

THE RELATIONSHIP BETWEEN PERSONALITY TYPE AND PREDISPOSITIONS  
FOR OF RISK TAKING: IMPLICATIONS FOR CHALLENGE COURSE  
FACILITATION

A THESIS PRESENTED TO THE DEPARTMENT OF THE HEALTH AND HUMAN  
SERVICES FOR THE DEGREE OF MASTERS OF SCIENCE IN RECREATION

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APRIL 2013

Running head: PERSONALITY TYPE AND PREDISPOSITION OF RISKTAKING

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## ABSTRACT

Challenge course popularity has grown significantly in the last 20 years. Challenge courses are being used by a variety of different groups and agencies as a tool for enhancing individual and group qualities associated with self-concept and teamwork. Despite popularity, there is limited information regarding how to effectively facilitate a challenge course experience. In particular, facilitators must be able to quickly assess the characteristics of participants and then modify the challenge course experience in a manner that ignites change and growth. A key to this assessment and implementation process is to first understanding the participant's predisposition for risk taking and then manage exposure to risk to ensure that the client is neither bored with the experience nor pushed too far into an unpleasant and non-productive state of anxiety. Assessing the participant's predisposition to risk is, therefore, an important part of the process. Personality assessment is one potential tool for predetermining how challenge course participants might react to the challenge course experience; however, research supporting this assertion is limited. The current study was implemented to examine the relevance of the True Colors Personality Test to challenge course environments. In particular, the ability of the assessment to tap into risk-taking tendencies of participants was examined looking at relationships between scores on the True Colors Personality Test and scores on an established indicator of risk-taking tendencies.

A total of 68 Residential Life student staff members employed at a Midwestern public university participated in the study. All participants were upperclassman between the ages of 19 and 25. Participants completed the "True Colors" personality test and the Marvin Zuckerman Sensation Seeking Scale. The True Colors test was used to classify

participants into one of four personality types based on the highest subscale score. The Zuckerman Sensation Seeking Scale was used as an indicator of the participants' predisposition for risk taking. It was hypothesized that predisposition for risk taking would differ significantly across personality subscale scores (types). It was also hypothesized that there would be significant correlations between predisposition for risk taking and some or all of the personality subscales. Results indicated that sensation seeking scores did not differ significantly across predominate personality type, but that two of the four personality subscales were significantly correlated with sensation seeking, indicating a strong association with predisposition for risk-taking. The primary implication from this study is that challenge course facilitators should avoid the common practice of focusing on a "primary color" derived from the colors test and should specifically consider the orange and the gold subscale scores when attempting to anticipate how participants may react to challenge course elements involving risk. Findings from this study are restricted by several limitations and it is recommended that future research examine this issue in the context of actual challenge course participation.

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## **CHAPTER I**

### **INTRODUCTION**

Over the past 30 years, challenge courses have become a popular form of outdoor recreational activity, as well as a popularized tool for personal development and counseling. Challenge courses, or ropes courses, typically consist of physically and mentally challenging activities that use low and high elements made of logs, blocks, cables, and other items and create opportunities for participants to work together and grow as a team as well as individually (Hatch & McCarthy, 2005). The popularity of challenge courses becomes apparent when examining research and literature in this area. For example, Gillis and Speelman (2008) found that in 2007, “Google searches for challenge course or ropes course revealed 398,000 and 867,000 entries respectively” (p. 112). In addition, numerous universities and not for profit agencies have developed outdoor programs involving the use of a challenge course. These courses are popping up at summer camps, ski resorts, and some elements are even appearing on cruise ships.

#### **Challenge Courses**

Challenge courses are a part of Adventure Based Counseling, which is a concept that combines physical adventure and counseling through facilitation. Fletcher and Hinkle (2002) have noted that “the benefits of participating in a combination of outdoor adventure and counseling can include psychological, sociological, educational, physical, and spiritual parameters that enhance self-concept, personal efficacy, self-confidence, and well-being” ( p. 278). Project Adventure, one of the earliest organized curricular

frameworks for challenge courses, has been shown to lead to significant positive changes in self-concept (Schoel, 1988). Since then, an abundance of research has demonstrated that challenge courses can be an effective means of positively influencing people in a variety of personal growth areas (Gillis & Speelman, 2008; Glass & Benschhoff, 2002; Hatch & McCarthy, 2005; Long, Lindenmeier, & Robertson, 2003).

### **Role of the Facilitator**

When challenge courses are utilized as a personal development tool, the role of the facilitator is critical to success. The facilitator's purpose is to choose and instruct activities that are appropriate for the participants and their needs and to facilitate the debriefing portion of the activities (Hatch & McCarthy, 2005).

By far, the first priority of any challenge course facilitator is safety. Rohnke, Wall, Tait, and Rogers (2003) emphasized the importance of safety when stating, "(The) first commitment is to the physical, psychological, and emotional safety of every participant and staff member, and to ourselves" (p. 2). Rohnke and his colleagues also pointed out that facilitators need to be aware of who the participants are when choosing activities to ensure that growth is occurring and that they do not push participants further than they are ready to go. In most challenge course scenarios, the facilitator must develop an understanding of participant needs and tendencies in a relatively short amount of time. Facilitators often use initiative games, or "icebreakers", as a way to begin to understand who the participant is and how they will react to the challenge course experience. The activities help the group begin socializing and interacting, while also preparing their



bodies for the activities to come (Baack & Smith, 1994). While useful, icebreakers provide only limited insight into the needs and tendencies of the group.

In order to achieve a more detailed understanding of participants, some facilitators use pre-participation questionnaires that focus on group dynamics as a way to prepare. For example, in a study done by Glass and Benschhoff (2002), participants took a “Group Cohesion Evaluation Questionnaire” before and after participating in a challenge course. Glass and Benschhoff found that group cohesion could be improved through the use of the challenge course. In addition, such pretest information allows the facilitator to plan and adjust activities based on the group’s current level of cohesion.

Another potential facilitator preparation strategy is to examine personality characteristics of individual participants prior to the challenge course experience. This strategy is recommended by Fletcher and Hinkle (2002) as part of planning process and includes an assessment of the group in order to choose appropriate programs and activities that will encourage growth and change. It is important to have an understanding of the participants in order to engage them. Facilitators then use this information to choose activities that present a risk and put participants in a new situation or environment, but that are still not considered too risky to participate in (Glass & Benschhoff, 1997). In contrast to the broader assessment of overall group characteristics, assessing personality provides the opportunity for the facilitator to anticipate individual participant reactions and make personalized adjustments during interactions with each participant.

## **Personality and Risk**

Some research has suggested that personality is linked to a predisposition for risk taking activities, which is a critical consideration in the context of a challenge course experience. One participant may seek out activities that are seen as risky, whereas another may be horrified by the thought of climbing a tower or riding a zip line 50 feet above the ground. Zuckerman and Kuhlman (2000) found that some factors of personality are directly related with a person's ability to associate situations to risk. This can be caused by thought processes, social preferences, emotional preferences, interests, hobbies, and many other aspects of someone's personality. In addition, Nicholson, Soane, Fenton-O'Creevy and Willman (2005) found that overall risk taking could be predicted by personality factors. Still, there is only minimal understanding of how personality traits interact with risk taking tendencies. Further examining this relationship, in the context of challenge course facilitation, may provide insight into how facilitators can use common personality measures to plan and facilitate challenge course programs. This information is critical to the development of challenge course facilitation strategies because providing the appropriate level of perceived risk and difficulty can greatly influence outcomes of participation. Participants unable to tolerate high levels of risk will struggle to benefit when they experience too much risk too fast. Likewise, individuals whose personalities tolerate, or even crave, high levels of perceived risk may benefit more from greater levels of challenge.

## Summary

Providing adventure based counseling experiences through challenge course participation continues to rise in popularity. Properly facilitated challenge course experiences have been demonstrated to be effective mechanisms for providing positive growth experiences for participants. The role of the facilitator in these courses is vital. Facilitators must have an understanding of the logic behind challenge courses and the facilitation methods associated with such programs. It is also important for them to have an understanding of the group they are leading. The facilitator should be aware of the group's needs, what they are trying to accomplish, and the characteristics of the individual members. Facilitators are most effective when they are able to prepare a course specifically for the current participants. In order to do this, they must have knowledge of various factors including the participants' age, physical abilities, and how to engage the participants in risky behavior in a positive way. A better understanding of participants' personalities and how they interact with scenarios involving risk is critical to successful facilitation; therefore, this study examined the following research questions:

Q1: Does predisposition for risk taking differ across personality type?

Q2: To what extent is predisposition for risk taking correlated with different personality types?

## CHAPTER II

### LITERATURE REVIEW

In the 1940s, Kurt Hahn developed Outward Bound as a way to facilitate learning experience that would expose sailors to things such as danger. Hahn believed that this process would “unleashed character from within the individual as opposed to imposing it from outside” (Freeman, 2011, p. 33). The growth of adventure recreation as a form of education and character building continued to spread throughout the world and soon the concept of the challenge course was created.

Since this early movement, climbing towers, high ropes courses, and zip-lines have popped up all over the country. There are companies and associations solely dedicated to the challenge course industry and how to make them better and more exciting for participants. According to the Association for Challenge Course Technology (2013), there are over 2500 members of their organization in United States, Europe, Asia, the Caribbean, Canada, Japan, Korea and Central America. In addition, there are over 40 companies that are accredited through the ACCT. These companies build 75% of the courses in the United States.

#### **Purpose of Challenge Courses**

One of the main concepts of adventure based counseling, and a core goal of challenge course participation, is to improve self-concept. People with an improved self-concept handle changing situations more positively and can handle working with others to accomplish a goal (Schoel, 1995). In order to improve self-concept, Schoel (1995) has outlined six areas that a challenge course should focus on, trust building, goal setting,

challenge/stress, peak experiences, humor/fun, and problem solving. Trust building exercises help participants to better rely on not only others but themselves. The goal setting portion is about allowing participants to try and accomplish something that they want or need, which will help them to be more focused and determined to get the most out of the course.

Schoel (1995) also stated that goal setting helps translate the course into everyday life. Challenge/Stress experiences engage participants in activities that they may perceive as risky or stressful. By choosing to participate in a positive way, participant attitudes toward challenges and stressful situations improve. Peak experiences are where participants start to feel in control of the situation and begin to gain an understanding and control of themselves. Humor/fun is used to help participants relieve stress and learn to laugh at themselves. Problem solving helps participants learn how to succeed physically and emotionally. Schoel indicated that, through a challenge course, participants should do, feel, and think. The various elements and experiences of a challenge course, such as the physical nature, trust building, and problem solving, are to address the doing, feeling, and thinking of the experience (Schoel, 1995).

### **Benefits of Challenge Courses for Participants**

Research has clearly demonstrated the potential impact of challenge courses. Long, Lindenmeier, and Robertson (2004) found that the top five benefits reported by challenge course participants were, trust, communication, cooperation, problem solving, and leadership.

Hatch and McCarthy (2005) did a study of 181 college students from well-known campus organizations who participated in a challenge course at a large university. The study found that there were immediate increases in cohesion, group effectiveness, and individual effectiveness within the group (Hatch & McCarthy, 2005). Not only did they find that the challenge course contributed to the group, but participants viewed their group, as well as their own actions, as more effective following the course (Hatch & McCarthy, 2005).

A meta-analysis of 44 studies involving challenge course research was conducted and revealed that “challenge courses are an effective tool for impacting a variety of educational and psychological constructs with a variety of participants” (Gillis & Speelman, 2008, p. 127). Overall 2,796 participants’ results were analyzed. The analysis conducted found that the most frequent outcomes of challenge courses are self-esteem, group dynamics, personality measures, and self-efficacy (Gillis & Speelman, 2008).

In most challenge course experiences, participants view the concept of risk as a beneficial part of the course, but do not necessarily realize that risk is being used by the facilitator as a tool to facilitate change. Wolfe and Samdahl, (2005) found that the assumption behind challenge courses is that it is beneficial for participants to take risks. Wolfe and Samdahl also found that risk and challenge can create outcomes that can be used after the course.

### **Challenge Course Facilitation**

The facilitator’s role in challenge courses is to choose activities and programs that are going to benefit participants. A facilitator must provide opportunities for participants to do, feel, and think, as mentioned in Schoel’s (1995) process of improving

self-concept. It is important for a facilitator to have an understanding of who the participants are and where their limits lie, physically and emotionally. According to Gass (1997), activities should provide enough risk to allow for an adventurous learning experience, but not to the level where perceived risks become actual risk for extreme emotional distress or physical injury.

Not only does the facilitator need to know the limits of each participant, but also how each participant perceives risks and what they perceive as risky. Wolfe and Samdahl (2005) illustrate the various aspects of risk when discussing a scenario where a program participant falls out of a canoe, which may be perceived by different participants in different ways. One may see such an outcome as a physical risk involving bodily harm, whereas another may see it as an emotional risk involving embarrassment.

“It is dangerous to assume that the facilitator knows or understands the perceived meaning of a risky activity for all participants, or that the facilitator is capable of turning that risk into benefit” (Wolfe & Samdahl, 2005, p. 33). In order for risk to be beneficial, the facilitator must be aware of a participant’s limits. Wolfe and Samdahl (2005) question, “How much risk can a person take before falling into devastation and disaster” (p. 33).

### **Risk**

Some people take risks because of various personal emotions, or their desire to seek arousal (Castanier, Scanff, & Woodman, 2010). Other people may decide to make risky decisions or participate in risks because they have been influenced by their background, socioeconomic status, or personal history (Endriulaitienė & Martišius, 2010). Younger adults tend to let their inability to control emotions affect their ability to

make decisions about risk (Lokteff, 2010). Some people may jump at the chance to take a risk, whereas others may dissect the risk in every possible way before making a decision (Meertens & Lion, 2011). Their risk taking decisions are affected by how they live, how they identify themselves, and almost all aspects of their unique thought process. Who they are can directly affect how they decide to take risks.

Lion, Meerteens, and Bot (2002) found that most people's perceptions of risk are influenced by others and they tend to ask others before deciding whether or not to take a risk. Parents, teachers, friends, and coworkers can all influence risk-related decision making; however, people will ultimately perceive risk based on how it makes them feel (Lion, Meerteens, & Bot, 2002).

Some risks heighten senses and choosing to partake in them can be considered sensation seeking. Sensation seeking is characterized as a need or desire for different sensations or experiences that heighten arousal (Zuckerman, Bone, Neary, Mangelsdorff, & Brustman, 1972). Thus, a person's desire for sensation seeking predisposes them to risk taking behavior.

Marvin Zuckerman developed a scale to examine the extent to which people seek optimal stimulation or sensation (Zuckerman, Kolin, Price, & Zoob, 1964). The scale is measured through a questionnaire containing 40 items divided into four subscales: thrill and adventure seeking, experience seeking, disinhibition, and boredom susceptibility. Thrill and adventure seeking describes a desire to participate in physical activities that may be dangerous. Experience seeking is a desire to seek new experiences through the mind and senses. Disinhibition is a need to participating in risky social behaviors. Boredom susceptibility indicates a tendency to be bored easily with repetition or different



types of people. Zuckerman's scale and the associated subscales provide a focused framework for understanding risk taking in the context of personality.

### **Personality**

As noted earlier, personality is one of the factors that facilitators can consider when preparing to work with challenge course participants. Understanding how client perceptions of risk taking, and tendencies toward seeking out or avoiding associated behaviors, relate to broader personality categories is also important to consider. Sensation seeking characteristics, alone, are useful information; however, a broader understanding of personality provides a more rounded representation of the participant and provides additional insight.

Past research does provide some research into this issue. For example, Endriulaitienė (2010) examined personality types and socio-demographic information in relation to various risks that people were taking. The study found that people who came from more disadvantaged demographic backgrounds and who, in turn, had more closed off personalities, took more behavioral risks. Those who were open and extroverted were willing to take more adventure and social risks.

Nicholson Soane, Fenton-O'Creevy, and Willman (2005) found that the highest personality predictors of risk taking were high scores in extraversion and openness and low scores in neuroticism, agreeableness, and conscientiousness.

One commonly used and easily measured framework for examining personalities is the "True Colors" classifications developed by Don Lowry of True Colors International. The classifications are based off of four personality temperaments that make up a human's personality and, according to Lowry, date back to Plato's ideas about

personality and character (Lowry, 2009). Lowry, while developing his concept of personality, used colors as metaphors of the four temperaments: orange, green, gold, and blue. Lowry created the test and teaching materials to help people better understand themselves and those around them. The colors were chosen because they are typically associated with certain feelings or ideas and would help people instantly associate them for a better understanding. The materials given with the test describe how each personality is comprised and how they interact with others. Many companies, organizations, and teams use the “True Colors” test to better understand the personalities of their employees or team members. The “true colors” test is an easy way to examine personality quickly (Lowry, 2009). The relationship between the True Colors test and predisposition for sensation seeking has not been examined in the past research; however, the common use of the True Colors test among challenge course clientele in other realms (e.g., staff training) makes application of the test within the challenge course environment both convenient and broadly relevant. Thus, examining this relationship has the potential to significantly enhance the relevance and usefulness of the True Colors test within the challenge course setting.

### **Synthesis of Literature**

Past research has demonstrated a link between personality and risk-taking. The research also supports that there are varying benefits of challenge course participation, most of which can be influenced by the facilitator of the course. The more knowledge the researcher has of the participant’s perceptions of risk, the more beneficial challenge courses can be. To examine this issue further, the study tested the following research hypotheses:

Ha1: There will be a significant difference between blue, green, gold, and orange personality types on overall scores from the Zuckerman sensation seeking scale.

Ha1a: There will be a significant difference between blue, green, gold, and orange personality types on the tendency to seek thrill and adventures subscale.

Ha1b: There will be a significant difference between blue, green, gold, and orange personality types on the tendency to seek experiences subscale.

Ha1c: There will be a significant difference between blue, green, gold, and orange personality types on the tendency to seek disinhibition subscale.

Ha1d: There will be a significant difference between blue, green, gold, and orange personality types on the tendency of susceptibility to boredom.

Ha2: There will be a significant correlations between overall sensation seeking (overall and subscale scores) and scores on the Blue personality subscale.

Ha3: There will be a significant correlations between overall sensation seeking (overall and subscale scores) and scores on the Green personality subscale.

Ha4: There will be a significant correlations between overall sensation seeking (overall and subscale scores) and scores on the Orange personality subscale.

Ha5: There will be a significant correlations between overall sensation seeking (overall and subscale scores) and scores on the Gold personality subscale.

## CHAPTER III

### METHODS

#### Population

The target population for this study was adults between 18 and 30 residing in the Midwest region of the United States who, in their daily professional work, serve with other members of their agency as a team. One core customer group within the challenge course industry, the professional organization is seeking to develop professional skills of staff members through challenge course based corporate training. As such, this population is directly relevant to the purpose of this study. The accessible population consisted of college students between 18 and 30 who were employed as student-employees and work in a “team capacity” on a daily basis. Members of the accessible population were enrolled at and employees of a public university with a study body of approximately 6,500 undergraduate students. Approximately 61% of the undergraduate students were females, with 56% being classified as freshmen and the rest classified as upperclassmen.

There are approximately 850-1000 student employees on this campus, the vast majority of which work with a team of other staff members on a daily basis. Students work in a variety of areas including offices, education departments, grounds, research labs, and student services. Undergraduate student employees are only allowed to work 20 hours on campus for every two weeks.

## **Sample**

Participants were a convenience sample of residential life undergraduate student staff members employed in the spring of 2013. The sample was chosen because they were members of the accessible population, easily accessible to the researcher, and already scheduled to complete the True Colors test as part of their student employee professional development activities. These staff members were required to live on campus. Of the 68 staff members on campus, 58 participated in the study and were part of seven of the eight dormitory staffs on campus. The staff members who did not participate were directly supervised by the researcher and were excluded from the study. There were 33 females and 24 males, with an average age of 21. The staff members held one of five various positions. These positions included resident assistant, academic consultant, diversity consultant, desk manager, and assistant complex director.

## **Instrumentation**

Data was collected through two different instruments. The first was the True Colors Personality Test and the second was the Zuckerman Sensation Seeking Scale

**True Colors Personality Test.** The True Color Personality Test is word cluster test. There are five instances in which the participant is presented with four groups of words, each group containing six words. The participants must rank the groups 1-4, four being most likely to describe the participant, one being the least. The rankings that participants choose are then tallied according to the test instructions and a color is identified that represents that participant's personality. Individuals who complete the test

are classified into one of four primary personality types, or colors, which are labeled green, blue, gold, and orange.

The green personality is characterized as a question asker. Greens enjoy spending time alone, problem solving, and analyzing. Greens look at the big picture, which makes it hard for them to move quickly without having a full understanding of what is happening. The blue personality is characterized as someone who values people. They tend to work well in group situations, care about other people and their emotions, and easily express themselves. Gold personality is characterized by being responsible and organized. Golds prefer being careful and practical. Everything is black and white to golds, there is no gray. The orange personality is characterized by being lively and entertaining. People who identify as orange are consistently seeking exciting or humorous things. They have trouble planning ahead because they enjoy a fast pace lifestyle.

Judith Whichard, who is a “True Colors” Master Trainer, conducted research and compared the “True Colors” test to the Myers-Briggs Type Indicator (MBTI) as well as the DISC (Dominance, Influence, Steadiness and Conscientiousness) test (Whichard, 2006). When compared to the MBTI, it was said that the content validity of the “true colors” test “was highly supportive of True Colors’ ability to measure the same personality, psychological, behavioral and temperament characteristics as the MBTI. To a great extent, these instruments could be used interchangeably and yield the same insights and results” (Whichard, 2006, p. 6). The “True Colors” Test was compared to the DISC test by look at the word cluster exercise, which is a tool that indicates personality traits by choosing which cluster of words the test taker most relates to. The relationship between the two tests was found to be strong, except that of the orange dimension of the “True

Colors” Test, which was .061. Whichard (2006) concluded the study by saying “True Colors shows considerable merit in precisely assessing and defining psychological types and temperament theory” (p. 9). Only the top color of each participant was used to examine risk taking tendencies.

**Zuckerman Sensation Seeking Scale.** The Zuckerman Sensation Seeking Scale, which was designed by Marvin Zuckerman (1971), has 40 items. Each item consists of two sentences labeled A and B, with instructions to select the sentence “that most describes you”. Each item then scores one point if the answer that is associated with sensation seeking is chosen by the respondent. In addition, the instrument consists of four subscales: thrill and adventure seeking (TAS), experience seeking (ES), disinhibition (DIS), and boredom susceptibility (BS). Thrill and adventure seeking describes a desire to participate in physical activities that may be dangerous. Experience seeking is a desire to seek new experiences through the mind and senses. Disinhibition is a need to participating in risky social behaviors. Boredom susceptibility indicates a tendency to be bored easily with repetition or different types of people. Gray and Benshoff (2003) examined the reliability and validity of all four subscales and found acceptable levels of internal consistency (TSA,  $\alpha = .91$ ; ES  $\alpha = .79$ ; DIS  $\alpha = .83$ ; BS  $\alpha = .72$ ).

### **Procedures**

The personality test and questionnaire were given to the participants at their weekly residential life staff meeting. Some of these meetings occurred in the participant’s residential hall, whereas all others occurred in various meeting rooms on campus. The researcher visited each meeting and administered the instruments. The researcher began by explaining that

involvement in the study was completely optional and anyone wishing to not participate could leave the room. The researcher then passed out the informed consent form while explaining that all answers would remain confidential and would not be traced back to the participant. The researcher then collected the informed consent forms and placed them in a secure envelope. The researcher then passed out the survey explaining all three portions. Participants were asked to sit at least one chair away from all other participants and to not speak until the researcher had collected all of the participants' materials.

When participants were finished, the researcher had them place their survey in a secure envelope. All surveys remained in that envelope until all research was complete. The survey was then scored by the researcher and data was inputted into a Microsoft Excel spreadsheet for analysis.

Participants were first classified into their primary personality type. This was done by adding the rankings of various word clusters applied to each color. The color with the highest score determined how each participant was classified. One participant had equal scores in more than one color and was excluded from the analysis. Once the personality-based groups were established through this classification process, descriptive and inferential statistics were calculated to examine the study hypotheses.

### **Research Design and Data Analysis**

This study involved two separate analyses. The first involved a causal comparative analysis of sensation seeking tendencies across personality types. The independent variable was based on personality classifications of participants (blue, green, yellow, gold). Each participants was classified into one of the four color categories based on their highest color score. The dependent variable, predisposition for risk taking, was



based on the sensation seeking scale overall score and subscales. Analysis Variance was used to examine the associated hypotheses (1-5). The second analysis was correlational, and looked at how overall sensation seeking scores and sensation seeking subscales correlated with each dimension of the True Colors Test (Blue, Green, Orange, and Gold). This analysis examined hypotheses 6-9. These two separate analyses allowed the researcher consider whether considering primary personality type would provide adequate information about the participant, or if considering one or all of the color scores for the individual was necessary.

### **Threats to Internal Validity**

Subject characteristics play a role in the study. Many subject characteristics do in fact make up or have an effect on how risk is perceived; however, some of these same characteristics are inherently part of personality. Random selection and assignment were not possible in this study; however, a relatively homogeneous group was chosen. In regard to generalizability, results should be restricted to groups similar to the participant group. Mortality in this project was limited, with one participant who did not complete the survey and who was excluded from the analysis and one participant who was excluded due a “tie” on the two highest personality subscale scores.

Location should not have affected the internal validity of the study. The participants were in various locations while taking the survey; however, the nature of the locations was consistent from site to site.

Instrumentation validity was addressed by giving clear definitions and instructions before each portion of the survey. The researcher administered all surveys, however, the potential for research bias was minimized by the limited explanation of the

research hypothesis and the non-directional nature of the research hypotheses. The age of the Marvin Zuckerman Sensation Seeking Scale may have impacted results as it was first created in the 1970s. The test has been updated some but certain questions are still dated and may have had an impact on participant understanding of question.

## CHAPTER IV

### RESULTS

The results of this study examined if a relationship existed between participants personality type and their predisposition for risk-taking behavior. The researcher looked for differences that may have developed throughout the data. The results have been interpreted and summarized in the following sections.

#### **Descriptive Statistics**

To develop an overall understanding of the results of the study, means and standard deviations were calculated for the independent variables (as shown in Tables 1). The variables were the personality type that the participants received on the “True Colors” personality test, age, and gender. The four categories of the personality test are blue, green, gold, and orange. Some participants achieved the same score in multiple categories meaning their personality type does not fall in just one of the four categories but possibly two or three.

The personality type with the highest mean score on the sensation seeking scale was the Orange category and had a mean score of 19.44 ( $SD = 4.61$ ). The next highest mean was the blue personality type which had a mean score of 16.84 ( $SD = 7.29$ ). The green personality type were had mean score of 14.33 ( $SD = 6.31$ ), while the gold personality type had a mean score of 14.41 ( $SD = 5.39$ ).

The means of the thrill and adventure seeking subscale were examined, as show in table 2. The group with the highest mean score was Orange with an 8.10 ( $SD = 2.00$ ).

The means of the experience seeking subscale are shown in table 3. The group with the

highest mean score was Orange with a 5.30 (SD = 2.00). The means of the disinhibition subscale are shown in table 4 with the highest mean in the Blue category at 3.20 (SD = 3.20). Finally in table 5 the means of the boredom susceptibility subscale are shown with Orange having the highest mean with a 3.00 (SD = 2.20)

**Table 1****Summary of descriptive statistics of sensation seeking scale scores.**

Color Personality(group)	N	Group Mean	Std Deviation
Blue	19	16.84	7.29
Gold	17	14.41	5.39
Green	9	14.33	6.31
Orange	9	19.44	4.61

**Table 2****Summary of descriptive statistics of thrill and adventure seeking subscale.**

<u>Color Personality(group)</u>	<u>N</u>	<u>Group Mean</u>	<u>Std Deviation</u>
Blue	19	6.79	2.64
Gold	17	6.77	2.71
Green	9	6.56	2.65
Orange	9	8.11	1.97

**Table 3****Summary of descriptive statistics of experience seeking subscale.**

<u>Color Personality(group)</u>	<u>N</u>	<u>Group Mean</u>	<u>Std Deviation</u>
Blue	19	4.90	2.28
Gold	17	3.35	2.03
Green	9	3.67	1.87
Orange	9	5.33	2.00

## Hypothesis Tests

It was predicted that there would be a difference in predisposition for risk taking behavior amongst the various personality types in which participants would be classified. An Analysis of Variance (ANOVA) was conducted to examine possible group differences in overall sensation seeking scores and associated subscales. As shown in Table 6, results indicate non-significant difference in overall sensation seeking across the four groups ( $F=1.52$   $p= .20$ ). The null hypothesis was accepted. An ANOVA was also conducted for each of the four subscales of the sensation seeking scale.

The ANOVA conducted for the Thrill and Adventure Seeking Subscale had results that were found to be non-significant ( $F = .74$ ,  $p = .53$ ), as show in Table 7. As show in Table 8, the results of the ANOVA test comparing personality types on the experience seeking subscale were also found to be non-significant ( $F = 2.7$ ,  $p = .06$ ). An ANOVA was conducted comparing personality types and on the disinhibition subscale. As shown in table 9, the results were found to be nonsignificant ( $F = .84$ ,  $p = .48$ ). A final ANOVA was conducted examining differences between personality type on the boredom susceptibility subscale. As show in table 10, the results were found to be non-significant ( $F = .85$ ,  $p = .48$ ). Overall, these results did not support research hypothesis 1, nor the four associated hypotheses regarding subscale scores.

**Table 4****Summary of descriptive statistics of disinhibition subscale.**

<u>Color Personality(group)</u>	<u>N</u>	<u>Group Mean</u>	<u>Std Deviation</u>
Blue	19	3.16	3.24
Gold	17	2.06	1.48
Green	9	2.00	1.94
Orange	9	2.89	2.26

**Table 5****Summary of descriptive statistics of boredom susceptibility subscale.**

<u>Color Personality(group)</u>	<u>N</u>	<u>Group Mean</u>	<u>Std Deviation</u>
Blue	19	2.05	1.68
Gold	17	2.24	1.15
Green	9	2.11	.93
Orange	9	3.00	2.18



**Table 6**

**Summary of ANOVA of test of significance results of sensation seeking scale scores.**

<u>Source of Variance</u>	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>
Between Groups	290.60	5.00	58.12	1.52
Within Groups	1908.87	50.00	38.18	
Total	2199.46			
	p	= .20		
	Eta Squared	= .13		

**Table 7**

**Summary of ANOVA test of significance results of thrill and adventure seeking subscale.**

<u>Source of Variance</u>	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>
Between Groups	14.60	3.00	4.87	.74
Within Groups	329.33	50.00	6.59	
Total	343.93			
	p	=.53		
	Eta Squared	=.04		

**Table 8**

**Summary of ANOVA test of significance results of experience seeking subscale.**

<u>Source of Variance</u>	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>
Between Groups	35.16	3.00	11.72	2.67
Within Groups	219.67	50.00	4.39	
Total	254.83			
	p	= .06		
	Eta Squared	= .14		

**Table 9**

**Summary of ANOVA test of significance results of disinhibition subscale.**

<u>Source of Variance</u>	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>
Between Groups	14.85	3.00	4.95	.84
Within Groups	294.36	50.00	5.89	
Total	309.20			
	p	= .48		
	Eta Squared	= .05		

**Table 10****Summary of ANOVA test of significance results of boredom susceptibility subscale.**

<u>Source of Variance</u>	<u>SS</u>	<u>DF</u>	<u>MS</u>	<u>F</u>
Between Groups	5.94	3.00	1.98	.85
Within Groups	116.90	50.00	2.34	
Total	122.83			
	p	= .48		
	Eta Squared	= .05		

As shown in Table 11, Pearson  $r$  correlations were calculated examining the relationship between color personality scores and sensation seeking scale scores (Hypotheses 2-5). A significantly positive correlation was found between the orange personality type and overall (as well as all subscales) sensation seeking scale score, rejecting the null hypothesis,  $r = .46, p = <.01$ . A significantly negative correlation was also found between gold personality scores and overall (as well as experience seeking and disinhibition) sensation seeking scale scores, rejecting the null hypothesis,  $r = -.39, p = <.01$ . Attained  $r$  values for the orange and gold personality types can be considered to be on the lower edge of what would be considered to account for a meaningful proportion of variance in scores (.40 is a generally accepted cutoff, or approximately 15% of the variance). Significant subscale  $r$  values falling below the .40 bring into question the usefulness of subscale scores, particularly in regard to the orange personality scores. The Green and Blue personality scales were not found to be significantly associated with sensation seeking. ( $p > .05$  for all correlations).

Table 11

*Summary of Correlation Analysis of Personality Color and Sensation Seeking Scale*

<u>Colors Scale</u>	<u>Orange</u>		<u>Green</u>		<u>Blue</u>		<u>Gold</u>	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Overall	.46	<.01*	-.01	.99	.14	.92	-.39	<.01*
TAS	.28	.04	-.08	.58	-.08	.57	-.13	.35
ES	.38	<.01*	-.03	.81	.21	.13	-.40	<.01*
DS	.34	.01 *	.08	.59	.51	.715	-.39	<.01*
BS	.33	.02 *	.05	.73	-.17	.23	-.2	.16*

\* = significance at the .05 alpha level.

## CHAPTER V

### DISCUSSION

The results of this study did not support the suggested hypothesis that there would be a difference in predisposition for risk taking behavior across participants classified into the four different personality types. As such, simply examining an individual's primary personality classification has limited usefulness in regard to understanding their predisposition for risk taking behavior. There was, however, a significant correlation between the orange personality type and overall (as well as subscale) sensation seeking scale scores, meaning that people with a higher score on the orange subscale of the True Colors test are more likely to have a predisposition toward risk taking behavior. In other words, they may actively seek or crave such opportunities, including those that are inherently part of challenge course experiences. There was also a significantly negative correlation between the gold personality type and overall sensation seeking scores, which means that individuals scoring high on this subscale are less likely to have a predisposition for risk taking behavior, and may find challenge course activities to be aversive. This makes sense as the gold personality type is very analytical and organized. As a result of these findings, research hypotheses 4 and 5 were supported.

An important observation from these findings is that orange may not always be someone's highest personality score, but it may still be relatively high and, therefore, indicate high sensation seeking tendencies. The same rule applies to the gold personality score, but in the opposite manner, with a high score indicating a much lower tendency to take risks. Again, this finding suggests that the color scores for orange and gold should be considered individually, and the "ranking" of these score compared to the other color

scores is less important than the actual level of each score, particularly in regard to predisposition for risk taking behavior. This observation contradicts the common practice of characterizing individuals based on their highest score, such as “I’m blue”. It is important that challenge course facilitators consider the value of these two color scores, regardless of their rank in the overall personality profile.

As an example, consider if a participant’s highest score is blue. The “I’m a blue” approach does not tell the facilitator much, but if the participant’s second or third highest score is orange and it is quite a high score, there is a positive relationship with risk taking.

The findings from this study support the observations of both Endriulaitienė (2010) and Nicholson Soane, Fenton-O’Creevy, and Willman (2005). Both studies found evidence that risk taking can vary across personality type. The current study further develops this literature by documenting a direct tie between the True Colors framework and sensation seeking. Furthermore, specific subscales within the True Colors test have been identified as correlating with sensation seeking.

### **Limitations**

A major limitation in this study was that the findings were not examined in the context of a challenge course program. There were significant findings demonstrating the relationship between certain personality types and predisposition for sensation seeking; however, the application of these findings to the experiences and outcomes associated with challenge course participation is simply an assumption in this study and should be clarified in future research.

Another limitation was the forced classification of participants into a primary personality type. The personality test chosen requires the classification to be given by the category with the highest score. However, some color types can have an equal score or scores that are very close in value. Some participants had colors that tied in score and were removed from the analysis. This limitation was addressed through the additional correlation analysis, but the general procedure focusing on a person's predominate color is a broader limitation that is inherent in the "True Colors" test process.

Another limitation was the sample that was chosen to participate in the study. The sample that was chosen was the student staff members of Northwest Residential Life. They were chosen based on convenience and the fact that they were within the accessible population. It should be noted, however, that the participants have chosen jobs in which they are trained to be more open minded about people and the idea of new, exciting, and different opportunities. Also, while this sample was somewhat of a representation of the Northwest Missouri State University student employee population, it was a very select group of them who are considered leaders on campus. These characteristics limit the generalizability of these findings.

Another limitation of the study could be how predisposition for risk were determined. The researcher used the Marvin Zuckerman Sensation Seeking Scale. The scale did in fact have questions regarding thrill seeking in the sense of adventure recreation and relationship building, but it also contained questions about sexual preferences, eating habits, and drug use that may have caused some participants scores to be lower than if those questions had not been there. It is possible that these characteristics correlate with sensation seeking on the challenge course, but it is also possible that some



of the content areas of the Zuckerman scale are outside of the realm of the challenge course. As noted by Wolfe and Samdahl (2005), Lokteff (2010) and Meerteens and Lion (2011), there are various forms of sensation seeking and it is not clear if the forms measured by the Zuckerman scale are all relevant within the challenge course environment. Subscales were considered independently, but it may be that some subscales are more relevant to the challenge course setting than others. It may also be that they are all relevant, but in different ways. Content validity of the scale was also brought to question by the fact that participants had to question the meaning of terminology included in the scale.

A fifth limitation relates to the relationship between the researcher and the participants. The researcher is part of the Northwest Residential Life team, which may have caused some of the student staff members participating to be untruthful about their answers (i.e., guarded). Student staff members are upheld to standards and sign contracts stating they will not participate in any illegal activity, but some of the questions on the sensation seeking scale directly relate to or imply illegal behavior. While the researcher stated that the results would remain completely anonymous and in no way be tracked back to the participant, some participants may have been untrusting of the anonymity and chosen answers that would best represent them as student staff members.

### **Implications for Further Research**

In future studies of this topic, researchers should consider the following implications based off of these results. Researchers could consider a personality test that scores participants on a variety of personality traits, such as the Myers-Briggs personality test. This would allow the researcher to examine more than just four relationships but a

variety of common traits. Researchers should do a random sample of a larger population, which would allow for a larger variety of personality types and experiences that the participant has had.

The researcher should also consider how they examine risk. It may be beneficial for the researcher to create a survey that applies specifically, but unnoticeably, to the aspects of a challenge course. It may also be beneficial to ask the participants their feelings about the upcoming day and their perceptions of what they are expecting and what they want to get out of the course.

Finally, future research should examine how different personality types respond to different challenge course experiences. It is assumed in this study that the predispositions for risk taking will somehow create a difference in how participants respond to the challenge course; however, no research has documented this assumption at the current time. Such research might include having participants take a personality test then placing them into different groups based on the results and having them participate in a course. The personality scores and behavior on course can be compared. Research can also compare scores to how participants feel before, during, and after participation in the course.

### **Recommendations for Practice**

If the true hypotheses are taken into account, it would be helpful for future facilitators to know all color scores of their participants to have some kind of an idea of their feelings towards risk taking. Gold and orange True Color scores appear to be a starting point for understanding how participants will respond to the challenge course. Facilitators could use this information to choose activities, form groups, create goals, etc.

For example, if a facilitator sees that a participant has a high score in the orange category, they can infer that the participant will be more likely to want to take and be involved in risks. However, if the facilitator sees that a participant has a high gold score they can infer the opposite, that that participant will not want to partake in as many or any risks. The use of the personality test keeps the participant from wanting to seem like more of a risk taker or more active and outgoing than they really are. In other words, the relevance of the test to the participant is a bit more hidden than a sensation seeking scale, and less likely to influence how someone behaves on the course. Some participants are afraid to show their hesitations and a personality test can help to control that.

Facilitators can use this personality knowledge to create an overall better experience for participants. Participants can be placed in different groups based on their scores in order to create a more common group goal. Facilitators can also choose activities for participants based on how high of a gold or orange score they have. Golds may need more activities to “warm up”, while oranges may be ready to take risk in the beginning.

Although some of the hypotheses of this study were not found to be true, research and the correlation between two color personalities and risk still show that it would be beneficial for challenge course facilitators to use personality tests to have a better understanding of their participants before creating their curriculum for the course. In addition, the lack of support for the comparative hypotheses is equally meaningful. In other words, it should be noted that making generalizations about a person’s reaction to the challenge course based solely on their “high” score is likely to lead to

misunderstandings and possibly cause adverse reactions to the challenge course experience.

### **Summary**

The study found a significant correlation between two personality types and predisposition for risk taking behavior. While not all relationships and correlations were significant, some interesting observations were made. Overall, the potential application of personality testing within the challenge course industry is promising; however, more research and actual practice of the concept could be done to determine best practices.

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