

DISCOVERING THE RELATIONSHIP BETWEEN
PERSONALITY TYPE AND PREDICTED
ACADEMIC SUCCESS

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ABSTRACT

Research related to personality testing and academic risk has been examined widely throughout the current literature. However, a newer personality instrument utilized in this study, the True Colors Research Word Sort, lacks significant research in this area. Therefore, the current study examined the relationship between four True Colors personality types (Green, Gold, Blue, and Orange) as measured by the True Colors Research Word Sort and 21 academic risk dimensions as measured by the College Student Inventory. It was found that models for 11 of the 21 total academic risk dimensions were significantly related to a combination of the four True Colors predictor variables. In addition, the data provided evidence to suggest that Orange and Blue personality types may exhibit more characteristics consistent with academic difficulty whereas Green and Gold personality types may exhibit more characteristics consistent with academic success. Though these results were in line with similar research in this area, the overall lack of research regarding the True Colors Research Word Sort requires further investigation to not only expand upon the results of the current findings but to also fully understand the utility of this personality measure in assessing academic risk.

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CHAPTER I: INTRODUCTION

Personality is widely considered to be one of the most fascinating and elusive concepts confronting psychology today. Though there have been countless attempts made to define personality, a single, universal definition still does not exist. For example, Lewin (1935) views personality, along with environment, as one of the two determinants of behavior. Bergman (1967), on the other hand, contends that personality and behavior are the result of a combination of heredity or physiology, past learning, reaction to different levels of stimuli, and the various elements of the environment. More recently, Maddi (1989) has proposed that personality is a constant set of intrapsychic or internal characteristics and pre-dispositions that directly determine psychological behavior. Clearly, such explanations of personality have varied greatly since the initial study of personality theory emerged in the early 1900s.

The history of personality theory can be traced back as far as Hippocrates, who initially identified four different types of human beings: the Sanguine, the Choleric, the Phlegmatic, and the Melancholic (True Colors Inc., 2005). While these terms are no longer used to describe different personality types, the fundamental principles still apply today. Much like the work of Hippocrates, modern personality theorists continue to develop methods of categorizing individuals' personalities based on varying sets of characteristics, attitudes, and behaviors. Fulfilling the need to present a practical application of such categorizations, theorists developed and implemented personality tests to assess individuals. Though the content of these tests have differed across time,

they have ultimately shared a common goal: to distinguish, identify, and understand personality.

History of Personality Testing

As early as the 19th century, personality differences were observed among astronomers who conducted various studies regarding the timing and passage of stars. Of great note is that many of them yielded different results, an outcome that was not necessarily due to procedural differences but rather to individual differences in response to "personality" of perception (APA Monitor, 1999). Such "personality" differences ultimately led to the study of human reaction times, or "character" as it was commonly termed in the initial stages of experimental psychology. During this period in time, phrenologists such as Franz Josef Gall attempted to assess personality based on the shape of the skull and described "faculties" of mind, clearly indicating the early drive to understand personality (APA Monitor).

By the late 19th century, personality was regarded by some as a significant aspect of human life. Ribot (as cited in APA Monitor, 1999) developed a physiological theory of personality in the tradition of somatic psychiatry in 1885 while Janet postulated conscious and unconscious personalities or selves in 1889 (as cited in APA Monitor). William (as cited in APA Monitor) followed suit in 1890 with "Principles of Psychology" in which he recognized that the self was composed of constituent personas including the material, social, spiritual, and the pure ego. In addition, Freud's (1904) dynamic personality concept of mental life (as cited in APA Monitor) and Carl Jung's (1928)

theories of introversion and extroversion (as cited in APA Monitor) opened new dimensions for describing normal personality types and furthered research in this area.

However, it was not until Morton Prince's 1906 text, "Dissociation of a Personality," that the term "personality" became commonplace. In the same year, attempts to measure personality traits were initiated by Heymans and Wiersma (as cited in APA Monitor) as they employed rating scales to investigate interests, aptitudes, and temperaments. In the United States, Robert S. Woodworth's (as cited in APA Monitor) early attempt to measure personality variables through his Psychoneurotic Inventory became the model for such tests by 1917.

Gordon Allport (as cited in APA Monitor) ultimately brought personality theory into the psychological mainstream of the United States in 1937 with his work, "Personality: A Psychological Interpretation," in which he defined personality as "the dynamic organization within the individual of those psychophysical systems that determine unique adjustments to his environment." In 1940, the Minnesota Multiphasic Personality Inventory (MMPI), one of the most utilized self-report personality inventories, was introduced by Hathaway and McKinley and placed into practice. In 1960, the Myers-Briggs Test, which translated Carl Jung's personality theory, was introduced, and subsequently joined the MMPI as one of the most widely used models. In 1963, Norman replicated Cattell's 16PF Personality Questionnaire (as cited in APA Monitor) and suggested that five factors would be sufficient to describe personality. These factors include Openness to experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (APA Monitor). This conception ultimately became

known as the Five-Factor Model of Personality and has been perhaps the most popular and extensively applied theory of personality within the past twenty years.

Modern Personality Testing Considerations

According to Hsu (2004), some feel that personality has not fully coalesced as a subject matter in psychology because there has never been an overarching theory or even a thoroughly accepted definition of personality. This has not, however, prevented personality from being the subject of psychological research and the development of theories. Though some psychologists regularly use tests to predict and understand behavior, others believe that personality is a moving target determined by past experience and the current environment and therefore cannot be predicted (Hsu, 2004). It is the reconciliation between these two schools of thought that ultimately proves to be the greatest obstacle.

Unfortunately, the recent trend in this area has been to overlook the fundamental aspects of sound personality tests to deliver a useable product. Due to this lack of empirical and theoretical consideration, various subjective and baseless personality tests exist in current practice. There are, however, select inventories that, though largely untested, provide an effective and parsimonious approach to understanding personality. Of great note is a more recently developed assessment called the True Colors Research Word Sort (True Colors Inc., 2005). Not only does this assessment possess the aforementioned qualities, it has also yielded positive results for management training, new employee training, and team building as a result of its increased national use over the

last twenty years. In addition to its organizational success, there are also broad implications for its use within educational settings.

True Colors Research Word Sort

The True Colors Research Word Sort is as a self-report, self-scorable Likert scale instrument (see appendix A) that utilizes color as a metaphor to describe personality. The colors chosen to represent each personality type include Green, Blue, Orange, and Gold (True Colors Inc., 2005). As delineated through the True Colors program, each “color,” or personality type, possesses unique characteristics that affect habits, values, feelings, and actions

Green. The Green personality type can be described as valuing intellectual capabilities above all else. Comfort in these areas creates a sense of personal security and self-esteem for those with Green personalities (True Colors Inc., 2005). Additional characteristics of Green personalities include the need to seek and increase the certainty of personal values through assertiveness. Greens not only express the grounding of theory and data through practicality, logic, and reason, but they constantly seek to understand and solve every problem they encounter (Kalil, 1998).

Blue. The Blue personality type values balance and harmony. Such individuals prefer lives free from tension and are characterized by empathy, openness to aesthetic experiences, and reflective awareness (True Colors Inc., 2005). Blue personalities also place high worth in relationships and feelings of loyalty and belongingness.

Orange. The Orange personality type represents energy, power, and strength. These individuals feel the will to achieve results, win, and be successful. They desire all

things that offer intense and full life experiences. In addition, such personalities generate impulses towards high levels of activity, competition, and productivity (True Colors Inc., 2005).

Gold. Gold personality types can be characterized by responsibility, organization, structure, and the need to fulfill duties. Those with such a personality type value being practical and sensible in their work. They also believe in efficiency, dependability, and embrace the concepts of home and family with fierce loyalty and faithfulness (True Colors Inc., 2005).

The initial True Colors Personality Inventory was developed by Don Lowry, creator and Founder of True Colors in 1978. It possesses a sound conceptual link with the Myers Briggs Type Indicator as well as the work of Carl Jung. In addition, True Colors also draws heavily from the work of David Keirsey (1978). Jung's work, "Psychological Type," (as cited in True Colors Inc., 2005) in which he described personality differences as a fundamental basis for understanding human beings, had a profound effect on the work of Katherine C. Briggs and daughter Isabel Briggs-Myers. Consequently, the two developed the aforementioned Myers-Briggs Type Indicator (MBTI) that identifies and characterizes sixteen different types of individuals. According to their theory, much of the variation in human behavior is actually quite orderly and systematic (True Colors Inc., 2005). Keirsey's publication, *Please Understand Me*, refined the work of Myers-Briggs and delineated four temperament types that are all different in fundamental ways. According to Keirsey, each personality type is comprised of varying wants, motives, and needs (True Colors Inc., 2005). In addition, each

personality type analyzes, conceptualizes, understands, and learns differently. These classifications served as the impetus for Lowry's practical translation of this information (as cited in True Colors Inc., 2005). Bruce Maxwell (2005) revised the True Colors Personality Inventory and authored the True Colors Research Word Sort in order to have an instrument with greater reliability and validity for use in research studies. The instrument is currently in use extensively throughout the United States, and abroad by members of the International True Colors Association (a professional association of True Colors Trainers) but to date this is the first publication utilizing this instrument.

A study conducted by Honaker (2003) revealed support for convergent validity between the True Colors Personality Inventory and the Meyers-Briggs Type Indicator. This study was a basic associational design with the True Colors personality types of Blue, Green, Gold, and Orange being the independent variables. The designated dependent variables from the MBTI are the Feeling, Thinking, Judging, and Perceiving dimensions. Honaker's (2003) study utilized data from fifty-six graduate students (38 females and 18 males) enrolled in a graduate level career development course at a university voluntarily. All students completed both assessments during the Fall 1998 and Spring 1999 semesters (Honaker, 2003). The study revealed significant positive correlations between the two tests in terms of personality types and characteristics. The correlations are as follows: True Colors Blue – MBTI Feeling; True Colors Green – MBTI Thinking; True Colors Gold – MBTI Judging; and True Colors Orange – MBTI Perceiving. Please refer to Table 1 for the dimension associations between the True

Colors™ four personality types & the Myers-Briggs Type Indicator's dichotomous scales.

Table 1: Dimension Associations Between True Colors™ personality types & MBTI Dichotomous Scales

True Colors Personality Types	MBTI Dichotomous Functions
Blue: Focus on harmonious relationships; compassionate; authentic; warm communicative.	Feeling: Value based decision-making with a consideration for the consequences on others.
Green: Curious; seeking; inventive; theoretical; complex; philosophical; principled; rational.	Thinking: Logical- based decision-making with inquiry; consideration for fairness; cause and effect.
Gold: Organized; conventional; orderly; procedural; practical; responsible; tradition; loyal.	Judging: Prefer to plan ahead to avoid stresses/changes at the last minute; Organized.
Orange: Active; realistic; daring; spontaneous; opportunistic.	Perceiving: A high value for spontaneity; open and adaptable to change.
	Sensing: Focusing mainly on what can be perceived; by the five senses; attending to facts that are observable.
	Intuition: Focus on perceiving patterns and interrelationships; attend to meanings and possibilities.
	Extraversion: Directing energy mainly toward the outer world of people and objects.
	Introversion: Directing energy mainly toward the inner world of experiences and ideas.

Note. From "True Colors™: New Implications From Convergent Validity Research With The Myers-Briggs Type Indicator Retrieved," by Stevie Honaker, 2003, Retrieved December, 2005 from True Colors Career Web site: <http://www.truecolorscareer.com/Research.htm>

Personality and Academic Performance

Personality tests are increasingly becoming a part of American life, affecting decision making at the organizational, judicial, and even academic levels. As such, understanding personality types can be an extremely useful tool. Stemming from the personal, social, and professional implications of personality testing, much of the research regarding personality has focused on performance (Ridgell & Lounsbury 2004). One area of particular interest is the relationship between performance at the academic level and personality type. Mouw and Kanna (1993) note that the prediction of academic success in college has become “a large scale operation.” As is the case within the educational system, similar predictions are also important in industrial research, as recent studies indicate the predictive ability of grades in relation to job performance (Ridgell & Lounsbury, 2004).

Predictors of academic success usually consist of intelligence and non-cognitive measures including personality traits or cognitive measures relating to mental ability (Ridgell & Lounsbury, 2004). Results, while occasionally varied, have supported the conclusion that both cognitive ability and certain personality traits consistently predict academic performance (Dyer, 1987). Though research utilizing the True Colors Research Word Sort with regards to this relationship is lacking, research using similar measures abounds (True Colors Inc., 2005).

A study conducted by Clark and Riley (2001) evaluated the correlation between university students’ self-tested Jungian personality type, as implemented through the MBTI, and their level of performance in two beginning level chemistry classes. The

study population comprised of 407 students in a freshmen sequence of eight General Chemistry course sections. Scores for each student, based upon the average and standard deviation for each class, were calculated and pooled into a single group. The research found that the INTJ (Introverted; Intuition; Thinking; Judging) students' class average was nine points higher than the pooled student group's class average and nearly 14 points higher than the lowest group (ESFP-Extraverted; Sensing; Feeling; Perception) (Clark, Riley, 2001). Overall, the INTJ students significantly out-scored all other students and had a nearly four times greater chance of receiving an "A" and no chance of performing as poorly as the bottom 10 percent. In contrast, the ESFP students were nearly two and a half times as likely to be in the bottom 10% and had no chance to receive an "A" (Clark & Riley). Clark & Riley (2001) state that the high achieving students (INTJ) demonstrating these personality traits can be best described as being most comfortable and productive studying by themselves, recognizing the class as being beneficial to their goals, and being comfortable handling abstract ideas. These students also prefer to reach conclusions based on logic deductions and are well organized and punctual in completing studious tasks. They also note that though some may say these are simply the characteristics of a "good student," the fact that these characteristics stem from personality must not be overlooked with regards to academic performance.

Similar results were found by Obrien, Bernold, and Akroyd (1998). Through an analysis of the academic performance (as measured by course grade) and personality type (as measured by the MBTI) of 83 undergraduate engineering students enrolled in a Mechanical Engineering course, researchers concluded that the ISTJ (Introverted;

Sensing; Thinking; Judging) and the INTJ (Introverted; Intuition; Thinking; Judging) were the most predominant personality types of students scoring in the highest percentiles. Though there was a significant difference noted between the number of students with the Sensing dimension (72%) and the Intuition dimension (23%), it did not underscore the larger relationship that existed between the Introverted, Thinking, and Judging personality dimensions and academic success.

Hence, research suggests that personality may be a factor worth considering when predicting academic success, but it also lends support for the successful application of the True Colors Research Word Sort to this area of interest. Specifically, the success of the INTJ (Introverted; Intuition; Thinking; Judging) group in Clark and Riley's (2001) study suggests that perhaps the Green and Gold personality types, which share many common characteristics with the INTJ group, may also lead to higher chances of academic success. The opposite can be said for the ESFP (Extraverted; Sensing; Feeling; Perception) and the ENFP (Extraverted; Intuition, Feeling; Perception) groups, which were the two lowest scoring groups, both of which share many common characteristics with the Orange and Blue True Colors Personality types. The support for convergent validity between the MBTI and the True Colors Personality Inventory, as provided by Honaker (2003), supports this expectation.

In contrast, a study conducted by Ridgell and Lounsbury (2004) that utilized the Big Five personality traits yielded a different interpretation of this relationship. These researchers found that, with the exception of Extroversion, the Big Five personality traits were not significantly correlated with academic performance as measured by overall

GPA or grade in a psychology course. Though previous studies (Musgrave-Marquart, et al., 1997) have concluded that three other Big Five traits predict academic success (Conscientiousness, Openness, and Agreeableness), Ridgell and Lounsbury determined that the potential explanation for the results of this study might be related to the composition of the sample (73% freshmen). It is possible that course grade and GPA may initially be influenced more by factors such as maturation, study habits, involvement in other activities, and settling into the role of student than personality traits (Ridgell & Lounsbury 2004). The results of this research are of great significance to the present study because the sample will be entirely comprised of freshmen students. However, the predictive measurement tool, discussed in the following sections, will account for such potentially confounding factors.

As the research suggests, there is a clear link between personality and academic performance. Ultimately, the relationship between academic success and personality is important because it provides the foundation upon which a framework for predicting academic risk can be built.

Personality and Academic Risk

Approximately 25% of students at four-year colleges and universities do not persist beyond their freshmen year (U.S. Department of Education, 2000). This figure increases to approximately 42% for community college students (Peterson, 1993). In fact, a great majority of this is frequently attributed directly and indirectly to poor academic performance (Napoli & Wortman 1998). These high attrition rates have been identified as one of the most significant challenges facing institutions for higher

education (Brawer 1996, McGrath & Braunstein, 1997). As such, a great deal of research has been conducted in an effort to provide effective methods of student assessment, intervention, and retention.

A study conducted by Johnson, Pitts, and Lane (2000) sought to address the possible causes of increasing attrition rates through an evaluation of the relationship between personality traits and academic achievement in gifted students. Specifically, the researchers were interested in whether or not these factors resulted in students becoming “at risk.” Results from the study showed that there were significant correlations between ten personality traits and academic achievement. “Achievers,” those determined as not at risk, were found to be more introverted, abstract thinking, emotionally stable, mature, serious, conscientious, self assured, secure, self satisfied, precise, composed, resourceful, and moralistic (Johnson et al.). Conversely, “underachievers,” those determined to be at risk, appeared to be more extroverted, warm, kind, willing to participate, concrete-thinking, affected by feelings, enthusiastic, spontaneous, expressive, cheerful, expedient, insecure, group-oriented, and not bound by social rules (Johnson, Pitts, Lane, 2000). Both groups of students exhibited global perceptual tendencies; however, the achievers were highly flexible and more able to adapt to analytical situations than were the underachievers (Johnson et al.).

Consistent with Clark and Riley’s (2001) research, the group determined to be the least “at risk” exhibited the most characteristics common to the Green and Gold True Colors personality types. Additionally, those found to be “at risk” exhibited characteristics most in line with the Orange and Blue True Colors personality types. This

supports the notion that the True Colors Research Word Sort can be successfully applied to similar research and yield comparable results. Kaun and Nauta (2002) maintain this by noting that retention promotion efforts to identify students at risk for poor academic performance or attrition can be facilitated by the use of personality assessment inventories. Additionally, the inclusion of separate non-personality measures of academic risk can be employed to provide a basis of comparison for this relationship. Of great note is the College Student Inventory (Florida Tech Counseling & Psychological Services, 2005).

College Student Inventory (CSI)

The College Student Inventory (CSI) is a 194 item self-report instrument created and operated as part of the Noel-Levitz Retention Management System (see Appendix B). A primary function of the inventory is to assist college and university personnel in identifying the academic needs of student populations in order to better assist them and ensure their persistence and retention (Florida Tech Counseling & Psychological Services, 2005).

The survey contains 19 different scales that are organized under four main motivational assessment categories: academic motivation, social motivation, general coping, and receptivity to support services. The sub-scales measured by the academic motivation category include study habits, intellectual interests, academic confidence, desire to finish college, and attitude towards educators. Regarding the category of social motivation, self-reliance, sociability, and leadership are evaluated. The general coping category assesses ease of transition, family emotional support, openness, career planning,

and sense of financial security. The receptivity to support services category includes the subscales of academic assistance, personal counseling, social enrichment, and career counseling. The final category consists of initial impressions of the university and internal validity of the survey.

The CSI, which is given to students at the beginning of their college tenure, requires each participant to answer questions and provide personal information pertaining to the aforementioned scales. Students receive a copy of their results identified as the “Student Report.” Advisors receive an “Advisor/Counselor Report” that includes the scores for all 19 scales as well as four academic motivation summary scores that rate overall academic risk. The scores for the 19 scales are computed from national percentiles and utilize the 50th percentile (national norm) as the point of measurement (Florida Tech). High scores (above 50%) indicate high levels of the characteristic described in a given scale while low scores (below 50%) indicate the opposite (Cappellman, Ney, & Logan, 2005). The four summary scores that predict academic risk consist of “Predicted Academic Difficulty,” “Educational Stress,” “Receptivity to Institutional Help,” and “Dropout Proneness.” The range for the summary scores is set between 1 and 9 with 1 defined as “very low,” 5 as “average,” and 9 as “very high.” These summary scores are derived from the scores of the 19 scales using an algorithm that is exclusive to Noel-Levitz Inc.

From a statistical standpoint, the CSI is extremely sound. In terms of item reliability, the CSI’s major independent scales have an average homogeneity coefficient (coefficient alpha and Spearman-Brown split half reliability) of .80 despite an average

length of only 7.8 items. In addition, data from the latest research indicates that the CSI's stability (test-retest reliability) is quite good with an average stability coefficient of .80 for the 19 major scales (Stratil, 2005). Through a five-year course of empirical testing, modification, and further testing, the discrimination between the CSI scales has been maximized to yield very high levels of content validity (Stratil, 1988). A defensiveness scale was also employed during this process to eliminate items eliciting a tendency to generate falsely positive reports (Stratil, 1988). Research on the CSI's concurrent validity has shown that it relates well with other indicators of the variables it measures. Its results are consistent with general theory, thus establishing its construct validity (Stratil, 1988). Finally, the CSI's predictive validity, when assessed in terms of students' GPA and academic persistence, is extremely solid.

The strength of the College Student Inventory's statistical foundation has continued to yield significant results in terms of the reliability and validity of results. Various research conducted on the CSI also supports this. Cappellman et al. (2005) evaluated the effectiveness of the College Student Inventory in an applied setting within the Kent State University Department of Residence Services. They found that higher levels of dropout proneness are a solid indicator of a student's probable academic difficulty. For example, students with higher proneness levels had as much as a 60% chance of having a 2.0 or below GPA, placing them into the classification of "academically at risk." Though the dropout proneness score is only one of four summary scores provided by the CSI, it was the sole score evaluated for this study. Drawing from

this, it is evident that the likelihood of academic risk increases significantly with higher dropout proneness levels.

Schreiner conducted an additional predictive validity study of the CSI in 1989 at two private liberal arts colleges (as cited in Stratil, 2005). A total of 379 first year students were administered the CSI, and their enrollment status was ascertained the following year. An analysis of variance conducted on the Dropout Proneness scores indicated that there was a significant difference in the scale scores of “persisters” and “leavers” ($p < .001$). A discriminant analysis was also computed using enrollment status after one year as the dependent variable. The results indicated that 64.37 percent of the students could be correctly classified. As the empirical data suggests, by using the CSI, at risk students can be identified with a fairly high degree of accuracy. In defining “at risk” as academic risk, the CSI enables institutions to improve their predictive efficiency considerably. Using such an instrument is not only more predictive than mere intuition; it is also more effective than traditional means used, such as high school GPA.

As noted earlier, the inclusion of separate non-personality measures of academic risk can be employed to provide a basis of comparison for the relationship between poor academic performance and attrition. Additionally, such retention and risk identification efforts can be facilitated by the use of personality assessment inventories. Drawing from this as well as the noted research, there is sufficient evidence to suggest that a significant relationship may exist between the College Student Inventory and the True Colors Research Word Sort with regards to academic risk and personality type.

Statement of the Problem

The current study was designed to investigate the relationship between academic risk, as predicted by the College Student Inventory, and personality type, as predicted by the True Colors Research Word Sort. Specifically, the research will focus on predicted academic risk for the “Green” and “Gold” personality types with the expectation that they will be less academically at risk than the “Blue” and “Orange” personality types. This expectation is made based on the implications of Clark and Riley’s (2001) findings as they relate to the True Colors personality types. In addition, it expands upon Cappellman’s (2005) research by including the scores for 17 of the 19 scales (excluding initial impressions and internal validity) and the four summary scores (includes DOP score) to assess academic risk.

CHAPTER II: METHOD

Participants

The participants of this archival study were 200 male and female East Carolina University freshmen students enrolled in the Counselor and Adult Education (COAD) 1000 course during the fall 2005 semester. Participation in both inventories was optional and students were not penalized for refusing. The COAD 1000 course was titled “Student Development and Learning in Higher Education.” The course focused on the development of academic skills, learning processes, career decision-making, and personal attributes. The data that will be used for this study was collected during regular COAD 1000 class hours. Additional archival student data was also collected from the East Carolina University Department of Student Services.

Measures

All participants received and completed two separate measures. The first was the True Colors Research Word Sort, administered in participating COAD 1000 courses throughout the East Carolina University 2005 fall semester. The inventory is a self-report, self-scorable, 25 item Likert scale instrument (see Appendix A). Specifically, the True Colors Research Word Sort is administered as a standardized word sort that consists of five rows. Every row contains four separate groups, each of which includes three adjectives pertaining to a specific personality type. A four point Likert scale system is applied to provide scores to the word clusters deemed by the participant to be “MOST” and “LEAST” like him/herself. A four point score corresponds to the “most” rating while a one-point score corresponds to the “least” rating. Scores are then totaled

according to each group of word clusters that correspond to a specific personality type. The possible range of scores for any one personality type is 5 to 20. The personality type, or “color,” of the participant is determined by the highest single score of the four final color totals.

The second measure, the College Student Inventory, was administered to the same group of freshmen at the beginning of the fall 2005 semester. The CSI is a 194 item self-report instrument created and operated as part of the Noel-Levitz Retention Management System (see Appendix B). The survey contains 19 different scales that are organized under four main motivational assessment categories: academic motivation, social motivation, general coping, and receptivity to support services. The sub-scales measured by the academic motivation category include study habits, intellectual interests, academic confidence, desire to finish college, and attitude towards educators. Regarding the category of social motivation, self-reliance, sociability, and leadership are evaluated. The general coping scale assesses ease of transition, family emotional support, openness, career planning, and sense of financial security. The receptivity to support services category includes the subscales of academic assistance, personal counseling, social enrichment, and career counseling. The final category consists of initial impressions of the university and internal validity of the survey, which assesses the consistency of the students’ inventory responses. A seven point Likert scale system is applied to provide scores to selected statements deemed by the participant to be “not at all true,” “completely true,” and somewhere in between those two extremes. A score of seven corresponds to the “completely true” rating while a score of one corresponds to the “not

at all true” rating. Final scores for all 19 scales as well as four academic motivation summary scores that rate overall academic risk are provided on the Advisor/Counselor Report. The statistics for the 19 scales are computed from national percentile scores and utilize the 50th percentile (national norm) as the point of measurement (Florida Tech). The four summary scores that predict academic risk consist of Predicted Academic Difficulty, Educational Stress, Receptivity to Institutional Help, and Dropout Proneness. The range for the summary scores is set between 1 and 9 with 1 defined as “very low,” 5 as “average,” and 9 as “very high,” These summary scores are derived from the scores of the 19 scales using an algorithm that is exclusive to Noel-Levitz Inc. Academic risk is determined according to the four summary scores: “Dropout Proneness,” “Predicted Academic Difficulty,” “Educational Stress,” and “Receptivity to Institutional Help.”

Design and Procedure

Data were collected in the fall of 2005 from the East Carolina University Department of Student Development as well as teachers of participating COAD 1000 classes. University IRB approval was obtained prior to conducting this study (after the data were collected for other purposes). A copy of the IRB authorization form is provided in Appendix C.

The True Colors Research Word Sort and the College Student Inventory (CSI) were both administered to freshmen students enrolled in the COAD 1000 Seminar course. Both inventories were optional and students were not penalized for refusing participation. All student data for the True Colors Research Word Sort is kept by the teachers of the participating COAD 1000 classes. All student data for the College Student Inventory is

kept by the ECU Department of Student Development. The compiled data was delivered to the principal investigator via hard copy. Student identifiers (names) were coded and discarded before analysis. Student names were not included for reporting purposes.

All inventory data were analyzed using multiple regression. The analysis consisted of an initial bivariate correlation between students' four personality scores, or "colors," as determined by the True Colors Research Word Sort, and their 17 scale scores (initial impressions and internal validity scale excluded) and four summary scores, as determined by the College Student Inventory. Following this, multiple regressions were conducted on all 17 scales. The four predictor variables that were used include the Blue, Orange, Green, and Gold scores. The criterion variables included the four CSI summary scores and the 17 scale scores. Statistical significance for this study was placed at $p < .05$.

It was expected that higher "Green" and "Gold" personality scores would be negatively correlated with the CSI scales that predict academic risk and positively correlated with the scales that predict academic success. Conversely, it was expected that higher "Blue" and "Orange" personality scores would be positively correlated with the CSI scales that predict academic risk and negatively correlated with the scales that predict academic success.

CHAPTER III: RESULTS

Multiple linear regression analysis was used to develop models for predicting freshmen students' responses on each of the 21 College Student Inventory (CSI) scales (academic motivation, intellectual interests, academic confidence, desire to finish college, attitude towards educators, social motivation, self-reliance, sociability, leadership, general coping, ease of transition, family emotional support, openness, career planning, sense of financial security, receptivity to support services, receptivity to academic assistance, receptivity to personal counseling, receptivity to social enrichment, receptivity to career counseling) from freshmen students' four personality scores (Green, Blue, Orange, Gold) on the True Colors Research Word Sort. Table 2 provides the means and standard deviations for the twenty two College Student Inventory dimensions. Table 3 provides the correlations between each of the four predictor variables (Blue, Green, Gold, Orange). As shown in Table 3, nearly all of the predictor variables were correlated with each other. The lone exception was that between the Green and Gold predictor variables.

Table 2.
Means and SD for the College Student Inventory Scales
(N = 200)

Criterion	<i>M</i>	<i>SD</i>
Academic Confidence	44.25	27.62
Attitude Toward Educators	49.62	24.25
Career Planning	44.15	28.81
Desire to Finish College	53.14	28.15
Dropout Proneness	41.76	26.84
Ease of Transition	50.56	30.17
Educational Stress	50.77	26.66
Family Emotional Support	58.35	26.74
Sense of Financial Security	59.86	27.91
Intellectual Interests	40.12	25.46
Leadership	52.87	26.92
Openness	42.51	24.84

Predicted Academic Difficulty	51.50	26.33
Receptivity to Academic Assistance	46.97	27.78
Receptivity to Career Counseling	45.29	28.71
Receptivity to Institutional Assistance	43.81	28.25
Receptivity to Personal Counseling	45.71	26.58
Receptivity to Social Enrichment	46.07	26.52
Self Reliance	45.92	25.13
Sociability	55.55	27.71
Study habits	53.48	27.96

Table 3.
Correlations between Predictor Variables (N = 200)

Variable	Predictor			
	Orange	Gold	Blue	Green
Green	-.19*	-.11	-.53*	
Blue	-.19*	-.23*		
Gold	-.56*			
Orange				
Mean	15.3	11.68	14.01	9.72
SD	4.12	4.18	4.24	3.67
$p < .01$				

Table 4 provides the results of the multiple regression analysis. Specifically, the table shows the significance of the relationships between each of the 22 CSI scales and an optimally weighted combination of the predictor variables (Green, Blue, Orange, Gold). In addition, the beta weights and zero-order correlations of each of the four predictor variables as they relate to the 22 CSI scales are provided. As shown in Table 4, three of the four models for the CSI summary scores were not significantly related to an optimally weighted combination of the predictor variables. These three models included dropout proneness, $F(4, 200) = 1.75, p = .142$, predicted academic difficulty, $F(4, 200) = 1.80, p = .130$, and receptivity to institutional assistance, $F(4, 200) = 2.17, p = .073$. There was a significant and negative zero-order correlation found between dropout proneness and Gold, $r = -.18$. The model for predicting academic difficulty yielded two significant zero-order correlations. The first was found between predicted academic difficulty and Orange, $r = .14$, while the second was found between predicted academic difficulty and Green, $r = -.14$. In addition, the model for predicting receptivity to institutional assistance yielded a significant zero-order correlation for Orange, $r = -.19$, as well as a significant and negative partial effect of Orange. The lone summary score model found to be significant was educational stress, $F(4, 200) = 3.87, p = .005$. This model also included a zero-order correlation between educational stress and Blue, $r = .26$.

The models for the CSI subscales, however, provided interesting results. Within the academic motivation category, only two of the five scales were found to be significantly related to the four personality predictor variables. These two included intellectual interests, $F(4, 200) = 4.99, p = .001$, and academic confidence, $F(4, 200) =$

5.96, $p = .000$. The model for predicting intellectual interests yielded two significant zero-order correlations. The first was found between intellectual interests and Green, $r = .26$, while the second was found between intellectual interests and Orange, $r = -.17$. There were also two significant zero-order correlations found within the academic confidence model. The first was found between academic confidence and Green, $r = .30$, while the second was found between academic confidence and Blue, $r = -.26$. The model for predicting study habits fell short of statistical significance, $F(4, 200) = 2.09$, $p = .084$, however, two of the zero-order correlations were significant. The first significant zero-order correlation was found between study habits and Gold, $r = .20$. The second was found between study habits and Orange, $r = -.15$. The model for predicting desire to finish college was also not significant, $F(4, 200) = 3.69$, $p = .830$, and did not yield any significant zero-order correlations. Finally, though the model for predicting attitude toward educators fell short of statistical significance, $F(4, 200) = 1.93$, $p = .107$, the partial effect of Orange was found to be significant and negative. In addition, a significant zero-order correlation was found between attitude toward educators and Orange, $r = -.15$.

All three models within the social motivation category were found to be significantly related to a combination of the predictor variables. These included self reliance, $F(4, 200) = 3.82$, $p = .005$, sociability, $F(4, 200) = 16.24$, $p = .000$, and leadership, $F(4, 200) = 2.93$, $p = .022$. Two of the zero-order correlations for self reliance were significant. These were found between self reliance and Blue, $r = -.22$, and self reliance and Green, $r = .21$. It was found that the model for predicting sociability had

three significant zero-order correlations. The first two zero-order correlations were found between sociability and Orange, $r = .47$, and sociability and Gold, $r = -.34$. The third was found between sociability and Green, $r = -.17$. Two significant and negative partial effects were also found for Gold and Blue within this model. Finally, the model for predicting leadership yielded one significant correlation with Blue, $r = -.19$, as well as a significant and negative partial effect related to the predictor variable Blue.

The models for the subscales within the general coping category yielded some interesting results as well. Specifically, four of the five models were significantly related to a combination of the four predictor variables. Ease of transition was found to be statistically significant, $F(4, 200) = 2.72, p = .031$, and significantly correlated with two of the predictor variables, Orange, $r = .18$, and Blue, $r = -.17$. The model for predicting self perceived family emotional support was also found to be statistically significant, $F(4, 200) = 5.42, p = .000$, and the partial effects of Green and Blue were found to be significant and negative. In addition, this model yielded two significant zero-order correlations. The first was found between family emotional support and Gold, $r = .24$, while the second was found between family emotional support and Green, $r = -.16$. The model for predicting openness, which was found to be statistically significant, $F(4, 200) = 2.90, p = .023$, yielded only one significant zero-order correlation. The significant zero-order correlation was found between openness and Green, $r = .15$. Finally, the model for predicting sense of financial security was found to be significantly related to a combination of the predictor variables, $F(4, 200) = 2.74, p = .030$. Only one of the zero-order correlations, Gold, $r = .16$, was found to be statistically significant in this model.

The lone model within the general coping category that was not significantly related to a combination of the predictor variables was career planning. However, this model was close to being statistically significant, $F(4, 200) = 2.36, p = .055$ and yielded two significant zero-order correlations. The first was found between career planning and Green, $r = .15$, while the second was found between career planning and Blue, $r = -.14$.

The final category for the models of the CSI subscales was receptivity to support services. The model for receptivity to academic assistance was statistically significant, $F(4, 200) = 3.14, p = .016$, and the partial effect related to the predictor variable Orange was significant and negative when holding constant the other predictor variables. Additionally, a significant zero-order correlation was found between receptivity to academic assistance and Orange, $r = -.23$. The model for predicting receptivity to personal counseling however, fell short of statistical significance, $F(4, 200) = .297, p = .879$, and none of the zero-order correlations were significant. The model for predicting receptivity to social enrichment was also not found to be significantly related to a combination of the predictor variables, $F(4, 200) = 1.79, p = .133$. However, the zero-order correlation between receptivity to social enrichment and Orange, $r = -.16$, was found to be significant. The receptivity to career counseling scale fell short of statistical significance as well, $F(4, 200) = .873, p = .481$. This model did not correlate with any of the predictor variables.

It was found that models for 11 of the 21 total CSI academic risk dimensions were significantly related to a combination of the four True Colors predictor variables. These 11 models included educational stress, intellectual interests, academic confidence, self

reliance, sociability, leadership, ease of transition, family emotional support, openness, sense of financial security, and receptivity to academic assistance. Specifically, the majority of the significant models consisted of general coping (4) and social motivation (3) variables as opposed to those relating to academic motivation (2) and receptivity to academic resources (1). The same can also be said for the models of the five summary scores, as educational stress was the only one found to be significantly related to a combination of the predictor variables.

The zero-order correlations, shown in Table 4, provided interesting results for a number of the CSI scales as well as further insight into each scale's individual relationship with each True Colors personality type. Overall, the data was consistent with the previous expectation that the the Orange and Blue personality types would exhibit characteristics (as predicted by the CSI) that suggest the possibility for future academic difficulty. Furthermore, the data also provided support for the expectation that the Green and Gold personality types would exhibit characteristics (as predicted by the CSI) that suggest future academic success.

Table 4.

Predicting College Student Inventory Scores from True Colors Scores

Criterion	Predictor								R^2
	Green		Gold		Blue		Orange		
	r	β	r	β	r	β	r	β	
Academic Confidence	.30*	.20	-.06	-.08	-.26*	-.17	.04	-.002	.11*
Attitude Toward Educators	-.01	-.17	.13	-.07	-.03	-.19	-.15*	-.26*	.04
Career Planning	.15*	.17	.14	.17	-.14*	-.01	-.10	.03	.05
Desire to Finish College	.01	.03	.08	.10	-.01	.03	-.06	.01	.01
Dropout Proneness	.07	.04	-.18*	-.19	.04	.01	.06	-.04	.04
Ease of Transition	.03	-.07	-.05	-.06	-.17*	-.21	.18*	.09	.05*
Educational Stress	-.13	-.04	-.01	-.03	.26*	.21	-.13	-.11	.07*
Family Emotional Support	-.16*	-.35*	.24*	.02	-.06	-.28*	-.10	-.21	.10*
Intellectual Interests	.26*	.21	-.04	-.13	-.05	-.01	-.17*	-.20	.09*
Leadership	-.02	-.18	.04	-.05	-.19*	-.29*	.12	.002	.06*
Openness	.15*	-.09	-.09	-.34	-.07	-.26	-.06	-.32	.06*

 $p < .05$

Table 4.

Predicting College Student Inventory Scores from True Colors Scores (continued)

Criterion	Predictor								R^2
	Green		Gold		Blue		Orange		
	r	β	r	β	r	β	r	β	
Predicted Academic Difficulty	-.14*	-.08	-.08	.003	.08	.07	.14*	.14	.04
Receptivity to Academic Assistance	-.05	-.11	.12	.05	.17	-.01	-.23*	-.28*	.06*
Receptivity to Career Counseling	.07	-.002	.02	-.10	-.01	-.06	-.11	-.17	.02
Receptivity to Institutional Assistance	.05	-.04	.05	-.12	.06	-.04	-.19*	-.27*	.04
Receptivity to Personal Counseling	.04	.08	-.05	-.02	.03	.07	-.01	.01	.01
Receptivity to Social Enrichment	.10	.05	.02	-.09	.03	-.01	-.16*	.20	.04
Self Reliance	.21*	.24	-.01	.11	-.22*	-.04	.08	.18	.07*
Sense of Financial Security	-.11	-.21	.16*	.08	-.09	-.19	.01	-.02	.05*
Sociability	-.17*	-.26	-.34*	-.28*	-.03	-.18*	.47*	.23	.25*
Study habits	-.03	.00	.20*	.18	-.01	.03	-.15*	-.04	.04

 $p < .05$

CHAPTER IV: DISCUSSION

The current investigation sought to determine whether there was a relationship between personality and predicted academic risk. This relationship was compared on four personality types (predictors), which included Green, Gold, Orange, and Blue, and twenty-one academic risk dimensions, which included academic motivation, intellectual interests, academic confidence, desire to finish college, attitude towards educators, social motivation, self-reliance, sociability, leadership, general coping, ease of transition, family emotional support, openness, career planning, sense of financial security, receptivity to support services, receptivity to academic assistance, receptivity to personal counseling, receptivity to social enrichment, and receptivity to career counseling.

The research findings provided a great deal of evidence to support the initial hypothesis regarding the relationship between each True Colors personality type and each College Student Inventory scale. A more detailed analysis revealed that Green and Gold personality types were more likely to correlate positively with CSI scales that predict future academic success and negatively with scales that predict future academic difficulty. Conversely, Orange and Blue personality types were more likely to correlate negatively with CSI scales that predict future academic success and positively with scales that predict future academic difficulty. Overall, those with Orange and Blue personality types were more likely to be academically at risk than were their Green and Gold counterparts.

Academic Motivation Summary Scores

To begin, it was found that the first academic motivation summary scale, dropout proneness, correlated negatively with the Gold personality type. This was consistent with Johnson, Pitts, and Lane's (2000) research as it suggested that those with higher levels of "Gold" personality characteristics such as emotional stability, maturity, conscientiousness, resourcefulness, and high morality were more likely to have lower dropout proneness scores and vice versa. This finding also supported Cappellman's (2005) research that showed that lower dropout proneness scores indicated a lower probability of academic risk.

Adding to this, the predicted academic difficulty summary scale was found to correlate positively with the Orange personality type and negatively with the Green personality type. These were interesting findings in that they provided further support for the hypothesis as well as demonstrated a strong relationship between the Green personality type and lower chances of academic difficulty as well as a relationship between the Orange personality type and higher levels of predicted academic difficulty. This relationship was also demonstrated in the Gold and Blue personality types to a much lesser extent. Though the correlations were not significant, the correlation coefficient for Gold was negative while the correlation coefficient for Blue was positive.

Next, the CSI summary scale for predicting educational stress correlated positively with the Blue True Colors personality type. This was a significant finding because, based on the True Colors literature, the Blue personality type values balance, harmony, and prefers life free from tension (True Colors Inc., 2005). However, research

by Johnson, Pitts, and Lane (2000) provided significant correlations between select personality traits and academic achievement that are contrary to this description. As noted earlier, they found that “underachievers,” those determined to be at risk, exhibited characteristics including high extraversion, warmth, kindness, a tendency to be affected by feelings, expressiveness, high group-orientation, and a willingness to participate (Johnson, Pitts, Lane, 2000), all of which are characteristics of the Blue personality type. Drawing from this, it can be determined that those exhibiting Blue personality characteristics, despite their tension-free disposition, actually had a higher chance of suffering from educational stress due to their tendency to be academically at risk.

The final CSI summary scale, receptivity to institutional assistance, was found to correlate negatively with the Orange personality type. Specifically, Orange characteristics such as independence, spontaneity, restlessness, and a reliance on unstructured discipline suggested that a student with such traits would be less likely to be resourceful and receptive enough to fully take advantage of institutional assistance. Conversely, the opposite effect was demonstrated in the Gold, Green, and Blue personality types, albeit to a much lesser extent. Though the correlations were not significant, the correlation coefficients for Gold, Green, and Blue were positive. This is consistent with the True Colors literature as the Gold, Green, and Blue personality types are all described as open to utilizing outside resources.

Motivational Assessment Categories

The results for the remaining 17 motivational assessment scales that included academic motivation, social motivation, general coping, and receptivity to support

services variables also provided a great deal of insight.

Academic Motivation. Within the academic motivation category, the study habits scale was found to correlate positively with the Gold personality type and negatively with the Orange personality type. According to the Florida Institute of Technology and Counseling Services (2005), higher study habit scores indicate a large amount of time and effort put into studies. Drawing from this, it can be determined that Gold personality types are more likely to focus on their studies and thus avoid being at risk academically. Furthermore, as Orange personality types were more likely to have lower study habit scores, they would be more susceptible to academic struggles.

The next academic motivation scale, intellectual interests, was found to correlate positively with Green and negatively with Orange. Again, this supported the expected relationship as the finding suggested that Green personality types display a higher degree of interest and comfort with reading, abstract ideas, and intellectual activity than did Orange personality types. Conversely, the Orange personality type, which typically utilizes an undisciplined approach, may dedicate less time to reading and serious course discussion unless presented with a learning style that satisfies the student's need for straightforward and practical thinking. The College Student Inventory recommends that students with low scores on the intellectual interests scale develop an academic schedule to increase knowledge in their specific areas of study.

The third academic motivation scale that correlated with the True Colors predictor variables was academic confidence. Specifically, this scale correlated positively with the Green personality type and negatively with the Blue personality type. Such findings

indicated that students with Green personality types tend to have a higher degree of confidence regarding their studies and ability to do well in college. This coincided with the True Colors literature as it describes the Green personality type as having a great deal of personal security and self esteem resulting from the strong values placed on intellectual capabilities. However, although high scores may be positive, they may also suggest overconfidence (Florida Tech Counseling & Psychological Services, 2005). Therefore, it is critical to evaluate these scores in conjunction with the other CSI scales such as study habits. Conversely, since the Blue personality type was already shown to correlate positively with educational stress, it follows logically that students exhibiting such characteristics would also have lower levels of academic confidence. In addition, the Blue personality type's tendency to be affected by emotions could lead to self-doubt which was evidenced by lower academic confidence scores. However, the Florida Institute of Technology and Counseling Services (2005) notes that low scores may not be based on their actual potential but rather on bad experiences in school. Since greater confidence often leads to greater success, it can be expected that students exhibiting Blue personality characteristics may benefit from academic counseling services.

The fourth academic motivation scale, desire to finish college, measured the strength of students' commitment to completing a degree. High scores indicated a well-developed appreciation for the value of a college education while low scores indicated doubts about the value of a college education (Florida Tech Counseling & Psychological Services, 2005). Though there were no significant correlations found for this scale, it was interesting to see that the correlation coefficients for the Gold and Green personality

types were positive while the coefficients for the Orange and Blue personality types were negative. Though not significant, these results do shed some light on the positive academic intentions of students with Gold and Green personalities. It can also be said that those who may have doubts about the value of a college degree, such as Blue and Orange personality types, may become academically at risk because of such an outlook.

The fifth and final academic motivation scale was attitude toward educators. The only True Colors personality type to correlate significantly with this scale was Orange. The negative correlation found between these two indicated that students with Orange personality types were more likely to have lower attitude toward educators scores. Furthermore, these low scores may have indicated that such students had negative perceptions that made it difficult to accept their teachers and consequently may have hurt their attention and effort in school (Florida Tech Counseling & Psychological Services, 2005).

Social Motivation. All three scales within the social motivation category were found to correlate with at least one of the True Colors personality types. The first scale, self-reliance, which measured the degree to which students trust their own judgment and make their own decisions, correlated negatively with Blue and positively with Green. Drawing from this, it can be expected that those with Green personality types have a strong sense of independence and ability to resist social pressures that could ultimately lead to academic risk. Conversely, the findings also suggested that those exhibiting Blue personality characteristics may be much more prone to express themselves through spending too much time seeking companionship, going along with social activities that

violate their values, and feeling uncomfortable with the solitude of studying, all of which may lead to academic difficulty (Florida Tech Counseling & Psychological Services, 2005).

The second social motivation scale, sociability, was found to correlate positively with Orange and negatively with Gold and Green. Based on the finding for the Orange personality type, the higher sociability scores associated with those exhibiting such personality characteristics may indicate a high level of motivation to establish friendships and spend time with others. However, this may also distract the students from their academic responsibilities and thus lead to future difficulties. Conversely, the negative correlation found for the Green and Gold personality indicated that those exhibiting such personality characteristics may have the advantage of having a great deal more time for studying because of their lower levels of sociability.

The final social motivation scale, leadership, revealed only one negative correlation with the Blue personality type. This scale measured the degree to which students feel accepted as a leader. As such, this finding suggested that students exhibiting Blue personality characteristics would be more likely to be uncomfortable in a leadership role. Furthermore, because the skills required for leadership are consistent with those necessary for high academic performance, it was not surprising to see that such students who scored low in this area also tended to be some of the more maladapted students. In addition to low leadership scores, students with Blue personalities were also found to have higher levels of educational stress and lower levels of academic confidence than their counterparts.

General Coping. Within the general coping category, the first scale, ease of transition, was found to correlate positively with the Orange personality type and negatively with the Blue personality type. The finding for Orange indicated that such students were more likely to feel comfortable with the various changes brought on by college life. In addition, students with Orange personality types also scored higher on the sociability scale which may further ease the transition to college because the students are more likely to actively develop a social support network. However, as such students have been shown to score high on the predicted academic difficulty scale and low on the study habits scale, it is possible that the students interpreted their self report responses based on their social ease of transition rather than their academic ease of transition. Conversely, the finding for Blue indicates that such students are more likely to experience considerable stress at the time of transition. This finding is consistent with the True Colors literature which describes the Blue personality type as placing high worth in relationships and feelings of belongingness. Because of this emphasis on belongingness, such students are often more affected by the loss of their social support networks when thrust into new environments. Furthermore, as these students have also been found to score lower on the academic confidence scale and higher on the educational stress scale, it is possible that the initial stress experienced in the transition phase to college can ultimately have a negative effect on academics.

The second general coping scale, family emotional support, was found to correlate positively with the Gold personality type and negatively with the Green personality type. The finding for Gold was consistent with the True Colors literature

which describes this type as strongly emphasizing the concepts of home and family. Therefore, the higher scores yielded by students with such personality characteristics indicated that they were more likely to feel emotionally accepted and supported by their family. In addition, such students were less likely to be distracted or preoccupied with family problems and thus are more able to focus on academics. A possibly related result was found between the Gold personality type and the next general coping scale, sense of financial security, which measured the students' satisfaction with the amount of money available to them. Specifically, the two were found to correlate positively. It is possible that the family emotional support scores for the students with Gold personality types were affected by their sense of financial security as evidenced by the positive correlations with Gold on both scales. For example, a student who receives financial support from family members may interpret this as positive emotional support. Conversely, a lack of financial security could in fact lead to stress and conflict between students and their family members. Such may be the case for the Green personality type, which was found to correlate negatively with the family emotional support scale and, though not significant, yielded a negative correlation coefficient on the sense of financial security scale. Nevertheless, though these two general coping scales alone may not have directly indicated future academic risk, they may have compounded the effects of other negative academic traits already present.

The fourth general coping scale, openness, yielded only one positive correlation with the Green personality. Again, this was consistent with the True Colors literature which describes the Green personality type as having a strong interest in the pursuit of

knowledge and new ideas. Since this scale measured students' receptivity to new and unconventional ideas found at the college level, this finding may have indicated that students with Green personality characteristics were more likely to be comfortable with such information and consequently less likely to reject these ideas. Furthermore, the positive correlation found between the Green personality type and the intellectual interests scale as well as the negative correlation with the predicted academic difficulty scale suggested that the relationship between higher openness and intellectual interest scores may have a positive effect on predicted academic difficulty scores.

The final general coping scale, career planning, measured the amount of serious thought students have given to their career choice. The results yielded a positive correlation with the Green personality type and a negative correlation with the Blue personality type. These findings suggested that students with Green personality characteristics were more likely to have a serious and mature attitude toward their occupational plans as opposed to their Blue counterparts who may need to give more careful thought to the type of work they value and enjoy, the current availability of jobs for college graduates, and to the specific training they will need. In terms of academic risk, a student who gives serious thought to his/her career may also realize the need to take studies more seriously and thus may be less likely to have academic difficulty throughout his/her college tenure.

Receptivity to Support Services. The College Student Inventory was designed to address university attrition rates. As such, one area of specific concern has been intervention. Specifically, this has been addressed by assessing students' receptivity to

intervention services such as academic assistance, personal counseling, social enrichment, and career counseling. The only two scales in this category that correlated with at least one of the True Colors personality types were receptivity to academic assistance and receptivity to social enrichment. The academic assistance scale was found to correlate negatively with the Orange personality type, suggesting that such students may not be as open to receiving university provided academic help as others. In terms of learning styles, the True Colors literature describes the Orange personality type as relying on a here and now approach. Because scheduled university academic assistance is unlikely to provide immediate results for these types of students, alternative methods may need to be explored in order to accommodate such unstructured discipline.

The receptivity to social enrichment scale was found to correlate negatively with the Orange personality type. This may be the case because the Orange personality type correlated positively with the sociability and ease of transition scales, suggesting that such students are adjusting well to the social aspect of college life. As a result, these students may not have necessarily needed social enrichment and would thus not have been as receptive to such services. The final two scales within this category, receptivity to personal counseling and receptivity to career counseling, were not found to correlate with any of the personality variables. However, it was interesting to see that although not significant, the correlation coefficients for the Green and Gold personality types within the career counseling scale were positive while the coefficients for the Blue and Orange personality types were negative, the same results yielded for the career planning scale.

Implications

While this research provides a great deal of evidence to support the initial hypothesis, there are many more implications for future research and applications of the True Colors Research Word Sort. Future research may seek to expand upon the predictive component of the current findings by implementing a longitudinal approach to track the GPA of the students in the sample group across their college tenures. Such research would not only provide the concrete evidence necessary to determine whether or not the students with Orange and Blue personality types actually were at risk academically, but it would also provide the relevant data to determine if the students with Green and Gold personality types were more successful overall. In addition, a second component could be implemented in which the True Colors Research Word Sort would be administered to the same group of students every fall and then compared against their current and past GPAs. This may provide further insight into whether or not changes in GPA are related to fluctuations in personality characteristics.

Dependent on the results of the longitudinal study, there may be many opportunities for application of the True Colors Research Word Sort within the university setting. For example, teachers may find it useful to administer the inventory to their classes at the beginning of each semester in order to gain a better perspective of each student's characteristics, motivations, and learning preferences. In addition, teachers could use this information to alter their teaching styles accordingly as well as monitor those who may be more prone to falling behind with coursework. Although concerns

such as class size may limit this approach, the inventory itself is easily administered and scored, making it a highly practical measure.

The True Colors Research Word Sort could also be utilized by guidance counselors within each academic department and resident assistants within the student dormitories. Utilized properly, this personality measure could provide guidance counselors with the information necessary to effectively counsel students regarding their academic futures. For instance, a guidance counselor who knows that his/her student exhibits largely Green characteristics may suggest a major in an area of science as opposed to public relations which may appeal to someone with more Orange personality characteristics. Conversely, a student exhibiting primarily Blue personality characteristics who expresses dissatisfaction with his/her chemistry major may find more satisfaction with a family therapy or education major. Ultimately, having a greater understanding of students' underlying motivations and interests may be the key to improved academic counseling services. Regarding the implementation of True Colors within student dormitories, resident assistants may find the measure to be effective in promoting and developing an environment conducive to academic achievement through a better understanding of the students for whom they are accountable. In addition, resident assistants could also use this information to sharpen their advising skills and broaden their knowledge of the many academic resources necessary to meet the needs of each different type of student.

Limitations of the Research

This study has several limitations that require further discussion. The current study sought to explore the relationship between academic risk, as predicted by the College Student Inventory, and personality type, as predicted by the True Colors Research Word Sort. However, issues associated with the relationship between academic risk and the True Colors Research Word Sort have not been extensively covered in the research literature. Hence, the current study depends more on inferences drawn from related research. As previously noted, the predictive nature of this study warrants more research to explain and support the conclusions drawn from the current findings.

Another limitation is the fact that this study was based on previously collected data from within a classroom setting. Since the data collection was conducted by a group of outside administrators, inconsistencies within the data may have been a contributing factor to the lack of correlation between some of the dimensions and predictor variables in certain instances. Furthermore, the administration of the two inventories at different times during the fall semester could have led to some variability between the CSI results and True Colors results. The ideal research scenario would have included an assessment of the students' personality characteristics at the beginning of the semester, consistent with the process used for the College Student Inventory. A host of other environmental factors related to the classroom setting may have also played a role in the findings such as fatigue, or stress related to coursework. Since the data was not collected under tight research controls, this is impossible to determine.

A third limitation involved anonymity for students. Due to the personal information collected by the College Student Inventory, it could be speculated that students believed identifiers might be attached to the data, therefore causing them to report their overall academic habits in a more favorable light. Regarding the self report nature of the True Colors Research Word Sort, students may have responded based more on how they would like to be outwardly perceived rather than providing accurate responses.

The final limitation that may have affected the College Student Inventory, the True Colors Research Word Sort, and the study as whole is motivation. Quite often, students who are obligated to complete such inventories lack the motivation to take the measure seriously and answer truthfully. As a result, data from these students could have been skewed on one or both of the measures.

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