Academic Achievement: The Interaction between Personality and Mental Health

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ABSTRACT

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Intelligence is valued in many societies, as intelligent people are expected to be successful, financially stable, and secure stable positions. Whereas this may be the end result, the process may be difficult for many gifted and talented (GT) students. In fact, gifted/talented students rate higher levels of depression than non-gifted students (Jackson, 1998; Person, 2001; Jackson & Peterson, 2003). Yet, research has been equivocal in these findings. In addition, gifted students tend to score higher on self esteem as compared to non-gifted students which is contrary to depression (Jackson, 1998). Influencing these variables are personality characteristics, such as motivation, neuroticism, and conscientiousness. The purpose of this study was to investigate depressive symptomology in students labeled as gifted and compare those scores to students not labeled as gifted. Personality characteristics associated with highly achieving or gifted students were also investigated. Participants were 115 college students from a Southeastern university. They completed personality, depression, and achievement tendency scales. Results indicated that both GTs and the sample as a whole had low depression scores. GTs were found to have higher achieving tendencies than non-GTs. Conscientiousness and Openness to Experience were considered to be indicative of giftedness.

Academic Achievement: The Interaction between Personality and Mental Health

Intelligence is valued in many societies, as intelligent people are expected to become more successful, earn more money, and secure stable positions. Where the end result might be achieved, the process may be difficult for many gifted and talented (GT) students. In fact, having an intelligence superior to one's peers does not automatically guarantee success for a GT. There is a small body of literature showing higher levels of depression in GTs than normal children, but there are numerous confounds when trying to define what exactly it means to be a gifted student (Peterson, 2001; Jackson & Peterson, 2003; Jackson, 1998).

In addition, educators and parents alike must be able to recognize what motivates their GT, whether intrinsic or extrinsic. A significant part of making that determination relies upon the personality characteristics (e.g., neurotic, extraverted, openness) of the GT. What effect does this have on their academic performance? Determining that is one of the goals of this research. In addition, we will explore the effects of these personality characteristics.

We compared students in the University Honors College (UHC), students accepted to the Gamma Beta Phi Honors Society and students labeled gifted or talented to Introductory Psychology students. The purpose of this study was to provide additional evidence on the relationship between depression and GT's, and what personality characteristics are associated with GT's and depression.

Intelligence and Giftedness

Defining and standardizing the term "gifted" has been difficult (Dai et al., 1998, Jackson & Peterson, 2003), with most literature establishing a minimum IQ between 130

and 145 (Field et al., 1998, Jackson 1998, Jackson & Peterson, 1998). Given this challenge, much of GT research has focused on studying intelligence (IQ) or academics (GPA) (Dai et al., Field et al., Jackson, Jackson & Peterson) due in part to the quantifiable nature of these measures. Jackson defined giftedness as "asynchronous development in which advanced cognitive abilities and heightened intensity combine to create inner experiences that are qualitatively different from the norm" (p. 215). For the purposes of this study, we defined giftedness using a self-report from participants using three different criteria; having already been labeled gifted by a previous elementary or middle school, being in the UHC or an honors society, or having taken advanced placement (AP) classes in high school.

Depression and Giftedness

Conflicting research on the incidence of depression in GTs currently exists (Jackson & Peterson, 2003, Field et al., 1998). Jackson (1998) and Peterson (2001) found higher levels of depression in GTs. Jackson studied 10 GT's, aged 16 to 19 without mention of gender, from an educational gifted program that ensured a minimum IQ of 130. They were administered a check sheet of depressive symptoms based on the Diagnostic and Statistical Manual of Mental Disorders, 4th ed., text revision (DSM-IV-TR) criteria for depression (APA, 2000). All GTs self-reported symptoms of depression. The study considered an affirmative response of at least three criteria (e.g. depressed mood most of the day, nearly every day; markedly diminished pleasure in formerly pleasurable activities) to meet depression standards. The duration of depressive symptoms was two weeks to two years, with an average of two months. It is important to note that three depressive symptoms are not indicative of a diagnosis of depression. As

such, it is possible that GTs have similar symptomology as non GTs. In addition, the study was limited by the number of participants and it is common for depressive symptoms to occur during adolescence. However, it is important to note that GTs were reporting depressive symptomology.

Jackson (1998) theorized that communication influences depressive symptoms for GTs. She suggested three major needs that the GT must satisfy to be non-depressed. The first requirement is a pursuit of universal and personal knowledge. The drive for this knowledge is frequently expressed at a younger age than their peers. Jackson suggests that GT's are unaware of their developmental asynchrony, the use of complex reasoning at a younger age and a heightened intensity than their peers. The second requirement is a need for communication. A large portion of GT's are unable to communicate with a true peer group because they have few or no intellectual and developmental equals. With this lack of communication, gifted students may fall into a depression and then compound this depression by not being able to cope with it on their own. Their perceived failure to be able to overcome a depressive state by cognitive ability seems to equate to an overall sense of failure. The third need of a GT is a need for a means of expression. It logically follows that, given an unusual desire for knowledge and an inability to communicate with a peer group or express their knowledge or understanding, there is a potential for high level of depression in a GT. These theories however, were not tested, and future research should investigate how communication leads to depression.

In contrast, Field et al.'s (1998) study on GT's and depression did not find higher levels of depression. Participants were 224 high-school students with an average age of 14.5 years. There were 117 females and 107 males in the study. Sixty-two of the

participants were identified as gifted, based upon participation in the school's gifted program, which ensured a minimum IQ score of 130. They were administered several questionnaires including: The Center of Epidemiological Depression Scale (CES-D), the Self-Esteem Scale, and the Perceptions about Giftedness Scale.

GT's reported medium to high depression scores as measured by the CES-D. The CES-D is a 60-item self-report measure that identified low, medium, and high levels of depression. Higher scores indicated more symptoms or a higher frequency of symptoms during the past week, with an arbitrary cut-off score for medium and high levels of 16 (Radloff, 1977). The mean scores on the CES-D for the GTs was 20.3 (SD = 9.8) while the mean scores for non-gifted were 21.6 (SD = 11.7), both reflecting medium to high depression scores. While the mean depression score was high for GT's, results were not significant.

Regarding self esteem, differences existed between gifted and non gifted students as measured by The Self Esteem Scale. The Self-Esteem Scale had students compare themselves with their peers on 20 identifying characteristics (e.g., happy, fearful, independent, good at sports). In addition, the students and teachers were administered intimacy, family responsibility, and risk-taking measures. GT's self-reported an average or above average self-esteem compared to their non-gifted peers. It is unknown whether the GT's based their self-esteem on giftedness. In addition, above average self-esteem is contrary to depressive symptomology. Thus, future research is necessary to investigate GTs and depression.

The Intimacy Scale was a 24-item scale used to assess levels of intimacy with mother, father and best friend. Higher scores signified greater intimacy. Gifted and non-

gifted students rated best friends highest, followed by mothers, and then fathers. The Family Responsibility Taking Scale was a 10-item measure used to assess the student's feelings of responsibility within the family. The Risk-taking Scale was designed to identify sensation-seeking behavior (e.g. sky diving, scuba diving, white-water rafting). Results on responsibility-taking and risk-taking were not published.

Regarding perceptions of giftedness, the teachers rated the GTs as much more likely to be unhappy with their giftedness. Sixteen percent of the GTs responded true to the statement on the Perceptions of Giftedness scale: "Sometimes I wish I wasn't gifted," whereas 100% of the teachers responded true to the same statement. This may indicate that teachers perceive gifted students as outcasts among their traditional peer group. This is important as the teacher's perception of the GT is directly related to how the teacher will interact with the student and how the student will respond.

Other research has also found no higher levels of depression in GTs. Metha and McWhirter (1997) found similar levels of depression among gifted and non-gifted participants alike. In a study of 72 seventh- and eighth-grade students, Metha and McWhirter administered the Adolescent Life-Change Event Scale (ALCES) and the Beck Depression Inventory (BDI). In addition, they also measured suicide ideation by summing three possible responses, two from the ALCES and one from the BDI.

The ALCES was a 33-item questionnaire used to measure perceived stressfulness of life-changing events. Participants were given life event examples and were asked their perception of the life event. Response options in Part 1 ranged from "A= not at all upset" to "E= extremely upset," and in Part 2, participants were given the same list of life events and were asked if they had experienced this event in the past year. Univariate analyses

showed a significantly fewer number of life-change events (e.g., parents' divorce, getting a job, and moving to a new home) in gifted students, but no significant differences in perceived stressfulness of these events.

Regarding depression scores, the BDI consisted of 21 sets of statements about recent feelings or behaviors. Scoring on the BDI involved totaling numerical values of each item (0 to 3) for a total range of 0 to 63. Scores below 10 are considered not depressed, between 10 and 15 as mildly depressed, 16 to 23 as moderately depressed, and above 23 are severely depressed (1997). Results indicated that gifted students did not differ significantly in depression levels or suicide ideation as compared to non gifted students.

Depression is also associated with self esteem and self-efficacy (Mone, 1995). Individuals who suffer from depression report lower self-esteem and lower self efficacy. Depression, self-esteem and self-efficacy all relate to academic achievement. Mone has shown that self-efficacy is a much better predictor of success than self-esteem. Self-efficacy, a student's perceived ability on a specific task, was significantly predictive of personal goals and performance, whereas self-esteem was not. Additionally, Dai et al. (1998) described achievement using a model that shows self-efficacy has a direct impact on effort and goal commitment.

Abouserie (1995) found a strong positive correlation between deeper levels of information processing and higher self-esteem. In the study with 135 participants, 113 female, 22 male, four measures were given to the students: the Approaches to Studying Inventory (ASI), the Inventory of Learning Processes (ILP), the Rosenberg Self-Esteem Scale, and the Achievement Motivation Scale. A shortened version of the ASI was used,

comprising of a 30 item, seven subscale questionnaire. The items measure facets of learning, including achieving orientation, reproducing orientation, and comprehensive learning. Alpha levels for internal consistency ranged from 0.11 to 0.56. The justification for levels such as 0.11 is that the brevity of the scale does not allow for high internal consistency on some scales, however, the results should be viewed as a whole as opposed to individual subscales. The ILP is a true/false 62-item, four-subscale measure designed to determine the typical study behavior of college students. The alpha levels of this scale ranged from 0.56 to 0.78, showing a higher internal consistency. The self-esteem scale was a 10-item measure used to assess the self-esteem of the participants. Responses were measured on a 4 point Likert scale, ranging from strongly agree to strongly disagree. The alpha level for this scale was 0.85, suggesting a high internal consistency.

Abouserie (1995) conducted a multiple regression analysis and with those results, reported that students with shallow information processing such as memorizing data are negatively correlated with high self-esteem. The implication is that the student with a high self-esteem looks for meaningful ways to understand the information presented. It follows that if GT's process information in more complex ways, they should have higher self-esteem (Jackson, 1998).Thus, being intellectually gifted could be a protective factor against depression.

Achievement Motivation

Educators and administrators are confronted with the problem of how to motivate students to learn new material every year. Experienced educators are more capable of motivating most students, yet some students fail to achieve even basic minimums.

Confounding the situation, bright and capable students sometimes fail and average students greatly excel. Some students react very differently to success and failure (Dai, Moon, & Feldhusen, 1998). Knowing what motivates students is vital to increasing their performance (Oliver, 1995), and research has shown that competition (Tripathi, 1992), goal setting (Harackiewicz, Barron, Tauer, & Elliot, 2002, Isaacs & Duffus, 1995, Leondari et al., 1998), high self-esteem (Abouserie, 1995) and initiative (Hall, Spruill, & Webster, 2002) improve the final outcome. Knowing this information about a GT and applying it to their education would greatly enhance many facets of their academic life.

Deci and Ryan (1985a) discussed two types of motivation based upon what stimulus is most motivating and how the person reacts to this stimulus. They called these two types intrinsic and extrinsic motivation. A person who is intrinsically motivated is motivated by internal goals, an autonomous sense of right and wrong. An extrinsically motivated person takes their cues from society and is motivated by external means, such as rewards or punishment. Deci and Ryan expanded on this concept and added a third motivational orientation that considered an interpretation of events as amotivating and leading to a lack of action (1985b). They discussed these motivational types as orientation dispositions focusing on their causality, and described them as autonomy, control and impersonal orientations. Deci and Ryan stated that these motivational orientations were not points on a continuum, but distinct dispositions.

Deci and Ryan (1985b) created the General Causality Orientations Scale (GCOS) based upon their previous research in this area. As stated before, Deci and Ryan identified three causality orientations; autonomy, control and impersonal. The autonomy orientation centers on a strong internal drive and self-regulation of behavior. People with

a more autonomous orientation tend be more intrinsically motivated. The control orientation involves behavior resulting from what a person thinks they "should" do, and events themselves are considered controlling as opposed to the person themselves. People who are control oriented have behavior more determined by extrinsic factors. The third orientation, impersonal, describes people who are unable to regulate their behavior in such a way to bring about desired outcomes, such as high grades in school or determining an effective career path. The impersonal orientation encompasses a feeling of general incompetence and inability to master situations (Deci & Ryan, 1985b p. 112).

The GCOS is a 36-item questionnaire with 12 vignettes, three items per vignette, with each item representing each of the three causality orientations. Each item is rated on a 7 point Likert Scale, and respondents mark how much an item relates to their style of thought. The 12 vignettes vary in content about situations from applying for a job, going to a party, failing an exam, and being a supervisor. Each item per vignette represents each orientation, thereby allowing respondents to show how closely their reactions match the items. Deci and Ryan administered a preliminary scale to 200 undergraduates, then a revised scale to 923 undergraduates and 193 non-student participants. The data from 636 participants was used to assess reliabilities and temporal stability of each scale.

Deci and Ryan correlated subscale totals to a variety of personality constructs; including self-esteem, depression, and locus of control (LOC). Self-esteem was positively correlated (.35) with the autonomy orientation, and negatively correlated with the impersonal orientation (-.61). Depression correlated negatively with autonomy, and positively with impersonal orientations. The LOC scale was scored for external control and found positive correlations with impersonal (.52) and control (.29) orientations.

Deponte (2004) took these concepts and applied them to an Italian population, and it is important to note that these results might not generalize to an American population. Deponte refined the definition of autonomy into two types: reflective autonomy, the kind that Deci and Ryan (1985b) discuss; and reactive autonomy, with is shown by a freedom from the influences of others and emotional detachment. Deponte hypothesized that each causality orientation; autonomy, control and impersonal, should correlate with a typical personality pattern with a high distinctive profile. Deci and Ryan viewed the autonomy orientation as the highest level of psychological development, with the person balancing internal needs and goals with societal demands. The results of both Deci and Ryan and Desponte revealed no correlation between autonomy and either control or impersonal orientations, confirming autonomy as an independent characteristic.

Deponte (2004) tested 702 undergraduate students, 211 male and 491 female, from an Italian University. The mean age was 20.8 years, with a SD of 3.9 years. Participants were administered the GCOS; and to keep the test at a nominal length, Deponte split the other measures among the participants, giving participants one or two additional measures. The additional measures were the Social Desirability Scale (SDS), the Self-consciousness Scale (SCS), the Self-Monitoring Scale (SMS), the NEO-FFI, and the Adjectives Check List (ACL).

The SDS was administered to 195 participants. The primary purpose was to check for possible bias in the GCOS item selection; however it was designed to assess participants' tendency to present themselves in a favorable light. Specific results were not published.

The SCS was designed to assess individual differences in regulating behavior as a function of situational cues. Significant correlation coefficients were observed between private self-consciousness and Autonomy, suggesting a highly self-actualized personality; public self-consciousness and Control orientation, suggesting a highly regulated self-image; and social anxiety and Impersonal orientation, suggesting a negative self-image. Identifying these behaviors will allow educators and parents to identify which orientation a GT is expressing, thereby giving educators and parents the opportunity to encourage and/or help change the educational path of the GT.

The SMS was administered to 105 participants. Participants with high scores on the SMS tend to manifest situational appropriate behaviors, meaning those who score low on the SMS appear insensitive, whereas those who score high display behavior inconsistent with their personality. Results indicated a negative correlation between social skills and both the Impersonal and Autonomous orientations. It is surmised that both groups do not regulate their behavior inside their social group. GTs who behave inappropriately in a given situation can be approached as displaying low self-monitoring and should be considered as such, as opposed to being labeled disruptive and punished.

The NEO-FFI is a personality inventory designed to categorize participants across five global personality traits. The NEO-FFI was administered to 108 participants. Results indicated a moderately strong negative correlation between the Control orientation and Agreeableness, suggesting a desire to please others. Autonomous participants' scores correlated with both Extraversion and Agreeableness, implying high levels of attention to interpersonal communication. Impersonal orientated participants scored higher on Neuroticism and lower on Extraversion and Conscientiousness, suggesting a discomfort

with social situations, leading to inaction in social events. These specific personality factors can be used to augment a particular teaching style to the GTs displaying a particular personality trait. A lesson can be taught more effectively the more it is in line with the GT's personality.

The ACL was a checklist of 300 adjectives, and participants were asked to check those adjectives that were seen as self-descriptive. Autonomous participants showed a positive correlation with favorable adjectives, and Impersonal participants showed a negative correlation with favorable adjectives. Autonomous participants are perceived as being expansive, nurturing, and productive, where Impersonal participants are perceived as socially incompetent, inferior, and anxious. These results suggest a tendency toward depression in people with an Impersonal orientation. Given this information, educators can be more aware of low performing GT's self-image, and adjust their interpersonal communications with the GT.

Big Five

Costa and McCrae (1992) developed a five-factor model of personality consisting of five orthogonal traits: Neuroticism, Extroversion, Openness to Experience, Agreeableness, and Conscientiousness. Neuroticism is defined as a susceptibility to psychological distress, irrational ideas, and poor impulse control. The trait Extroversion is displayed by characteristics of sociability, assertiveness, cheerfulness, and being energetic. Openness to Experience covers dimensions such as imagination, intellect, curiosity, and willingness to entertain novel and unconditional values. Agreeableness discusses the presence or lack of sympathy, cooperation, and altruism. Conscientiousness is defined as a control of impulses, and abilities to plan, organize and carry out a task.

There s a body of literature to support several of the Big 5 personality traits as strong predictors of academic success (see Ridgell & Lounsbury, 2004 for list). Overall, agreeableness, conscientiousness, and openness to experience are all predictors, with conscientiousness being the most reported. Ridgell & Lounsbury (2004) evaluated the validity of the Big 5 and general intelligence as predictors for overall GPA and a single course grade. The intelligence scale that was used was a 30 item test measuring numerical and verbal reasoning. Ridgell & Lounsbury used the Personal Style Inventory, a 136-item personality inventory developed by Lounsbury to assess personality types. Responses were measured on a 5 point Likert scale with alpha levels ranging from .69 to .90 correlating to the Big 5.

Ridgell & Lounsbury (2004) hypothesized that a single course grade would have better validity to predict intelligence than overall GPA due to the variability in courses and instructors. They used Barrick and Mount's (1991) definition of the Big 5, which includes Emotional Stability, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness as traits, as that their study was a meta-analysis as opposed to a theory or a personality inventory.

The study of 140 introductory psychology students, 64 female and 76 male with an average age of 19.18 years, found that the single course grade in Introductory Psychology and the overall GPA were correlated, and that both were correlated with intelligence, thus negating their hypothesis. The participants' year in school was skewed toward the freshman year, with 73% in their freshman year, 20% sophomores, 3 % junior, and 4% senior. The study also found that in contrast to other literature, only emotional stability (labeled neuroticism by Costa & McCrae) significantly correlated with the single

course grade. The suggested implication was that the freshman participation was much higher, and that a lack of maturation and unrefined study habits could account for the inconsistencies.

Given this information, it is hypothesized that the results of our questionnaire should show a correlation between GT's and conscientiousness and neuroticism. Additionally, the self-identified GT respondents are expected to show a higher GPA than non-GTs.

Autonomous participants in the Deponte (2004) study tended to describe themselves as extraverted and agreeable, having a positive view of how others see them, but not pressured to conform to societal expectations. Impersonal orientated participants, in contrast, tended to avoid stressful situations and seek subordinate roles, two characteristics that could be attached to an introverted personality. These results indicate that GTs have an extraverted personality, however some research discusses that GTs are inclined to be more introverted than their peers (Jackson & Peterson, 2003, Wallace, 1999).

In a study, Furnham, Moutafi, and Chamorro-Premuzic (2005) investigated the relationship between intelligence and the Big Five personality traits. This study reported a significant negative correlation between intelligence and Neuroticism ($r = -.15$) from a previous meta-analysis. This suggests that as intelligence increases, neuroticism decreases. Correlations were also found between intelligence and extroversion ($r = .21$ for males, $r = .19$ for females). Openness to Experience correlated most strongly with intelligence ($r = .40$ to $.65$) and Conscientiousness ($r = .27$). Agreeableness was least correlated with intelligence ($r = .01$).

Hypotheses

Hypothesis 1

Regarding depression, there will be a significant relationship between gifted students and depression, as measured by the CES-D.

Hypothesis 2

Regarding achievement motivation (measured by the MACH), there will be a significant difference between gifted students and non-gifted students.

Hypothesis 3

Hypothesis 3: An exploratory analysis was conducted to assess people's views of gifted students and personality traits, based on the NEO-PI. It is expected for Agreeableness, Openness to Experience, and Conscientiousness to be associated with gifted students.

Method

Participants

Participants were 115 (men, N = 40, women, N = 75) college students recruited from Introductory Psychology classes, the University Honors College (UHC), and the honor society Gamma Beta Phi (GBP). The average age was 19.86 (SD = 4.59). Thirty-nine percent of the participants considered themselves Caucasian, 22.5% as African-American or Black, 24% as Native American, 5% as Hispanic, 3% as Asian, and 2% as other. The mean annual income was $16,000. Participants had an average ACT score of 23 out of 36, and averaged 996 out of 1600 on the SAT. Of the 25% who were identified

as gifted or talented, the mean age of identification was 9.7 years old, with a SD of 2.5 years.

Measures

The following measures were presented in the following order to participants in a booklet format. Completion time ranged from 15 to 25 minutes.

Demographic Questionnaire. A 15-item survey was included to analyze participants' age, sex, ethnicity, marital status, cumulative college and major GPA, educational status, labeling of gifted or talented, affiliation with UHC or GBP, previous placement in Advanced Placement (AP) classes, SAT / ACT scores, high school GPA and rank, and total annual income.

The Center for Epidemiological Studies Depression Scale (CES-D, Radloff, 1997). The CES-D is a 20-item self-report that measures current depressive symptoms in the general population to determine low, medium or high levels of depression. This scale was used because of its brevity and ease of scoring. Score responses range from 0 (rarely) to 3 (all of the time), with a maximum possible score of 60. As discussed earlier, Radloff assigned a score of 16 as the cut-off score between low and medium or high depression scores. This score was set after finding that 70% of the patients tested were above this score.

NEO-PI Vignettes. Vignettes were created based upon each of the five personality factors distinguished by McCrae and Costa: Neuroticism, Extroversion, Openness to Experience, Agreeableness, and Conscientiousness. Participants were given a list of personality characteristics (i.e. "This person enjoys listening to controversial speakers at school") and were then asked to rate the likelihood of a person with these

characteristics as being male, being female, having depression, attending college, having a high GPA in high school, having a high GPA in college, being labeled gifted or talented, taking honors or AP classes, and having a high self-esteem. Responses were on an 11-point Likert scale ranging from 0 (not at all likely) to 10 (very likely). To reduce the effect of one vignette affecting responses on subsequent vignettes, all vignettes were counterbalanced, with each vignette having an equal probability of being first.

Revised Achieving Tendency Scale (MACH, Mehrabian, 2000). The MACH is a 22-item scale designed to measure achieving tendencies in the general population. Participants used a 9-point scale, ranging from +4 (very strong agreement) to –4 (very strong disagreement) to indicate levels of agreement with statements such as "I take pride in my work" and "I am organized in my work habits." The MACH is balanced for a response bias, with half of the items worded positively and half worded negatively. The MACH was used as a measure of motivation.

Procedure

Participants signed up for experimentation times based upon their availability. Research assistants were randomly assigned to time and location to counter any unintentional bias. Research assistants introduced the general purpose, procedure for the study, and consent forms (see Appendix A). Participants were informed that their participation was voluntary, their response would remain anonymous, and that they may withdraw at any time. Participants had the option to receive experimentation credit for their Psychology class or to be placed in a drawing for gift certificates to Wal-Mart as an incentive for participation. The researchers were available to answer questions and administered the debriefing upon completion.

Results

CES-D

CES-D scores were calculated by summing across all responses on the depression measure (N = 115). Cronbach alpha for this sample was .70; norm is .85. Alpha levels remained commensurate for any item deleted, indicating all items correlated with the scale. Item-total correlations ranged from -.38 (Item #12, "I was happy") to .70 (Item #3, "I felt I could not shake off the blues even with help from my family and friends"). Scores ranged from 8 to 47 ($\underline{M}$ = 23.4, $\underline{SD}$ = 7.08). The mean score indicates that this sample had low-medium depression scores, which is not typical of college students (Hysenbegasi, Hass, & Rowland, 2005). Total scores for the CES-D were also assessed by gender. Men's level of depression (M = 21.4) was significantly lower than women's level of depression (M = 24.5), $p < .05$.

Achievement

MACH scores were calculated by summing scores across all responses and balancing for negatively worded items. Scores ranged from -47 to 72, (M = 24.28, SD = 23.42). Average MACH scores are 23, with a SD of 23. The mean scores and standard deviation for this sample compared to the norms.

Hypothesis 1

The first hypothesis predicted a positive correlation between GTs and depression scores on the CES-D. For the purposes of this study, University Honors College (UHC), Gamma Beta Phi Honors Society (GBP), and students labeled academically gifted were collapsed into the "gifted" category. Independently or collectively; neither gifted, UHC,

GBP, nor students who took AP classes were found to have significantly higher depression scores, $t = -.546$, $p > .05$.

Hypothesis 2

The second hypothesis predicted a positive correlation between GTs and MACH scores. A significant difference was obtained between gifted students ($M = 30.55$, $SD = 24.40$), and non gifted students ($M = 21.41$, $SD = 22.54$), $t = 1.96$, $p < .05$.

Hypothesis 3

An exploratory analysis was done to determine people's perceptions of NEO-PI personality traits. It was hypothesized that participants would perceive gifted and talented students to be agreeable, open to experiences, and conscientious based on prior research. Scores on all items ranged from 0 (not likely) to 10 (very likely). Neurotic people were seen as depressed ($M = 8.49$, SD 1.95) and not labeled gifted or talented ($M = 3.66$, SD = 2.37). They were also seen as not having a high self esteem ($M = 1.42$, $SD = 1.53$). Extroverts were seen almost completely opposite, as not being depressed ($M = 2.22$, SD = 2.36) and somewhat gifted ($M = 5.58$, $SD = 1.88$). Extroverts were also seen as having a high self-esteem ($M = 8.60$, $SD = 1.68$). Persons scoring high on Openness to Experience were not considered to be depressed ($M = 3.06$, $SD = 2.24$), and somewhat gifted ($M = 6.80$, $SD = 2.21$). They were also seen as having a relatively high self-esteem ($M = 4.14$, $SD = 1.87$). The Agreeable personality was not viewed as depressed ($M = 3.66$, $SD = 2.46$), and somewhat gifted ($M = 5.72$, $SD = 1.88$). They were considered to have an average self-esteem ($M = 6.17$, $SD = 2.50$). The Conscientious personality was not considered to be depressed ($M = 2.48$, $SD = 2.21$), and as more likely

to be gifted (M = 7.77, SD = 2.00). They were also considered to have high self-esteem (M = 8.02, SD = 1.79).

Discussion and Implications of Findings

Field et al. (1998) suggests that GT's spend more time with their friends than their family, leading them to be more susceptible to peer pressure than their counterparts. Even more worrisome is that GT's will sometimes attempt activities that belie their inborn abilities, such as lying about performance in class or underachieving, just to fit into their social group (Ablard, 1997). Succumbing to peer pressure can have severe consequences, both during school and later in a GT's life. Educators should be made cognizant of this susceptibility and vigilantly observe the GTs in their classrooms.

Equivocal literature exists on the incidence of depression in gifted and talented students. Research findings in this study were similar to the findings of Field et al. (1998) and Metha and McWhirter (1997). Contrary to our hypothesis, depression scores for GTs were not higher than non-GTs. In addition, the overall sample had low medium depression scores. This data is inconsistent with previous research and potentially affected the results. This finding, in fact, could have affected several results and should be replicated to determine the nature of this result.

Gifted students are typically higher achievers than their non-gifted peers. These students typically excel in general intellectual ability, specific subject matter aptitude, creative thinking, and/or leadership ability (Tallent-Runnels & Sigler, 1995). It seems intuitively obvious that students who achieve more would have a higher drive to achieve, yet the literature on this matter is virtually nonexistent. Our second hypothesis predicted a positive correlation between GTs and MACH scores. We found a significant difference

in the achieving tendencies of GTs as compared to non-GTs. This shows quantifiable evidence that GTs have a stronger desire to achieve excellence than do non-GTs. Certain availability constraints limited the chance to determine specifically what type of motivation correlates with achieving tendencies, whether intrinsic or extrinsic. This is undoubtedly an area for future research.

An exploratory analysis was done to determine people's perceptions of NEO-PI personality traits. Again, there is too small a body of literature to suggest what personality types is most prevalent in GTs, however, this study found interesting observations of perceptions. . The Neurotic vignette (person A) showed that students perceived a neurotic person likely to be depressed (M = 8.49), but not very likely to be gifted or talented (M = 3.66). Neurotics were seen even less likely to have high self-esteem (M = 1.41) than any other personality type. This would imply that the perception of a neurotic person is one who is a below average student who is not gifted and very depressed.

Regarding the extrovert vignette (person B), extroverts were not seen as depressed (M = 2.22), but also only somewhat likely to be gifted or talented (M = 5.58). Person B was thought to have a high self-esteem (M = 8.60). This would suggest a very positive view of extroverts by most people.

Participants rated the agreeableness vignette (person C) as rather unlikely to be depressed (M = 3.06). These results were almost equivalent to the depression score on the Agreeable vignette (M = 3.66). Person C also was the second highest most likely to be considered gifted or talented. The self-esteem scores on this vignette were moderately high, indicating that this person was seen to have a high self-esteem.

The Agreeable vignette (person D) found a low likelihood of depression in this person (M = 3.66). Person D was only moderately likely to be gifted or talented (M = 5.72), but with a somewhat higher self-esteem (M = 6.17). These results would suggest that someone who is very agreeable in most situations would not be depressed.

Lastly, the Conscientious vignette (person E) finds mostly intuitive results. A conscientious person is not seen to be depressed (M = 2.48), with a high likelihood of being labeled gifted or talented (M = 7.77) and having a high self-esteem (M = 8.02). The set of descriptors of a conscientious person are in line with perceptions of giftedness. It is important to note that students use their readily available peer group as a reference when determining their academic self-concept (Dai, 2001).

Future Research

Future research should focus on three key areas. First, it is unclear why UNC-P students scored lower on the CES-D than college students in previous literature. The fact that the sample as a whole scored lower on the CES-D has the potential to results, had the population had a more typical depression score, a significant difference might have been found.

In the area of motivation and GTs, there is little literature devoted to this subject. Future research for this area should focus on what types of motivation are most prevalent in GTs, and the nature of the relationship between the two concepts.

Lastly, more research needs to be conducted on both the personality types that are most prevalent in GTs and the perceptions of non-GTs about GTs. Some literature exists, and while the results are not entirely equivocal, results are also not in complete agreement.

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Appendix A

The University of North Carolina at Pembroke

Informed Consent for Participants in Research Projects Involving Human Subjects

Title of Project: The Effects of Your Academic Experience

Investigator(s): Michael Zimmermann
Shilpa M. Pai, Ph.D.

I. Purpose of this Research/Project

The purpose of the present study is to learn more about your thoughts and feelings related to your educational experiences.

II. Procedures

You will be asked to complete several questionnaires. These include demographic information, questions about your educational experience, and questions about your personal thoughts, behaviors, and emotions. These measures should take no longer than 45 minutes to complete. To ensure confidentiality, you will not be asked to put your name on any of the measures.

III. Risks

This study does not entail any obvious risks. You may experience some discomfort answering personal questions. If at the end of your participation you still feel discomfort, or have any questions, please talk to the experimenter about it.

IV. Benefits

Your participation will help researchers further our understanding of how academic achievement may cause positive and negative experiences. In addition, you may choose one of the following incentives for participating in the study. If you are in a participating psychology class you can earn 1 hour of research credit. Or, you may choose to be entered into a raffle for five $10 gift certificates to Wal-Mart.

V. Extent of Anonymity and Confidentiality

Your confidentiality will be maintained. You will not be asked to put your name on any of the measures you complete. There will be no way to match your name with your responses on the measures.

VI. Compensation

You can earn 1 hour of research credit, which will be rewarded, with extra credit in your introductory psychology course. Or, you may choose to be entered into a raffle for five $10.00 gift certificates to Wal-Mart.

VII. Freedom to Withdraw

You are free to withdraw from this study at anytime without penalty.

VIII. Approval of Research

This research project has been approved, as required, by the Institutional Review Board of UNC Pembroke.

_____

IRB Approval Date Approval Expiration Date

IX. Subject's Responsibilities

I voluntarily agree to participate in this study. I have the following responsibilities:

*To answer honestly as possible to all assessments

X. Subject's Permission

I have read and understand the Informed Consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent. I also certify that I am 18 years of age or older.

_____ Date_____
Subject signature

_____ Date _____
Witness (Optional except for certain classes of subjects)

Should I have any questions about this research or its conduct, I may contact:

Michael Zimmermann — m_zimmermann@hotmail.com
Investigator(s)

Dr. Shilpa Pai — shilpa.pai@uncp.edu
Faculty Advisor — (910) 775-4036

Dr. Howard Ling **910-521-6841** **irb@uncp.edu**

Director, IRB — Telephone — e-mail
PO Box 1510
The University of North Carolina at Pembroke
Pembroke, NC 28372
Subjects must be given a complete copy (or duplicate original) of the signed Informed Consent.

Appendix B

Control # _____

The purpose of this questionnaire is to collect general demographic information. Please read each question carefully and answer them accurately and honestly.

1. Please indicate your age: _____ years

2. Please indicate your sex: ___ Male ___ Female

3. Please indicate you ethnicity:

___European American/White ___African-American/Black
___Native American ___Hispanic/Latino ___ Asian
___Other (please specify) _____

4. Please check your marital status:

__ single __ married ___separated/divorced __living with partner

5. Please indicate your cumulative grade point average (GPA) _____

6. Please indicate your major GPA (if applicable) _____

7. Please check your current educational status:

___College Freshman ___College Sophomore ___College Junior ___College Senior

___Graduate Employed: _____(please fill in your occupation)

8. Have you ever been labeled gifted or talented (GT, TAG)?

___yes ___no (skip to #10)

9. If yes, at what age? _____ years

10. Are you a member of the University Honors College (UHC)? ___yes ___no

11. Are you a member of Gamma Beta Phi? ____yes ___no

12. Have you ever taken Advance Placement (AP) classes in high school? ___yes ___no

13. Please indicate your ACT / SAT scores: ACT: _____/36 SAT:_____/1600

14. Please indicate your High School GPA and Rank:

_____

15. Please indicate your Total Annual income (if unsure, please estimate):
$_____

Appendix C

Below is a list of the ways you may have felt or behaved. Please tell me how often you have felt this way **during the past week.**

For each question, please fill in the blank with a numerical response (**0-3**) based on the following description:

0 = Rarely or None of the Time (less than 1 day)
1= Some or a Little of the Time (1-2 days)
2= Occasionally or a Moderate Amount of Time (3-4 days)
3= Most or All of the Time (5-7 days)

During the **past week:**

___1. I was bothered by things that usually don't bother me.

___2. I did not feel like eating; my appetite was poor.

___3. I felt that I could not shake off the blues even with help from my family or friends.

___4. I felt that I was just as good as other people.

___5. I had trouble keeping my mind on what I was doing.

___6. I felt depressed.

___7. I felt that everything I did was an effort.

___8. I felt hopeful about the future.

___9. I thought my life had been a failure.

___10. I felt fearful.

___11. My sleep was restless.

___12. I was happy.

___13. I talked less than usual.

___14. I felt lonely.

___15. People were unfriendly.

___16. I enjoyed life.

___17. I had crying spells.

___18. I felt sad.

___19. I felt that people dislike me.

___20. I could not get "going."

Appendix D

Instructions for Vignettes

The next few pages discuss five different people. Please read each paragraph completely and answer as best as you can to each question. Please circle a number, from 0 to 10, ranging from not at all likely (0) to very likely (10). Answers without a number circled cannot be included in the final study.

Person A frequently feels inferior to others, is fearful and anxious in many situations, worries constantly and feels lonely much of the time. When Person A goes to school, this person feels tense, and often goes to pieces under stress. This person also gets discouraged easily and is sad. When Person A feels helpless, this person is often overcome with shame and anger towards other people.

1. How likely do you think this person is male?

Not at all likely				*Somewhat likely*						*Very likely*
0	1	2	3	4	5	6	7	8	9	10

2. How likely do you think this person is female?

Not at all likely				*Somewhat likely*						*Very likely*
0	1	2	3	4	5	6	7	8	9	10

3. How likely do you think this person is depressed?

Not at all likely				*Somewhat likely*						*Very likely*
0	1	2	3	4	5	6	7	8	9	10

4. How likely do you think this person went to college?

Not at all likely				*Somewhat likely*						*Very likely*
0	1	2	3	4	5	6	7	8	9	10

5. How likely do you think this person earned a high GPA in High School?

Not at all likely				*Somewhat likely*						*Very likely*
0	1	2	3	4	5	6	7	8	9	10

Person B likes to be around lots of people and can be described as the life of the party. Person B laughs easily and is light-hearted and high spirited. This person is an energetic and active leader who enjoys a fast-paced life. Person B also enjoys talking to other people and is a cheerful optimist.

1. How likely do you think this person is male?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

2. How likely do you think this person is female?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

3. How likely do you think this person is depressed?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

4. How likely do you think this person went to college?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

5. How likely do you think this person earned a high GPA in High School?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

6. How likely do you think this person earned a high GPA in college?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

7. How likely do you think this person is labeled academically gifted or talented?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

8. How likely do you think this person took honors or AP classes?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

9. How likely do you think this person has a high self-esteem?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

6. How likely do you think this person earned a high GPA in college?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

7. How likely do you think this person is labeled academically gifted or talented?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

8. How likely do you think this person took honors or AP classes?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

9. How likely do you think this person has a high self-esteem?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

Person C is considered a daydreamer. This person likes to change up daily routines. Person C enjoys poetry, enjoys the patterns found in art and nature, and often gets caught up in the emotion of poetry and art. This person believes moral values are guided from within and contemplates the nature of the universe and humanity. Person C enjoys discussing theories and abstract ideas and has a lot of intellectual curiosity. This person also enjoys listening to controversial speakers at school.

1. How likely do you think this person is male?

Not at all likely				*Somewhat likely*						*Very likely*
0	1	2	3	4	5	6	7	8	9	10

2. How likely do you think this person is female?

Not at all likely				*Somewhat likely*						*Very likely*
0	1	2	3	4	5	6	7	8	9	10

3. How likely do you think this person is depressed?

Not at all likely				*Somewhat likely*						*Very likely*
0	1	2	3	4	5	6	7	8	9	10

4. How likely do you think this person went to college?

Not at all likely				*Somewhat likely*						*Very likely*
0	1	2	3	4	5	6	7	8	9	10

5. How likely do you think this person earned a high GPA in High School?

Not at all likely				*Somewhat likely*						*Very likely*
0	1	2	3	4	5	6	7	8	9	10

6. How likely do you think this person earned a high GPA in college?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

7. How likely do you think this person is labeled academically gifted or talented?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

8. How likely do you think this person took honors or AP classes?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

9. How likely do you think this person has a high self-esteem?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

Person D is courteous toward and trusting of others. This person is warm and generous and would rather cooperate than compete on group projects. Person D is easily persuaded and selfless, while reserves expressing their negative judgments of others. This person avoids arguments and refuses to manipulate others to get ahead at work. Person D is likeable, thoughtful and considerate.

1. How likely do you think this person is male?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

2. How likely do you think this person is female?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

3. How likely do you think this person is depressed?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

4. How likely do you think this person went to college?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

5. How likely do you think this person earned a high GPA in High School?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

6. How likely do you think this person earned a high GPA in college?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

7. How likely do you think this person is labeled academically gifted or talented?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

8. How likely do you think this person took honors or AP classes?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

9. How likely do you think this person has a high self-esteem?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

Person E is highly focused and has clearly defined goals. This person strives for neatness and shows self-disciple when given large tasks in order to complete them on time. Person E is a hard worker and follows through on commitments, is dependable and productive at work. Person E is methodical and organized and strives for excellence in all he/she does.

1. How likely do you think this person is male?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

2. How likely do you think this person is female?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

3. How likely do you think this person is depressed?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

4. How likely do you think this person went to college?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

5. How likely do you think this person earned a high GPA in High School?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

6. How likely do you think this person earned a high GPA in college?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

7. How likely do you think this person is labeled academically gifted or talented?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

8. How likely do you think this person took honors or AP classes?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

9. How likely do you think this person has a high self-esteem?

Not at all likely				*Somewhat likely*					*Very likely*	
0	1	2	3	4	5	6	7	8	9	10

Appendix E
Debriefing

Thank you for participating in this study. The preceding questionnaires explored how self-esteem and similar personality characteristics influence academic achievement, and if these measures have any correlation to depression. In addition, this study focused on participants who have been labeled gifted or talented, and if their personality characteristics are different from the average college student. There is no right or wrong answer to any of these questions. This study was conducted to provide additional evidence on the relationship between self-esteem, gifted students, and depression. In a few months, a written summary of the results will be given to Dr. Shilpa Pai and available for you to read. You have my name, phone number, and email address on your copy of the consent form. If you have any questions before the written summary is available, please feel free to contact me. Thank you for your participation!