am feeling.	1	2	3	4
32	I get sympathy, understanding, or support from someone.	1	2	3	4
	Check all you went to:	<input type="checkbox"/> Letters from parent(s) <input type="checkbox"/> Other kids in the program <input type="checkbox"/> Field Staff <input type="checkbox"/> Therapist <input type="checkbox"/> None of these			

Question		Scale			
		Not at all	A little	Somewhat	A lot
	When problems with other kids or issues in the activities happen, I can't always control what I do.	1	2	3	4
33	<p>Check all that happen:</p> <input type="checkbox"/> I can't stop eating <input type="checkbox"/> I do dangerous things <input type="checkbox"/> I can't stop talking <input type="checkbox"/> I have to keep fixing/checking things <input type="checkbox"/> I rebel <input type="checkbox"/> None of these				
34	I tell myself that things could be worse.	1	2	3	4
35	My mind just goes blank when I have frustrations with other kids in my program, I can't think at all.	1	2	3	4
36	I tell myself it doesn't matter, it isn't a big deal.	1	2	3	4
37	When I have problems with other kids in my group right away I feel really: (Remember to circle a number)				
	<p>(Check all you feel)</p> <input type="checkbox"/> Angry <input type="checkbox"/> Sad <input type="checkbox"/> Scared <input type="checkbox"/> Worried/Anxious <input type="checkbox"/> None of these	1	2	3	4
38	It's really hard for me to concentrate or pay attention when I have problems with other kids or activities in the program.	1	2	3	4
39	I think about the things I'm learning from the adventure therapy, and hope something good will come from it.	1	2	3	4
40	When I have problems with the adventure activity or other kids in my group I can't stop thinking about what I did or said .	1	2	3	4
41	When something goes wrong with the weather, other kids, or the activities, I say to myself, "This isn't real."	1	2	3	4
42	When I'm frustrated with other kids in my group or am having a hard time living outside, I end up just lying around or sleeping a lot.	1	2	3	4

Question		Scale			
		Not at all	A little	Somewhat	A lot
43	I keep my mind off problems with other kids by: (Remember to circle a number)				
	(Check all that you do) <input type="checkbox"/> Cooking <input type="checkbox"/> Writing in journal <input type="checkbox"/> Practicing skills (i.e. building fires, knots) <input type="checkbox"/> Thinking of home <input type="checkbox"/> Writing letters <input type="checkbox"/> None of these	1	2	3	4
44	When facing my issues of why I had to come to therapy or when problems with other kids come up, I get upset by things that don't usually bother me.	1	2	3	4
45	I do something to calm myself down when I'm having fear about an adventure activity or problems with other kids.	1	2	3	4
	Check all that you do: <input type="checkbox"/> Take deep breaths <input type="checkbox"/> Pray <input type="checkbox"/> Take a break <input type="checkbox"/> Yell <input type="checkbox"/> Talk with others <input type="checkbox"/> Meditate <input type="checkbox"/> None of these				
46	I just freeze when I am out of my comfort zone or when I am having problems with other kids in the program, I can't do anything.	1	2	3	4
47	When I'm having a problem with other kids in my group, sometimes I act without thinking.	1	2	3	4
48	I keep my feelings under control when I have to, then let them out when they won't make things worse.	1	2	3	4
49	When problems with other kids in my group happen I can't seem to get around to doing things I'm supposed to do.	1	2	3	4
50	I tell myself when doing adventure activities that everything will be alright.	1	2	3	4

Question		Scale of Importance			
		Not at all	A little	Somewhat	A lot
51	When I have physical challenges or fears during an adventure activity or problems with kids, I can't stop thinking about why they happen to me.	1	2	3	4
52	I think of ways to laugh about being in an adventure therapy program so that it won't seem so bad.	1	2	3	4
53	My thoughts start racing when I'm having a tough time with other kids/staff in the program or activities.	1	2	3	4
54	I imagine something really fun or exciting happening in my life after therapy.	1	2	3	4
55	When a kid refuses to complete an activity and holds back the group, I can get so upset that I can't remember what happened or what I did.	1	2	3	4
56	I try to believe the situation or activity never happened.	1	2	3	4
57	When I have problems with other kids or have fear of an activity, sometimes I can't control what I do or say.	1	2	3	4

Appendix C

Prospectus

Chapter 1

Introduction

Stress is part of the human experience (Finnicum & Zeiger, 1998). It is a threat, perceived or real, affecting behavior, physiology, or health (McEwen, 2000). Adolescents have a particularly difficult time coping with stress. As children reach adolescence, higher expectations with school, work, and relationships create higher levels of stress. Adolescents do not have the cognitive and emotional capacity to cope with many of these stressful situations. They are all learning, and the quicker they learn, the better it will be for their development (Boss, 1980).

The inability to cope with stress effectively can lead to behavioral and psychological problems as adolescents are developing an identity. The formation of an identity contributes to an easier transition into adulthood (Lohman & Jarvis, 2000). Stress is caused by a variety of sources, and therefore requires several methods to cope (APA, 2000). For example, school demands or family conflict may lead to stress. Some people may listen to music to alleviate stress and concentrate on school work; others may seek advice from a friend to handle family conflict. According to *Stress in America*, physical exercise is among the most popular coping mechanisms (APA, 2000). Recently research moved beyond physical exercise to examine the effectiveness of outdoor adventure activities in creating stressful, yet safe, situations for learning coping skills. Outdoor recreation creates many unique demands, challenges, and risks for learning stress management (Bunting, Tolson, Kuhn, Suarez, & Williams, 2000). This unique atmosphere of outdoor recreation has the potential to be among the most effective modalities for promoting coping skills in adolescents.

Bandura (1977) indicates a stressful, yet safe, environment will increase coping self-efficacy. Self-efficacy is a belief in the ability to act and exert influence on life events (Bandura,

1994). Similarly, for adolescents, such beliefs influence how they feel and think. Strong efficacy beliefs provide motivation in stressful situations and also promote a sense of control. Learning coping skills and successfully applying these skills will increase the adolescents' belief in their ability to cope.

One way to increase coping skills, using stressful but safe environments, is through outdoor adventure activities. Propst and Koesler (1998) examined the short and long-term effects of coping after participating in outdoor activities. Results indicated significant increases in coping efficacy following outdoor activities. The effect remained significant at the one-year follow-up.

Recent research suggests adventure and wilderness therapy is an effective modality for promoting a variety of positive outcomes in adolescents, including identity development (Duerden, Widmer, Taniguchi, & McCoy, 2009), persistence (Schenk, Widmer, Duerden, & Burraston, 2008), parent adolescent communication (Huff, Widmer, McCoy, & Hill, 2003), and reducing irrational beliefs (Lundberg, Widmer, McCormick, & Ward, 2006). In addition, in the context of self-efficacy theory, studies have shown increases in outdoor recreation generalize to important treatment goals, including academic efficacy (Widmer, Taniguchi, & Duerden, 2005), substance abuse cessation (Widmer & Wells, 2002), and conflict resolution (Wells, Widmer, & McCoy, 2004). These generalizations occur both naturally and also when systematic attempts to generalize are implemented using methods such as cognitive restructuring, or simultaneously teaching sub skills. Generalization is likely to occur naturally when the outdoor recreation adventure culminates in an overwhelming mastery experience.

Theory (Bandura, 1997) and this research suggests outdoor adventure programs designed to teach coping skills and increase coping efficacy in an outdoor adventure environment, can

increase efficacy in these areas, and these increases are likely to generalize to other important treatment outcomes. Specifically, adventure therapy programs designed to increase coping efficacy in outdoor adventure should increase efficacy in this area, and these increases should generalize across to increased coping skills efficacy in other life areas. Research in this area, exploring effective programs, and measuring outcomes would make important contributions to the literature and also to practice.

Unfortunately, no effective measurement instruments currently exist in measuring outdoor adventure coping efficacy. Our ability to understand any psychological phenomena is limited by our ability to quantify or measure it; therefore, developing a psychometrically sound measure is vital to expanding our knowledge in this area. Compas, Connor-Smith, Saltzman, Thomsen, and Wadsworth (2001), in fact, have called for better coping measurements for adolescents. Researchers should have access to standardized, reliable, and valid measures to support research and expand our understanding of the mechanisms promoting effective coping skills and coping efficacy. Especially in the area of outdoor adventure and wilderness programs, researchers and practitioners need instruments to measure if therapy and coping skills are being attained. For researchers, it is important to measure the functionality of outdoor therapy programs to assess information on their effectiveness. Currently, no measure exists assessing coping skills in the outdoor realm of therapy.

Purpose of Study

The purpose of this study is to develop a measure for coping efficacy in outdoor adventure activities that reliable and valid inferences can be made. To do this, the constructs will be clearly defined; relevant items will be written representing the constructs. An expert panel will review the items for content validity, and the instrument will be administered to subjects to

gather evidence supporting the reliability and validity of inferences. If successful, the instrument developed will provide a foundation for future research and understanding related to outdoor adventure coping skill efficacy. In addition, if evidence supports the reliability and validity of inferences of the assessment, it may serve to measure outcomes in adventure and wilderness therapy programs.

Need for the Study

Stress receives attention from several fields of research. Scholars are concerned with increasing negative effects of stress, especially in the areas of psychology, physiology, and behavior (Lohman & Jarvis, 2000; McEwen, 2000). The American Psychological Association (APA) (2008) researched stress in America; the results indicated an alarming increase in stress and its negative effect on health. Among those struggling with stress are adolescents. Adolescent experience many psychological detriments because of too much stress and not being able to cope with it (Compas et al., 2001).

With the growing attention surrounding stress, scholars are looking for solutions. Several different methods of coping have been established. One proven method is increasing self-efficacy in coping. A difficulty of assessing solutions for adolescent coping is the availability of reliable and valid measurements to accurately relate the results.

Currently, no reliable and valid assessment exists for outdoor adventure coping self-efficacy. The need for establishing an assessment to move the research forward is essential for alleviating stress and its negative outcomes. Assessments are needed for research in evaluating the effectiveness in adventure/wilderness therapy programs. This research on this scale is also needed to assess if therapy through physical programs are or can be successful. This study is needed to expand our understanding of coping self-efficacy and adventure/wilderness programs.

Outdoor programs especially have the ability to provide a unique atmosphere to learn stress while doing adventure activities. The physical demands and margin for error are intensified and allow adolescents to experience and learn from their stress in a magnified perspective.

Delimitations

The scope of the study will be delimited to the following:

1. The sample will only be collected in Utah, Idaho, and Hawaii.
2. Stress will only be measured by psychological measurements.
3. The adolescents will be between the ages of 13 years to 17 years of age.
4. Data will be collected, beginning June 2010, until an adequate sample is collected.

Limitations

This study will be limited by the following factors:

1. A convenience sample using participants from schools and juvenile correction centers will be utilized. Therefore, this research will not generalize its findings and conclusions to a larger population.
2. Not all instructors will be over the same groups. This is an uncontrolled variable.

Hypotheses

The study was designed to test the following hypotheses (H):

1. H₁: The reliability analysis will estimate internal consistency with a coefficient score of .85 or above.
2. H₂: The outdoor recreation coping self-efficacy scale will demonstrate a five-factor structure.

Definitions of Terms

The following terms are defined to clarify their use in the study:

1. *Adolescent*. Adolescents and youth will be used interchangeably to identify males and females between the ages of 13 to 17.
2. *Adolescent coping*. Adolescent coping is “conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances” (Compas, et al., 2001, p. 89).
3. *Outdoor adventure*. Outdoor adventure is activities that create demands, challenges, and risks in a wilderness setting (Bunting et al., 2000).
4. *Self-efficacy*. A belief in one’s ability to act and exert influence on life events (Bandura, 1994).
5. *Stress*. McEwen (2000) defines stress as “a real or interpreted threat to the physiological or psychological integrity of an individual that results in physiological and/or behavioral responses” (pp. 508-509).

Chapter 2

Review of Literature

Researchers are concerned about the rapid increase in negative stress, especially among adolescents (APA, 2008). Negative stress causes several psychological, mental, and physical limitations (Lohman & Jarvis, 2000; McEwen, 2000). Effective interventions have the potential to help many people. Relaxation and breathing techniques, and cognitive restructuring are common methods used to cope with stress (National Institute of Mental Health, 2008). Beyond coping techniques, much has been written about self beliefs or efficacy in dealing with distress, anxiety, and phobias (Bandura, 1986; 1997). Both research and theory related to personal efficacy demonstrate effective methods to enhance coping.

Self-efficacy is the belief in one's ability to succeed at a given task (Bandura, 1994). Within the task of coping, coping self-efficacy is an individual's perception of his or her ability to deal effectively with distress or phobias. Increased coping self-efficacy should moderate stress and the negative effects posed through psychological, mental, and physical problems.

According to Bandura, engaging in experiences that present high levels of perceived risk and challenge, thus promoting stress, while moderating actual risk, can directly increase coping self-efficacy (Bandura, 1977). Outdoor adventures can be designed to create high perceptions of risk and high challenge while moderating actual risk. Outdoor adventure activities is an area of increasing interest among researchers. For example, researchers have studied the effects of outdoor adventures on adolescent behavior (Duerden et al., 2009; Huff et al., 2003; Lundberg et al., 2006, Schenk et al., 2008; Widmer, et al., 2005, Widmer & Wells, 2002). Increases in positive behaviors accrued during outdoor adventures have also been shown to generalize to home life after participation in the outdoor activity (Wells, et al., 2004; Widmer et al., 2005). Outdoor

adventure activities can be a safe place for adolescents to learn coping skills. Little research exists examining the use of outdoor adventures to promote coping skills. A dearth of quality measures focusing on coping skills exist. Our ability to study phenomena like coping efficacy, or coping skills, is limited by our ability to measure these constructs. Consequently, a need exists to develop instruments to measure coping strategies or skills in the context of outdoor adventure experiences, to lay a sound conceptual foundation for a coping skills measure to be used in outdoor adventure experiences, and to address appropriate methods of test construction. This chapter will review the literature on stress, coping, self-efficacy, outdoor adventure, and assessment.

Stress

Stress is ubiquitous and impossible to avoid (Finnicum & Zeiger, 1998). Over 100 billion dollars are spent annually on illnesses related to stress (Finnicum & Zeiger). Today, individuals experience multiple stressors occurring at once and therefore, more negative consequences are present (Bredar, 2008). Stress is defined as “a real or interpreted threat to the physiological or psychological integrity of an individual that results in physiological and/or behavioral responses” (McEwen, 2000, pp. 508-509). According to this definition, stress has an impact on negative and positive events. Positive stress includes events similar to having a new baby or starting a new job, while negative stress includes events, such as death or losing a job (Bruce, 2009).

In 2008, the American Psychological Association examined stress nationwide (APA). The researchers discovered higher stress than any other previous year with 30% of the sample rating their stress as extreme. Interestingly, 81% of the participants stated they manage their stress very well or somewhat well, even though in the research physical and emotional effects demonstrate otherwise (APA).

Problems caused by stress. Negative stress can have detrimental effects on physical, emotional, and mental health. Research on peoples' perceptions of stress suggest eight out of ten people believe stress increases sickness (APA, 2008). In 2008, 60% of people felt anger due to stress, 53% felt fatigue, and 52% could not sleep at night. Other major occurrences caused by stress included "headache (47%); upset stomach (35%); muscular tension (34%)" (APA, p. 3). Psychological problems from stress include "lack of interest or motivation (49%); feeling nervous or anxious (49%); feeling depressed or sad (48%); and wanting to cry (40%)" (APA, p.3).

Physical detriments from negative stress lead to "muscle aches, body pain, nausea, increased or decreased appetite, and weight changes" (Nair & Gaither, 1999 as cited in Bruce, 2009, p. 58). Examples of emotional and mental problems associated with stress include "depression, hopelessness, feeling trapped, negative feelings about self, feeling inadequate or incompetent, indecisiveness, poor concentration, and/or muddled thinking" (Nair & Gaither as cited in Bruce, p. 58). Extended exposure to negative stress is manifested in several ways, depending on the individual. Due to high levels of stress associated with contemporary society, and the associated negative side effects of stress, it is valuable to help people learn to minimize the levels of stress they experience. Although certain "optimal" levels of stress can "foster creativity, rational decision making, and change," some people experience stress at levels well beyond what psychologist would categorize as optimal (Bruce, 2009, p. 58). Currently, Americans are overstressed, leading to harmful instead of positive results (APA, 2008).

Adolescent stress. Relationships, work, rearing children, housework, and other demands each day cause large amounts of stress for adults (Iwasaki & Schneider, 2003). Many adults consider adolescents' stressors trivial compared to theirs. However, adolescents identify stress as a critical problem in their lives (Goldstein, 1988). Some stressors include "being made fun of by

others, not being asked to a birthday party, being the last person selected for the team at recess” (Goldstein, p. 367). These and other stressors affect the ability to adapt and cope, even for the most resilient (Johnson, 1986).

Some adolescent stressors come from major life changes. Adolescence is filled with transitions marked by uncertainty and stressful situations (Cook & Furstenberg, 2002; Lohman & Jarvis, 2000). These transitions represent “social, academic, cognitive, physiological, and physical changes” (Stroud et al., 2009, p. 47). Compas (1985) categorizes causes of adolescent stress into three groups: major life transformations, chronically stressful circumstances, and everyday hassles. Everyday hassles are related more strongly with health issues than the others (Compas, 1985; DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982). Three influential *everyday hassles* include family problems, school ability, and peer relationships (Compas, 1985).

Adolescents also experience stress outside of normal everyday stressors. Parental divorce is a risk factor in the lives of over one million children each year (Fagan & Rector, 2000), affecting many with psychological issues, financial distress, etc. More women are going into the workforce (McCubbin et al., 1980) and therefore, children receive less discipline and quality time from their mothers. Family conflict is another primary contributor to adolescent stress (Lohman & Jarvis, 2000). Particularly, parent and child conflict increases during adolescence (Montemayor, 1983). As a result of so many stressors, the ability to cope with stress is essential for adolescents (Goldstein, 1988). Negative stress not eliminated or resolved is physically and psychologically detrimental to the adolescence (Compas et al., 2001).

Outcomes of adolescent stress. Some outcomes, specifically from adolescent stress, include psychological determinates; for example, problems with school adjustment (Rice, Kang, Weaver, & Howell, 2008), school performance (Flook & Fuligni, 2008; Fontana & Dovidio,

1984), delinquency (Caldwell & Smith, 2006; Craig, 2007), drug use (Byrne & Mazanov, 1999), depression (Olsson, 1998), suicide (Fordwood, Asarnow, Huizar, & Reise, 2007), anorexia nervosa (Misra et al., 2005), and maladjustment (Hampel, 2007). In contrast, research indicates parents who have warm, caring, supportive, communicable homes decrease the effects of negative stress on their children (Dubois, Felner, Brand, Adan, & Evans, 1992; Hauser, Vieyra, Jacobson, & Wertlieb, 1985).

Stress causes and escalates several mental disorders. The National Institute of Mental Health (NIMH, 2009) found 1 in 10 children suffer from a mental illness. The findings also indicate half of mental illnesses are initiated by 14 years of age. The NIMH emphasized the importance of early intervention during the onset of mental illness. Otherwise, overcoming the illness becomes more difficult, and the likelihood of other illnesses ensuing in adulthood is greater (NIMH).

Stress is a major concern and is manifested in several different ways; through physiology, behavior, and psychology. Although stress cannot be avoided, “the degree and manner in which we experience stress, and ways in which we cope with stress, strongly influence how we live our lives” (Iwasaki & Schneider, 2003, p. 108). The ability to cope with stress is essential for promoting and maintaining positive outcomes in life.

Coping

Researchers in the 1970s initiated the examination of coping for children and adolescents (Compas, 1987). Compared with adults, little research has addressed adolescent stress and coping (Stern & Zevon, 1990). The way adolescents cope with stress indicate their psychological symptoms and adjustments (Compas et al., 2001; Lohman & Jarvis, 2000), and therefore, needs to be a focal point in research. Researchers suggest psychological well-being is influenced more by

the ability to cope than the amount of stress present. This is an example of why examining adolescent coping is crucial in research.

In the American Psychological Association's 2008 report, *Stress in America*, 52% of people reported listening to music as a coping mechanism for stress. Others included exercising (47%), reading (44%), being with family/friends (41%), viewing media for two or more hours per day (41%), and napping (38%). Eighteen percent reported drinking alcohol, 16% smoked, and 8% did nothing to manage stress (APA, 2008). Thirty-seven percent of the people said they pray to reduce stress and praying (77%) was the most effective stress management technique reported from the sample population. Exercising (65%) and playing sports (63%) were also both reported as effective coping techniques for stress (APA, 2008).

Individuals naturally implement numerous approaches to help cope with stress (Iwasaki & Schneider, 2003). Generally, these approaches fall into either problem-focused or emotion-focused methods. The problem-focused method usually uses direct actions, for example, active coping and preparing. The emotion-focused method is usually indirect and typically uses methods to control emotions and distancing (Folkman & Lazarus, 1980; Iwasaki & Schneider). Generally, the problem-focused method is related to better adjustment than emotion-focused (Compas et al., 2001). Phelps and Jarvis (1994) extended this definition to adolescents and added two more coping approaches: acceptance coping (accepting the situation as it is) and avoidant coping (remove either the situation or oneself from the situation, sometimes done through alcohol and drugs). People will cope with situations differently; however, the coping methods usually fall into one of these four areas.

When developing a measurement for adolescent stress and coping, Compas et al. (1996) discerned that using problem-focused and emotion-focused methods to measure adolescent

coping was too broad and did not specify exactly what was being measured. In response to this, Connor-Smith (2000) developed the Response to Stress Questionnaire (RSQ). The RSQ measures a broad range of coping responses to stress. Throughout the studies, the inferences made with the RSQ have been determined to be valid and reliable. The researchers used four specific domains to assess adolescent coping. Having specific domains, instead of broad, provided the assessment to be more valid and reliable. These domains included engagement responses (responses “directed toward a stressor or one’s reactions to the stressor and include approach responses” (p. 977)), disengagement responses (responses are “oriented away from a stressor or one’s reactions and include avoidance responses” (p. 977)), primary control coping strategies (“aimed directly at altering objective conditions, such as the stressor or one’s emotional response to the stressor” (p. 977)), and secondary control coping strategies (“focused on adaptation to the problem” (p. 977)). Through the development of the RSQ, other measurements of specific domains (e.g., outdoor adventure activities) can be developed to assess stress and coping in adolescents with reliability and validity (Connor-Smith et al.). Developing assessments in several domains is essential for specific and accurate measurements in all situations in the adolescents’ life.

Researchers have lacked a developed and explicit definition for adolescent coping (Compas et al. 2001). Consequently, it is difficult to compare the studies and to outline the differences to direct future research. In the rare cases where researchers define coping, they usually use a definition of adult coping (Compas et al., 2001). It is critical to define adolescent coping and come to a consensus with researchers in order to establish progress and consensus within the studies.

For this study, a definition of adolescent coping will be used in order to establish consistency. This definition was developed by Compas et al. (2001) and particularly focuses on

adolescents and is used in several adolescent research articles. This definition is among the first definition of adolescent coping and offers consistency among researchers. Coping is defined as “conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances” (Compas et al., p. 89). Regulation in this definition “involves a broad array of responses, including efforts to initiate, terminate or delay, modify or change the form or content, or modulate the amount or intensity of a thought, emotion, behavior, or physiological reaction, or redirect thought or behavior toward a new target” (Compas et al., p. 89). Using this definition for adolescent coping will establish consistency and progress within the coping field for adolescents.

Studying coping in adolescence is important for two main reasons. First, stress is a risk factor in the psychological development of adolescence (Grant, Compas, Thurm, McMahon, & Ey, 2000, as cited in Compas et al., 2001), and therefore, the techniques “adolescents [use to] cope with stress are potentially important mediators and moderators of the impact of stress on current and future adjustment and psychopathology” (Compas et al., p. 87). Second, information collected from research is essential for informing and developing the best interventions (Sandler, Wolchik, MacKinnon, Ayers, & Roosa, 1997, as cited in Compas et al., 2001). Researching adolescent coping is essential for developing coping mechanisms. Many coping interventions developed for adults are used for adolescents with little or no alterations (Compas et al.). A need exists for interventions specific to adolescents.

Compas et al. (2001) give suggestions for advancing coping research. First, the research community needs to reach an agreement on the conceptualization of adolescent coping. More theory-based research is essential to understand the developmental changes in adolescents and coping. These theories or models need to be sensitive “to cognitive processes, social relationship,

and development in brain, central nervous system, and neuroendocrine function” (Compas et al., p. 121). Second, existing measurements need improvement, specifically with standardization.

Additional concerns include investigating the biological components of stress in adolescents more thoroughly (Compas et al., 2001). Compas et al. state, “additional cross-sectional studies will be valuable only to the extent they shed light on new populations or new types of stressful situations that have not received attention in previous research” (p. 122). Furthermore, the researchers denote the importance of research focusing on interventions for adolescent coping (Compas et al.). These suggestions are crucial for furthering the knowledge of adolescent coping and helping with their stress.

In addition, research findings on coping “should provide valuable information on the nature and development of self-regulatory processes” (Compas et al., 2001, p. 87). Children who display higher self-regulation skills also exhibit an increase in positive social behavior, social status, empathy, and exhibit fewer behavioral problems, and less negative emotional behavior (Compas et al.). In contrast, low self-regulation usually results in problem behaviors (Bandura, 1994). Displaying self-regulation and using coping skills in difficult or troublesome situations will build efficacy (Marlatt, Baer, & Quigley, 1995, as cited in Bandura, 1994) and promote positive coping mechanisms. Building coping self-efficacy can lead to the development of more self-regulation and better behavioral outcomes.

Existing measurements. Only a few measurements for adolescent coping and stress exist, several other coping and stress measurements exist; however, they are mainly targeted toward adults. One measure developed for adolescent coping is the Adolescent Coping Scale (ACS) (Leong & Oehler Stinnett, 1993). This coping scale measures 18 coping strategies used by adolescents. Among other problems, this assessment has “no concurrent or predictive validity

studies” (Leong & Oehler Stinnett). In relation to the reliability, the ACS’ “test-retest reliabilities for the 18 strategies on the Long Forms are also below acceptable levels” (Leong & Oehler Stinnett).

Another scale relating to adolescent stress is the Stress Management Questionnaire (SMQ) (Stake, 1986). The purpose of this questionnaire “identifies how one responds to life stressors and copes with stress” (Stake, p. 1). A review given of the SMQ relates poor validity checks due to small samples no cross validation with more than one sample. In addition, this scale is more biased towards adults than adolescents, including questions on divorce and major financial loss. A critique of this scale suggests the authors did not have sufficient information for making assumptions for the levels of the scale. Essentially, the assessment relates scores in the medium range are suggestions for concern; however, the authors have no research saying this is the case.

The Adolescent Stress Questionnaire (ASQ) is another questionnaire produced to assess adolescents stress level. This questionnaire assesses several perspectives of the adolescents’ life (i.e. home, school, romantic relationships, peer pressure, teacher interaction, future uncertainty, school/leisure conflict, financial pressure, and emerging adult responsibility). The researchers are still undergoing validity and reliability tests. For the scope of this study, the ASQ would be considered too broad and does not focus sufficiently on wilderness therapy.

Self-efficacy

Adolescents can increase their ability and perception to cope with stress through application of the self-efficacy theory. According to Bandura (1994), “Perceived self-efficacy is defined as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self-efficacy beliefs determine how people feel, think, motivate themselves and behave” (p. 71). Interestingly, high self-efficacy is

related to well-being and enhances success (Bandura, 1994). High self-efficacy makes threatening or stressful situations controllable (Bandura, 1994). On the opposite extreme, those who possess low self-efficacy have little belief in their capacity to succeed and “fall easy victims to stress and depression” (Bandura, 1994, p. 72).

Four key sources of efficacy information directly influence efficacy judgments: (a) performance accomplishments, (b) vicarious experience, (c) verbal persuasion, and (d) physiological states. Each of these sources of efficacy information can be used to increase adolescents’ coping efficacy and thus assist them in coping with stressors. Performance accomplishments are “influential because [they are] based on personal mastery experiences,” (Bandura, 1977, p. 195). In other words, individual successes in challenging situations are likely to promote self-efficacy. Vicarious experience involves observing others model the task and then gaining a sense of personal ability and efficacy. In verbal persuasion “people are led, through suggestion, into believing they can cope successfully with what has overwhelmed them in the past” (Bandura, p. 198). Verbal persuasion is common because of its ease of use and availability (Bandura). The physiological state is also important in demonstrating adolescents’ ability in managing their different neuroendocrine hormones.

Physiology, or emotional arousal, gives information affecting self-efficacy. People depend partly on their physiological arousals to discern their anxiety and vulnerability to stress (Bandura, 1997). For example, if someone feels anxious, or their heart starts pounding rapidly, their self-efficacy perception usually is affected; this in return affects their behavior. Usually, an increased emotional state (stress) leads to a decrease in performance and, therefore, will impinge on success. Success is necessary for strengthening self-efficacy (Bandura). The physiology and emotional states affect our self-efficacy when we “associate poor performance or perceived

failure with aversive physiological arousal and success with pleasant feeling states” (Maddux, 2005, p.). Success is especially important in adolescents as they learn to cope with new transitions in their lives. This helps increase their self-efficacy and supports them in controlling the situation.

Those who continue to participate in challenging and/or stressful, yet safe, activities increase their efficacy, resulting in a discontinuation of the challenge or stress (Bandura, 1997). When people avoid stressful activities they impede the development of coping skills. When coping skills remain undeveloped, not only will success be hindered, but also fears and debilitating behavior will be retained. Overall, the choice is either to affect one’s environment or be affected by it (Bandura).

Coping self-efficacy

Coping self-efficacy affects how people will perceive a stressful situation, either positively or negatively (Bandura, 2005a). These beliefs give motivation in the face of difficulties, aspirations to goals, and produce outcome expectations. Individuals with high efficacy have the ability to face challenges with perseverance and remain resilient throughout (Bandura), but people with low coping efficacy usually give up and exert little effort during a challenge.

Bandura (1985) implemented an experiment to test catecholamine secretion in relation to perceived coping self-efficacy. Bandura hypothesized perceived self-efficacy would “mediate the effects of environmental events on catecholamine secretion” (p. 406). Each group in the experiment underwent different degrees of modeling for greater efficacy and was then presented with a task. The participants with high-perceived efficacy had less catecholamine secretion. Their perceived self-efficacy was greatly enhanced through modeling. After the modeling, each task

was carried out without a changed catecholamine reaction because efficacy increased during the modeling stage (Bandura). In essence, increasing efficacious beliefs about coping reduces the physiological reactions in stress.

The amount of control an individual has over a potential threat or stressor is central to the amount of anxiety they will experience (Bandura, 1988). If a person believes they are incapable of managing a stressful event they usually experience a high level of anxiety (Bandura). Essentially, “perceived coping inefficacy is accompanied by high levels of subjective distress, autonomic arousal, and catecholamine secretion” (Bandura, p. 77). Likewise, coping-inefficacious people are more likely to demonstrate high anxiety along with avoidant behavior (Bandura).

Throughout adolescence, individuals experience transitional markers of biological, educational, and social changes. These markers are strenuous on personal efficacy (Bandura, 2005a). Efficacy also affects “the quality of emotional life and vulnerability to stress and depression” (Bandura, p. 4). During these years of change, adolescents take on more responsibility and make more decisions about life choices. Self-efficacy plays a key role on the course of the adolescent’s life path (Bandura, 2005a). Choices made during adolescent transitions and phases are critical for shaping their life course and cultivating potential (Bandura, 2005a). Adolescents with efficacious beliefs cope with peer pressure better and are less likely to be involved with substance abuse (Bandura, 2005a). Another important aspect of high efficacy in adolescents is their ability to communicate with parents about the problems they face (Bandura, 2005a).

A resilient sense of self-efficacy is essential for control emotionally and psychosocially throughout difficult situations (Bandura, 2005a). When adolescents display a resilient sense of

self-efficacy in managing their emotions, they perform better in academics, with peer pressure, and with empathy (Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003). Self-efficacy also fosters social interactions, discourages substance abuse, and helps adolescents cope with negative events in their lives without feeling hopeless (Bandura et al., 2003). The less self-efficacy adolescents have, the more involved they are with drugs, sexual activity, and delinquency, and these in return affect their life course (Allen, Leadbeater, & Aber, 1990).

Guided mastery

Although adolescence is often noted as an unstable and disconnected phase, social cognitive theory emphasizes the importance for growth through mastery and other success promoting experiences (Bandura, 2005a). Self-efficacy and the use of coping skills require effort to develop. The more mastery experiences obtained, the better the developmental effect will be (Murray, Pirie, Luepker, & Pallonen, 1989). Moreover, the more intensive the experience and more effective the implementation are, the better the results and impact on the individual (Connell, Turner, & Mason, 1985, as cited in Bandura, 2005a).

Adolescents strengthen their self-efficacy by dealing successfully in difficult and beneficial circumstances (Bandura, 2005a). Strengthening self-efficacy is attained best through guided mastery. Guided mastery gives adolescents the skills to control risky situations (Bandura, 1986). Mastering difficulties through perseverance helps in obtaining resilience (Bandura, 2005a). Adolescents not exposed to difficult circumstances and have not developed appropriate coping skills “are vulnerable to distress and behavioral problems when they encounter difficult interpersonal predicaments that are not completely avoidable” (Bandura, p. 24). Guided mastery experiences are setup to allow success despite environmental or self-circumstance (Bandura,

2005a). Through guided mastery, adolescents will gain stronger beliefs in their abilities to handle stressors and more resilience to continue coping in the future.

Overall, adolescents need successful, challenging experiences to help them increase their self-efficacy (Bandura, 2005a). However, people usually avoid challenging circumstances or situations when they think they lack control. They will usually participate only in situations where they think they can succeed (Bandura, 1982). Adolescents need activities to stimulate efficacy growth and resilience with stressors. Outdoor adventure is an optimal place to increase self-efficacy and experience success through a challenging and safe situation.

Outdoor Adventure

Outdoor adventure activities include both physical and psychosocial stress (Bunting, et al., 2000). Outdoor adventure activities are saturated with stressors. The outdoor environment creates many demands, challenges, and risks (Bunting et al., 2000). Rappelling for the first time, rafting down a Class IV rapid, starting a fire in the rain, and maintaining group morale while carrying a 50-pound pack for a week are just a few of the demands of participating in outdoor activities. Stress increases once interaction is initiated in a new environment or situation (Bijlsma & Loeschke, 2005). Experiencing limited distractions is a major attribute of outdoor adventure activities. Adolescents are forced to use active coping with the focused situation, instead of other alternatives, such as avoiding or accepting. Clarke's (2006) study suggests using active coping when adolescents have a controllable situation is positively related to less externalizing problems and better social ability in adolescents. When the situation is out of the adolescent's control other approaches should be used.

Outdoor activities contribute to emotional, social, physical, and spiritual benefits (Finnicum & Zeiger, 1998). Several outdoor youth programs have seen these benefits of fostering

growth, leadership, and education (Russell & Farnum, 2004). Programs have also produced higher self-efficacy (Propst & Koesler, 1998), lowered recidivism rates in adolescents with at-risk behaviors (Wilson & Lipsey, 2000), improved self-concept and leadership qualities (Hattie, Marsh, Neill, & Richards, 1997), identity development (Duerden et al., 2009) and provided an increased internal locus of control (Hans, 2000).

Limited research has been conducted on the physiological effects of outdoor adventures however, one study of interest focused on the physiological effects of stress in outdoor adventure (Bunting et al., 2000). Researchers examined a group participating in a nine-day adventure course of rock climbing, backpacking, and canoeing. Before and after each activity, urine samples were collected from each participant to determine their stress levels. The results stated stress increased during each adventure activity. This relates to a safe, yet stressful, environment to manage stress (Bandura, 1977). In discussion, the researchers applied the outdoor activities as a coping mechanism for stress today. The participants participated in the stressful activity, managed their stress, and were successful in finishing (Bunting et al.). Although it was not part of the study, successfully finishing an activity leads to higher efficacy (Bandura, 1977).

Outdoor adventure has many unknown challenges, including coping with social, psychological, and physical risks (Bunting et al., 2000). Although these unfamiliar challenges “are usually perceived as stressful, the experience of performing adequately outside of one’s comfort zone (under stress) can stimulate a holistic type of growth” (Bunting et al., p. 1-2). This growth helps people adapt and become accustomed to everyday stress. Overall, outdoor adventure could be an anecdote for 21st century stress. Those participating in it are those gaining resilience for challenges in life (Bunting et al.; Iwasaki & Schneider, 2003).

In general, outdoor adventure activities can be a course of action for all people coping with stress. Leisure activities are especially helpful when coping in negative events and finding new direction (Iwasaki & Schneider, 2003). Leisure benefits include empowerment, instilling a positive outlook on life, and learning effective skills to cope with constraints and challenges (Iwasaki & Schneider). Although several benefits have been examined, research is still lacking in how adolescents respond to stress in leisure situations (Hutchinson, Baldwin, & Oh, 2006). In order for this research to be addressed and advanced in the field of adolescent coping, better measurement must be undertaken.

Assessment

Addressing the need for refined measurements in research is essential for advancement in adolescent coping (Compas et al., 2001). Coping research based on a theory, such as self-efficacy, is another step to understand the developmental changes in adolescents and how they cope. Furthermore, including physiological measurements of the neuroendocrine system is an essential step for advanced research (Compas et al., 2001).

Stress and coping questionnaires do exist for adolescents. For example, Leong & Oehler Stinnett (1993) created the Adolescent Coping Scale. This scale had several weaknesses. The authors did not give evidence on how this scale was unique to adolescents. Another weakness was the lack of reliability and validity within the scale. Factor analysis related to some validity in the test; however, no basic level validity was measured. The need exists for accurate and standardized measurements for building strong links within the coping research.

Currently, Connor-Smith et al. (2000) has a well-developed measurement (RSQ) for assessing coping and involuntary stress responses in adolescents. Connor-Smith et al. urges the importance of measurements assessing coping and stress within specific domains. Specifically,

developing assessments for each domain will give more understanding of what is happening and be more reliable for inferences. For example, the RSQ has three dimensions making up several domains of measurement (voluntary vs. involuntary, engagement vs. disengagement, primary vs. secondary control). The RSQ gives researchers a reliable and valid measure for general adolescent coping; however, a measurement for adolescent coping efficacy in outdoor adventure activities is still lacking. Several items need to be assessed when making a measurement an additional measure for outdoor adventure activities.

Test construction. When first creating an assessment, researchers need to know what constructs they are measuring. A construct can include “feelings, emotions, moods, beliefs, knowledge, opinions, dispositions, and attitudes” (Sylvester et al., 2001, p. 10). Constructs need to be important and ubiquitous. Second, constructs need to offer variability. No two people are the same and constructs must expand to reach the different highs and lows of each person. Third, constructs are not tangible; however, observable changes happen to the environment because of them. Theory should always be the underlying component in creating and defining the constructs (Sylvester et al.).

Therefore, the purpose of this study is to develop measures of adolescent coping efficacy in outdoor adventure activities. Measurements of self-efficacy attributes are not global (Bandura, 2006), and therefore, each construct must have its own assessment. One measurement to explain self-efficacy would produce “limited explanatory and predictive value because most of the items in an all-purpose test may have little or no relevance to the domain of functioning” (Bandura, 2006, p. 307). A coping self-efficacy measurement “must be tailored to the particular domain of functioning that is the object of interest” (Bandura, p. 307), in this case, coping self-efficacy in

outdoor adventure activities. In other words, making specific tests produces less ambiguity and provides more reliability and validity.

Self-efficacy is the perceived capability of an individual (Bandura, 2006). A measurement for self-efficacy does not measure capacity or their ability to perform, but measures what they perceive they can performed. Therefore, when writing assessments for efficacy, “the items should be phrased in terms of *can do* rather than *will do*. *Can* is a judgment of capability; *will* is a statement of intention” (Bandura, p. 308). Bandura relates, “Perceived self-efficacy is a major determinant of intention, but the two constructs are conceptually and empirically separable” (p. 308).

Once constructs are defined, they are then used in psychological measurement. Essentially, psychological measurement gives a number to intangible constructs (Nunnally, 1978; Suen, 1990; Sylvester et al., 2001). In this literature review, the urgent need of coping for adolescents has been reviewed. Scholars have called for new and better measurements of stress and coping constructs. Therefore, one purpose of this study is to create a coping self-efficacy measurement. To do so, two major components of test construction must be examined: reliability and validity.

Reliability. Reliability is a “statistical concept and statistical tool that provides an estimate of the extent to which scores on an assessment tool are the result of the effects of a construct” (Sylvester et al., 2001, p. 17). Nunnally (1978) defined measurements as reliable “to the extent that they are repeatable and that any random influence that tends to make measurements different from occasion to occasion or circumstance to circumstance is a source of measurement error” (p. 225). Suen (1990) further defines reliability as the “extent to which the

observed score reflects the true score” (p. 7). Kline reiterates the two essential ingredients of a test being reliable: self-consistent and gives the same score for each person through a retest.

The main concern with reliability is the variation within the test (Nunnally, 1978; Suen, 1990; Sylvester et al., 2001). Test reliability relates to the amount of appropriate variance in the assessment in order to make valid inferences. Two types of variance exist, one being the desirable variance (true score) and the other undesirable (error score). True score variance is the amount of variance in the sample due to extensive and proper measurement of the construct and sample. Error score variance is the variance researchers do not want to occur in assessments. Error score variance comes from outside influences; for example, poorly worded questions, sickness, lack of concentration, tiredness, or perhaps from just being lucky (Sylvester et al.). Another issue causing error score variance is culture based questions; in other words, if the questions are not clear because of language or culture issues (Cronbach, 1990). Several other sources exist for error score variance, and these need to be taken into consideration when evaluating the reliability of the test.

Statistically, error score and true score variation is summed to determine the total variance of the assessment (Sylvester et al., 2001). Sylvester et al. stated, “In evaluating psychometric tests and understanding the concept of reliability, it is vitally important to distinguish between true score and error of variance” (p. 18). Essentially, the best assessment would only produce true score variance; however, error score variance is always present for all assessments to some extent. For an assessment to be reliable a coefficient score should be at or above .85 (85% true score variance and 15% error score variance). In order to decrease the error score, it is important for researchers to remember to include sufficient items to measure the construct, appropriate

wording in the questions, and organized administration procedures when developing and assessing a measurement (Sylvester et al.).

Several steps need to be taken to establish reliability when writing a test. Items should be written for easy understanding. Therefore, when writing questions, Kline (1986) suggests researchers be as brief as possible, write clearly, do not be ambiguous, and use examples to clarify instructions. Most importantly, be specific in what is asked. For example, the question “do you cope well?” can be interpreted differently for each person. Some may assume avoiding the situation is coping well, while others assume eating is a strategic coping mechanism. A better, specific question is to ask, “Do you avoid the situation when coping by eating?” Through being specific, the test is more reliable and obtains more information on the construct.

When constructing a test, each item should only ask one question. If an item asks more than one questions, the test will be considered unreliable because of its ambiguous nature. Each item must be specific and clear, eliminating confusion of responding once to two different aspects of the question. This includes eliminating terms such as “few” or “many” or other types of frequency that may vary from person to person. Questions must be written with specificity and clearness to create ease in reading and responding, and increase overall true score reliability (Kline, 1986; Suen, 1990).

Another important component of reliability is the inferences that can be made. One method in determining this is by utilizing the alternative form method (Crocker & Algina, 1986). To accomplish this, a researcher must create two similar forms of the test. Both forms are then given to the same respondents. Both tests are then computed and given a coefficient of equivalence. The coefficient implies the reliability of the test: the higher the coefficient the more

reliable the test (Crocker & Algina). Reliability can also be measured by giving the same test twice to the same respondents but in an elapsed period of time.

In some situations the test can only be administered once. In this scenario, a split-half method is utilized. Essentially, it is identical to the alternative form method, except instead of having two tests, the one test now has two subtests. One subtest could include even numbers, while the other includes odd. Or the items can be distributed randomly throughout the test.

Overall, it is important to know the intercorrelations between tests, but also the internal consistency among the items in the test. It is important to remember true and error score variance are separate (assumption of independence) (Suen, 1990). Statistically, researchers can measure true score variance and give an estimate called a reliability coefficient. One efficient method in measuring variance is using Cronbach's alpha (Suen).

In conclusion, obtaining reliability is an essential step in test construction in order to make inferences. Kline (1986) states, "high reliability is a prerequisite of validity" (p. 2). Although reliability is one essential step for inference in an assessment, it cannot set the criteria alone without validity (Sylvester et al.).

Validity. Validity is another element in assessing the accuracy of a measurement. The American Educational Research Association (1985) stated validity is the most vital component in evaluating measurements. Validity is defined as an "integrative judgment of the appropriateness of inferences made about constructs based on scores from tests" (Suen, 1990, p. 20). Validity helps assure the questions on the assessment are actually measuring the construct. Three types of validity help with this process: content related evidence, criterion related evidence, and construct related evidence.

Content-related. Content related evidence of validity assesses “the extent to which the questions (behavior, etc.) adequately represent the construct of interest” (Sylvester et al., 2001, p. 22). Essentially, evidence of content validity exists if each question and other elements of the test are related and represent the construct. For example, self-efficacy should be differentiated from other constructs “such as self-esteem, locus of control, and outcome expectancies. Perceived efficacy is a judgment of capability; self-esteem is a judgment of self-worth” (Bandura, 1997, p. 308). When constructing a test, using systematic methods is essential to assure validity (Nunnally, 1978). This systematic method includes mapping the different sections of the test to ensure an equal number of items for each content area. By the end, Kline (1986) states, “If the items of a test can be shown to reflect all aspects of the subject being tested, then it is per se valid, given that the instructions are clear” (p. 6). For content-related validity, it is important to map the questions, make the subject matter clear, and give thorough instructions.

In order to investigate content validity, a team of experts is needed to evaluate each item and its relationship to the construct (Messick, 1989; Suen, 1990; Sylvester et al., 2001). This team needs to include “theory experts, population experts, and test development experts” (Sylvester et al., p. 23). Researchers need to examine “the definition of the construct, the component parts of the construct, and the wording, clarity, readability, and response format associated with the items” (Sylvester et al., p. 22). This can be done by asking a panel to blindly map items on an item map.

Criterion-related. The second type of validity is criterion related evidence. Researchers usually establish criterion validity through testing the assessment with a similar test (Sylvester et al., 2001). Criterion-related evidence of validity demonstrates the scores from the test are related to other criteria as well (AERA, 1985). For example, if a test measures appropriate adolescent coping self-efficacy and the criterion-related evidence is an adolescent stress questionnaire,

sample scores for the tests of these two constructs should be correlated. If they are correlated, the validity of inferences is supported for criterion validity.

Two subgroups of criterion-related evidence are predictive and concurrent. Predictive evidence of validity examines to what extent the results on the test can predict future behavior. Concurrent evidence of validity examines the results of a test and a criterion measure assessed at the same time and establishes a relationship between the two (Messick, 1989; Suen, 1990). Both of these have an equal amount of impact on validity.

Construct-related. Another category of validity is construct validity. Construct validity integrates all related information in order to confer meaning to the test score (Messick, 1989). Information can include relationships between test scores and other variables, intercorrelations among items (convergent evidence of validity), and even information from participant responses (AERA, 1985). Furthermore, the construct should be independent of other constructs (discriminate evidence) (Messick).

Summary

Reliable and valid measures are vital to the progress of adolescent coping and stress. Once a measure is valid and reliable, it can assign numbers to “represent the existence, level, magnitude, frequency, or quantity of a characteristic” (Sylvester et al., 2001, p. 14). The need exists for good assessments in all fields, but especially in studying stress and coping in adolescents. As the research indicates, adolescents specifically have a need for assistance from research professionals in examining healthier alternatives to stress and coping.

Therefore, the purpose of this study is to provide a better assessment in coping and stress research, especially in relation to outdoor adventure activities. The study will create an adolescent outdoor adventure coping efficacy assessment and gather evidence to examine the reliability and

validity of inferences made from the assessments. Overall, this research will provide a foundation for researchers to better address the needs of stress on adolescents, while providing improved, reliable, and valid measurements for assessing their needs.

Chapter 3

Methods

The purpose of the study is to develop an assessment measuring adolescent coping self-efficacy in outdoor adventure activities, and gather and evaluate evidence of reliability and validity. This chapter discusses (a) selection of subjects, (b) instrumentation, (c) defining the construct, (d) Phase I, (e) Phase II, and (f) Phase III.

Selection of Subjects

A purposive sampling technique will be used (Babbie, 2007). Participants will include adolescents attending traditional high schools, alternative high schools, and students living in adventure/wilderness therapy programs in the western United States.

Instrumentation

Coping self-efficacy in outdoor adventure. In order to measure coping self-efficacy, the construct will be defined, items written and evaluated by a panel for face validity and the new assessment will be administered to participants. Results will be analyzed to evaluate the reliability and validity of inferences of the measure. Like previous studies with coping, the assessment will be tested against itself for discriminate and convergent evidence of validity (Connor-Smith et al., 2000). The questions related to primary control should all correlate with each other (convergent validity) and not correlate with the secondary control items (discriminate validity); likewise for engagement versus disengagement items. The assessment will be distributed to 150 participants in order to create a sample large enough to examine validity through a factor analysis. The specific methods used to create this instrument are described below in the section titled Phase I.

Defining the Construct

Defining the construct is the essential initial step in the development of the assessment. This definition frames the development of content validity. Adolescent coping is defined in different ways (Compas et al. 2001). Most of these definitions are based conceptualizations derived from adult coping scales. The use of varied definitions, not specified towards adolescents, has caused ambiguity in the results of adolescent coping research.

In an effort to provide clarity in this area, in 2001, Compas et al. proposed a theoretically based definition of adolescent coping. Compas et al. state adolescent coping is “conscious volitional efforts to regulate emotion, cognition, behavior, physiology, and the environment in response to stressful events or circumstances” (p. 89). In addition, Compas et al. (2000) defined coping in his measurement using Lazarus and Folkman’s (1984) definition. They define coping as “responses that are experienced as voluntary, under the individual’s control, and involving conscious effort” (p. 977). This perspective of coping will serve as a foundation for the measurement of coping efficacy in outdoor adventure activities.

Phase I

Test Construction. Connor-Smith et al. (2000) developed the RSQ and gathered data to evaluate the reliability and validity of the instrument. Results indicated the RSQ was an accurate measure for adolescent coping. When developing and testing the RSQ, Connor-Smith et al. suggested other assessments, similar to the RSQ, be developed for specific domains within adolescent coping. The coping efficacy assessment for outdoor adventure activities will be modeled after the RSQ. The new instrument will provide an additional domain for measuring adolescent coping. To develop this measure, stressors will be identified specific to outdoor adventure activities. With the stressors identified, the RSQ will be used to help create an item

map representing methods of volitional and coping efficacy in outdoor adventure for adolescents. These stressors will fall into dimensions of either engagement or disengagement and voluntary or involuntary coping strategies.

Writing items involves the development of the item pool to represent the domains of the constructs of coping self-efficacy in adolescents. An item map will be created to organize and evaluate the item pool. After the item map is organized, an expert panel will review the items for representativeness and relatedness. The expert panel will consist of “theory experts, population experts, and test development experts” (Sylvester et al., p. 23). The expert panel will examine “the definition of the construct, the component parts of the construct, and the wording, clarity, readability, and response format associated with the items” (Sylvester et al., p. 22). The results from the expert panel will support content-related evidence of validity.

Phase II

Administering the Assessment. To collect evidence of reliability for the adolescent adventure coping self-efficacy scale, the instrument will be administered to 150 participants. In addition, the RSQ, the second questionnaire, will be administered for a subsequent study by the co- investigators to analyze the concurrent validity between the adolescent adventure coping self-efficacy scale and the RSQ. However, the principal investigator will only evaluate the internal consistency and evidence of reliability of the adolescent adventure coping self-efficacy scale in order to make inferences. Each adolescent should expect between twenty to thirty minutes in order to complete both questionnaires. Data will be collected in classrooms of each participating agency.

Procedures. One hundred and fifty adolescents (13-17 years old) will be conveniently selected to participate in the study (Babbie, 2007). These adolescents will come from therapeutic

programs (Aspiro Adventure Therapeutic program and Westridge Academy) and other adolescents will be conveniently selected through people in the community (family and friends) and schools. The therapeutic programs will be used to generate an adequate sample size and to determine if a difference exists between the therapeutic programs and adolescents without the program. This is not a hypothesis of the principal investigator, but will be analyzed by the co-investigators in a subsequent study. Recruitment will be a key issue at public schools. The investigators will contact the public schools and send permission slips home with potential participants. Once the majority of the permission slips are collected from the school, the investigator will return to gather assent from the adolescents and will distribute the questionnaire in a classroom setting. Participants will be read standardized instructions for completing the questionnaire. The permission and assent forms will be collected directly by the investigator prior to administration of the questionnaire. The questionnaire will be administered during classroom hours. Students not participating in the study will have optional activities or extra study time.

The therapeutic programs, located in Salt Lake and Utah counties, have parental rights over the adolescents and have consented to their participation upon the adolescents' assent (see attachment). Even though both programs have parental rights, the programs will still inform parents of research procedures.

The convenient sample within the community will be targeted towards principal and co-investigators' family and friends. The family and friends who will be participating in this study will be contacted through phone and home visits. A consent/assent form (see Appendix A) will be given to the parent and adolescent. Family and friends are located in southeastern Idaho, Oahu, Hawaii, as well as Weber, Utah, and Salt Lake counties in Utah.

The schools being recruited to participate are located in Oahu, Hawaii. The schools will give their consent to participate after the IRB has approved. After they agree to participate, a letter will be provided the IRB from each school before data will be collected. After which, a consent/assent form (see Appendix A) will be sent to the parents and adolescents for agreement to participate in the study. Once the forms are signed, the adolescent will be given the two questionnaires.

Because this is not an intervention and only a measurement study, no control group will be needed. The results will provide support for evidence of reliability. Again, prior to distributing the questionnaire to any participant, parental consent and participant assent will be obtained from the participants and the participants' parents and or facility (see Appendix A).

Data Analysis. Data for Phase II will be analyzed in two steps. First, alpha reliability estimates will be calculated for the coping self-efficacy outdoor adventure assessment. The estimate will be calculated for each group and for all groups together. The hypothesis for the reliability analysis will estimate internal consistency with a coefficient score of .85 or above. Alpha-if-item deleted analysis will be performed to identify any items that introduce high levels of error variation.

Further evidence related to the construct validity of inferences will be examined in each group (adolescents in a therapy program and adolescents without) and with the group as a whole. The coping self-efficacy assessment group means scores (adolescents in a therapy program and adolescents without) will be compared through using a t-test to determine if the hypothesized difference exists. However, this will be a subsequent study done by the co-investigators.

Phase III

Factor Analysis. The 150 adolescents will complete the instrument. In order to examine evidence supporting construct-related evidence of validity, a confirmatory factor analysis will determine if the latent structure of the instrument is in harmony with the domains.

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Appendix A-1

PARENTAL PERMISSION: PUBLIC SCHOOLS

Adolescent Coping Efficacy Assessment for Outdoor Adventure Consent for child to be a Research Subject

Introduction

The research study is being conducted by Melissa Russell, a graduate student at Brigham Young University, Mark Widmer, Ph.D., full professor at Brigham Young University, Neil Lundberg, Ph.D., assistant professor at Brigham Young University, and Allen Parcell, Ph.D., full professor at Brigham Young University. The purpose of this study is to develop a measure for outdoor adventure coping self-efficacy that reliable inferences can be made. Your child is invited to participate in this study in order to help test the assessment. The results of this study will contribute to the ability of therapists to measure coping skills in wilderness and adventure therapy, and potentially promote stronger programs and outcome measurement.

Procedures

Your child will be asked to take two questionnaires, one on general life coping and the other on coping efficacy for outdoor adventure. Each questionnaire will take between 10-20 minutes to complete and will be taken separately to assure confidentiality. Your child will be expected to be honest and forthright with their answers. The questions will include details about their stress and coping in several areas in their life (e.g. home, school, outdoor activities), and demographic questions. Students will be told that participation is voluntary, and those who choose not to participate or do not obtain consent will be told they can read or participate in a board game during the time the questionnaire is administered. Students who choose to participate will complete two questionnaires at their school either during class. Arrangements will be made with teachers to ensure no students miss assignments or study time due to participating in this study.

Risks/Discomforts

Your child will experience minimal risks for participating in this study. However, your child may feel emotional discomforts when answering questions about stress and coping. At the conclusion of each administration, the researcher will ask participants if they have any questions or concerns. All questions and concerns will be addressed in the group or individually immediately after the administration.

Benefits

There are no direct benefits to your child for participating in this study. However, society may benefit from the knowledge of what this study discovers concerning adolescent stress and coping. This study will influence future research with measuring participants coping strategies and evaluating the success of current therapeutic programs.

Confidentiality

Participation is anonymous. Your child's name will not be included in the data collection process. Researchers will collect data related to age, gender, race and location, but no data will be traceable to individual participants, thus confidentiality will be protected. Your child will not be personally identified in any publications, text, presentations, or conversations dealing with this study. It is possible your child will discuss his or her responses to the questionnaire with peers or teachers, however, the standardized instruction will discourage participants from discussing personal or sensitive information. The principal researcher will be the only person with access to responses. The data will be de-identified by the participants putting only their school, gender, race, and age on the assessments. The only master list will be kept in a locked file cabinet, in a locked office on Brigham Young University campus. The only identifying information on the master list will be the participants' school and age. After all necessary information and responses are gathered, analyzed, and reported, all questionnaires will be kept in a locked cabinet for use if secondary analysis needs to be done.

Compensation

There will be no compensation for participating in this research study.

Participation

By signing below you are giving your permission for your child to participate in this study. Participation in this research study is voluntary. You have the right to withdraw your child at anytime or refuse to have them participate entirely without jeopardy to their class status, grade, or standing with their school. Those who wish not to participate will be given extra study, or allowed to play board games.

Questions about the Research

If you have any questions about this research study, you may contact Dr. Mark Widmer, PhD, Department of Recreation Management and Youth Leadership, Brigham Young University, W425 Tanner Building, Provo, Utah 84602, telephone number: (801) 422-3381, email: widmer@byu.edu.

Questions about your Rights as Research Participants

If you have questions regarding your child's rights as a research participant, you may contact the BYU IRB Administrator at (801) 422-1461, A-285 ASB, Brigham Young University, Provo, UT 84602, irb@byu.edu.

I have read, understood, and willingly comply with this consent form. I am permitting my child to participate in this research study if he/she so desires.

CHILD'S NAME: _____
(Please print your child's full name)

NAME: _____
(Please print your full name)

SIGNATURE: _____ DATE: _____

YOUTH ASSENT: PUBLIC SCHOOLS**Adolescent Coping Efficacy Assessment for Outdoor Adventure
Consent to be a Research Subject****What is this study about?**

My name is Melissa Russell. I am from Brigham Young University. I would like to invite you to take part in a research study. Your parent(s) know we are talking with you about the study. This form will tell you about the study to help you decide whether or not you want to be in it.

In this study, we want to learn about stress and how doing adventure activities may help teenagers cope with stress.

What am I being asked to do?

If you decide to be in the study, we will ask you to fill out two surveys about how you feel when you are in different situations. These two surveys will take between 20-30 minutes to answer. You will answer these surveys during school hours.

What are the benefits to me for taking part in the study?

Taking part in this research study may not help you in any way, but it might help other kids who need help dealing with problems in their lives.

Can anything bad happen if I am in this study?

We think there are few risks to you by being in the study, but some kids might become worried or sad because of some of the questions we ask. You don't have to answer any questions you don't want to answer. If you become upset, let us know and we will have your school counselor help you with those feelings.

Who will know that I am in the study?

We won't tell anybody that you are in this study and everything you tell us and do will be private. Your parent may know that you took part in the study, but we won't tell them anything you said or did, either. When we tell other people or write articles about what we learned in the study, we won't include your name as part of the study.

Do I have to be in the study?

No, you don't. The choice is up to you. No one will get angry or upset if you don't want to do this. And you can change your mind anytime if you decide you don't want to be in the study anymore.

What if I have questions?

If you have questions at any time, you can ask us and you can talk to your parent about the study. We will give you a copy of this form to keep. If you want to ask us questions about the study, call or email Melissa Russell (208) 705-0397, russell03@gmail.com.

IF YOU WANT TO BE IN THE STUDY, SIGN AND PRINT YOUR NAME ON THE LINE BELOW:

NAME: _____
(Please print your full name)

SIGNATURE: _____ DATE: _____

PARENTAL PERMISSION: FAMILY AND FRIENDS**Adolescent Coping Efficacy Assessment for Outdoor Adventure
Consent for child to be a Research Subject****Introduction**

The research study is being conducted by Melissa Russell, a graduate student at Brigham Young University, Mark Widmer, Ph.D., full professor at Brigham Young University, Neil Lundberg, Ph.D., assistant professor at Brigham Young University, and Allen Parcell, Ph.D, full professor at Brigham Young University. The purpose of this study is to develop a measure for outdoor adventure coping self-efficacy that reliable inferences can be made. Your child is invited to participate in this study in order to help test the assessment. The results of this study will contribute to the ability of therapists to measure coping skills in wilderness and adventure therapy, and potentially promote stronger programs and outcome measurement.

Procedures

Your child will be asked to take two questionnaires, one on general life coping and the other on coping efficacy for outdoor adventure. Each questionnaire will take between 10-20 minutes to complete and will be taken separately to assure confidentiality. Your child will be expected to be honest and forthright with their answers. The questions will include details about their stress and coping in several areas in their life (e.g. home, school, outdoor activities), and demographic questions. Your child will take these two questionnaires at their home or friends/family's home.

Risks/Discomforts

Your child will experience minimal risks for participating in this study. However, your child may feel emotional discomforts when answering questions about stress and coping. These discomforts will be lessened as your child fills out their questionnaire individually and the answers will be kept confidential. Your child is free to terminate the questionnaire at any time when she/he is feeling too stressed and/or discomforted. At the conclusion of each administration, the researcher will ask participants if they have any questions or concerns. All questions and concerns will be addressed in the group or individually immediately after the administration.

Benefits

There are no direct benefits to your child for participating in this study. However, society may benefit from the knowledge of what this study discovers concerning adolescent stress and coping. This study will influence future research with measuring participants coping strategies and evaluating the success of current therapeutic programs.

Confidentiality

Participation is anonymous. Your child's name will not be included in the data collection process. Researchers will collect data related to age, gender, race and location, but no data will be traceable to individual participants, thus confidentiality will be protected. Your child will not be personally identified in any publications, text, presentations, or conversations dealing with this study. It is possible your child will discuss his or her responses to the questionnaire with siblings or friends; however, the standardized instruction will discourage participants from

discussing personal or sensitive information. The principal researcher will be the only person with access to responses. The data will be de-identified by the participants putting only their school, gender, race, and age on the assessments. The only master list will be kept in a locked file cabinet, in a locked office on Brigham Young University campus. The only identifying information on the master list will be the participants' race, school, and age. After all necessary information and responses are gathered, analyzed, and reported, all questionnaires will be kept in a locked cabinet for use if secondary analysis needs to be done.

Compensation

There will be no compensation for participating in this research study.

Participation

By signing below you are giving your permission for your child to participate in this study. Participation in this research study is voluntary. You have the right to withdraw your child at anytime or refuse to have them participate entirely.

Questions about the Research

If you have any questions about this research study, you may contact Dr. Mark Widmer, PhD, Department of Recreation Management and Youth Leadership, Brigham Young University, W425 Tanner Building, Provo, Utah 84602, telephone number: (801) 422-3381, email: widmer@byu.edu.

Questions about your Rights as Research Participants

If you have questions regarding your child's rights as a research participant, you may contact the BYU IRB Administrator at (801) 422-1461, A-285 ASB, Brigham Young University, Provo, UT 84602, irb@byu.edu.

I have read, understood, and willingly comply with this consent form. I am permitting my child to participate in this research study if he/she so desires.

CHILD'S NAME: _____
(Please print your child's full name)

NAME: _____
(Please print your full name)

SIGNATURE: _____ DATE: _____

YOUTH ASSENT: FAMILY AND FRIENDS**Adolescent Coping Efficacy Assessment for Outdoor Adventure
Consent to be a Research Subject****What is this study about?**

My name is Melissa Russell. I am from Brigham Young University. I would like to invite you to take part in a research study. Your parent(s) know we are talking with you about the study. This form will tell you about the study to help you decide whether or not you want to be in it.

In this study, we want to learn about stress and how doing adventure activities may help teenagers cope with stress.

What am I being asked to do?

If you decide to be in the study, we will ask you to fill out two surveys about how you feel when you are in different situations. These two surveys will take between 20-30 minutes to answer

What are the benefits to me for taking part in the study?

Taking part in this research study may not help you in any way, but it might help other kids who need help dealing with problems in their lives.

Can anything bad happen if I am in this study?

We think there are few risks to you by being in the study, but some kids might become worried or sad because of some of the questions we ask. You don't have to answer any questions you don't want to answer. If you become upset, let us know and we will have your parent(s) help you with those feelings.

Who will know that I am in the study?

We won't tell anybody that you are in this study and everything you tell us and do will be private. Your parent may know that you took part in the study, but we won't tell them anything you said or did, either. When we tell other people or write articles about what we learned in the study, we won't include your name as part of the study.

Do I have to be in the study?

No, you don't. The choice is up to you. No one will get angry or upset if you don't want to do this. And you can change your mind anytime if you decide you don't want to be in the study anymore.

What if I have questions?

If you have questions at any time, you can ask us and you can talk to your parent about the study. We will give you a copy of this form to keep. If you want to ask us questions about the study, call or email Melissa Russell (208) 705-0397, russell03@gmail.com.

IF YOU WANT TO BE IN THE STUDY, SIGN AND PRINT YOUR NAME ON THE LINE BELOW:

NAME: _____
(Please print your full name)

SIGNATURE: _____ DATE: _____

PARENTAL PERMISSION: ASPIRO PARTICIPANTS**Adolescent Coping Efficacy Assessment for Outdoor Adventure
Consent for child to be a Research Subject****Introduction**

The research study is being conducted by Melissa Russell, a graduate student at Brigham Young University, Mark Widmer, Ph.D., full professor at Brigham Young University, Neil Lundberg, Ph.D., assistant professor at Brigham Young University, and Allen Parcell, Ph.D, full professor at Brigham Young University. The purpose of this study is to develop a measure for outdoor adventure coping self-efficacy that reliable inferences can be made. Your child/participant is invited to participate in this study in order to help test the assessment. The results of this study will contribute to the ability of therapists to measure coping skills in wilderness and adventure therapy, and potentially promote stronger programs and outcome measurement.

Procedures

Your child/participant will be asked to take two questionnaires, one on general life coping and the other on coping efficacy for outdoor adventure. Each questionnaire will take between 10-20 minutes to complete and will be taken separately to assure confidentiality. Your child/participant will be expected to be honest and forthright with their answers. The questions will include details about their stress and coping in several areas in their life (e.g. home, school, outdoor activities), and demographic questions. Your child/participant will take these two questionnaires at Aspiro. Your child/participant will be told that participation is voluntary, and those who choose not to participate or do not obtain consent will be told they can read or participate in a board game during the time the questionnaire is administered. Students who choose to participate will complete two questionnaires at their school either during class. Arrangements will be made with staff to ensure no students miss assignments or study time due to participating in this study.

Risks/Discomforts

Your child/participant will experience minimal risks for participating in this study. However, your child/participant may feel emotional discomforts when answering questions about stress and coping. These discomforts will be lessened as your child/participant fills out their questionnaire individually and the answers will be kept confidential. If at anytime, your child/participant wishes to discontinue the questionnaire because he/she feels discomforts, he/she can freely do so without any penalty. At the conclusion of each administration, the researcher will ask participants if they have any questions or concerns. All questions and concerns will be addressed in the group or individually immediately after the administration.

Benefits

There are no direct benefits to your child/participant for participating in this study. However, society may benefit from the knowledge of what this study discovers concerning adolescent stress and coping. This study will influence future research with measuring participants coping strategies and evaluating the success of current therapeutic programs.

Confidentiality

Participation is anonymous. Your child's/participant's name will not be included in the data collection process. Researchers will collect data related to age, gender, race and location, but no data will be traceable to individual participants, thus confidentiality will be protected. Your child/participant will not be personally identified in any publications, text, presentations, or conversations dealing with this study. It is possible your child will discuss his or her responses to the questionnaire with peers or staff; however, the standardized instruction will discourage participants from discussing personal or sensitive information. The principal researcher will be the only person with access to responses. The data will be de-identified by the participants putting only their school, gender, race, and age on the assessments. The only master list will be kept in a locked file cabinet, in a locked office on Brigham Young University campus. The only identifying information on the master list will be the participants' school, race, and age. After all necessary information and responses are gathered, analyzed, and reported, all questionnaires will be kept in a locked cabinet for use if secondary analysis needs to be done.

Compensation

There will be no compensation for participating in this research study.

Participation

By signing below you are giving your permission for your child/participant to participate in this study. Participation in this research study is voluntary. You have the right to withdraw your child/participant at anytime or refuse to have them participate entirely without jeopardy to their status within the Aspiro program. Those who wish not to participate will be given extra study, or allowed to play games.

Questions about the Research

If you have any questions about this research study, you may contact Dr. Mark Widmer, PhD, Department of Recreation Management and Youth Leadership, Brigham Young University, W425 Tanner Building, Provo, Utah 84602, telephone number: (801) 422-3381, email: widmer@byu.edu.

Questions about your Rights as Research Participants

If you have questions regarding your child's/participant's rights as a research participant, you may contact the BYU IRB Administrator at (801) 422-1461, A-285 ASB, Brigham Young University, Provo, UT 84602, irb@byu.edu.

I have read, understood, and willingly comply with this consent form. I am permitting my child to participate in this research study if he/she so desires.

CHILD'S/PARTICIPANT'S NAME: _____
(Please print your child/participant's full name)

NAME: _____
(Please print your full name)

SIGNATURE: _____ DATE: _____

YOUTH ASSENT: ASPIRO PARTICIPANT**Adolescent Coping Efficacy Assessment for Outdoor Adventure
Consent to be a Research Subject****What is this study about?**

My name is Melissa Russell. I am from Brigham Young University. I would like to invite you to take part in a research study. Your parent(s) know we are talking with you about the study. This form will tell you about the study to help you decide whether or not you want to be in it.

What am I being asked to do?

In this study, we want to learn about stress and how doing adventure activities may help teenagers cope with stress. If you decide to be in the study, we will ask you to fill out two surveys about how you feel when you are in different situations. These two surveys will take between 20-30 minutes to answer. You will answer these surveys during school hours.

What are the benefits to me for taking part in the study?

Taking part in this research study may not help you in any way, but it might help other kids in the future who need help dealing with problems in their lives.

Can anything bad happen if I am in this study?

We think there are few risks to you by being in the study, but some kids might become worried or sad because of some of the questions we ask. You don't have to answer any questions you don't want to answer. If you become upset, let us know and we will have your Aspiro counselor help you with those feelings.

Who will know that I am in the study?

We won't tell anybody that you are in this study and everything you tell us and do will be private. Your parent may know that you took part in the study, but we won't tell them anything you said or did, either. When we tell other people or write articles about what we learned in the study, we won't include your name as part of the study.

Do I have to be in the study?

No, you don't. The choice is up to you. No one will get angry or upset if you don't want to do this. And you can change your mind anytime if you decide you don't want to be in the study anymore.

What if I have questions?

If you have questions at any time, you can ask us and you can talk to your counselor about the study. We will give you a copy of this form to keep. If you want to ask us questions about the study, call or email Melissa Russell (208) 705-0397, russell03@gmail.com.

IF YOU WANT TO BE IN THE STUDY, SIGN AND PRINT YOUR NAME ON THE LINE BELOW:

NAME: _____
(Please print your full name)

SIGNATURE: _____ DATE: _____

PARENTAL PERMISSION: WESTRIDGE ACADEMY**Adolescent Coping Efficacy Assessment for Outdoor Adventure
Consent for child to be a Research Subject****Introduction**

The research study is being conducted by Melissa Russell, a graduate student at Brigham Young University, Mark Widmer, Ph.D., full professor at Brigham Young University, Neil Lundberg, Ph.D., assistant professor at Brigham Young University, and Allen Parcell, Ph.D., full professor at Brigham Young University. The purpose of this study is to develop a measure for outdoor adventure coping self-efficacy that reliable inferences can be made. Your child/participant is invited to participate in this study in order to help test the assessment. The results of this study will contribute to the ability of therapists to measure coping skills in wilderness and adventure therapy, and potentially promote stronger programs and outcome measurement.

Procedures

Your child/participant will be asked to take two questionnaires, one on general life coping and the other on coping efficacy for outdoor adventure. Each questionnaire will take between 10-20 minutes to complete and will be taken separately to assure confidentiality. Your child/participant will be expected to be honest and forthright with their answers. The questions will include details about their stress and coping in several areas in their life (e.g. home, school, outdoor activities), and demographic questions. Your child/participant will take these two questionnaires at Westridge Academy. Students will be told that participation is voluntary, and those who choose not to participate or do not obtain consent will be told they can read or participate in a board game during the time the questionnaire is administered. Students who choose to participate will complete two questionnaires at their school either during class. Arrangements will be made with teachers to ensure no students miss assignments or study time due to participating in this study.

Risks/Discomforts

Your child/participant will experience minimal risks for participating in this study. However, your child/participant may feel emotional discomforts when answering questions about stress and coping. These discomforts will be lessened as your child/participant fills out their questionnaire individually and the answers will be kept confidential. If at anytime, your child/participant wishes to discontinue the questionnaire because he/she feels discomforts, he/she can freely do so without any penalty. At the conclusion of each administration, the researcher will ask participants if they have any questions or concerns. All questions and concerns will be addressed in the group or individually immediately after the administration.

Benefits

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Compensation

There will be no compensation for participating in this research study.

Participation

By signing below you are giving your permission for your child/participant to participate in this study. Participation in this research study is voluntary. You have the right to withdraw your child/participant at anytime or refuse to have them participate entirely without jeopardy to their status within the Westridge Academy program. Those who wish not to participate will be given extra study, or allowed to play games.

Questions about the Research

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(Please print your child's full name)

NAME: _____
(Please print your full name)

SIGNATURE: _____ DATE: _____

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Who will know that I am in the study?

We won't tell anybody that you are in this study and everything you tell us and do will be private. Your parent may know that you took part in the study, but we won't tell them anything you said or did, either. When we tell other people or write articles about what we learned in the study, we won't include your name as part of the study.

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