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The label of madness: the effects of career choice and gender on perceptions of mental illness

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THE LABEL OF MADNESS:

THE EFFECTS OF CAREER CHOICE AND GENDER ON PERCEPTIONS
OF MENTAL ILLNESS

by

ANGELA L. VANELLA

A thesis submitted in partial fulfillment of the requirements
for the Honors in the Major Program in Psychology
in the College of Sciences
and in The Burnett Honors College
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Thesis Chair: Dr. Shannon N. Whitten

ABSTRACT

People with creative abilities have often been stereotyped as insane, neurotic, and prone to addiction (Kaufman, Bromley, & Cole, 2006; Corrigan, 2005). These labels have perpetuated the stigma for many generations (Ludwig, 1995). In addition, females have often been stereotyped as "bad at math," but are assumed to be more verbal and creative (Quinn & Spencer, 2001). The present study hypothesized that creative writers would be stereotyped as more mentally ill, neurotic, and addicted to substances compared to scientists. It was also predicted that gender would exacerbate the phenomenon such that females would be particularly vulnerable to this stereotype. Statistical analyses revealed some interesting gender by major interactions: female creative writers were perceived as the most mentally ill, but were closely followed by male science majors. Male creative writers were actually perceived to have a relatively low level of mental illness. Interestingly, male scientists were rated as having the highest levels of drug and alcohol abuse, whereas male creative writers were perceived to have relatively fewer symptoms of substance abuse. The reverse pattern was true for females. This research confirmed the stereotype of insanity among artists for females but also revealed a tendency towards pathology-based stereotyping of male scientists. Stereotypes negatively affect the targeted populations and perpetuate the stigmas against them. This research attempted to advance understanding as an initial step towards alleviating unwarranted stereotypes.

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INTRODUCTION

In Andrew Davidson's novel, *The Gargoyle*, a man meets a woman while he is in a hospital. She has delusions of a previous life as a nun, has manic and depressive bouts of energy, smokes like a chimney, and believes she speaks to the gargoyles she sculpts from marble; yet, she is an extraordinary sculptor and seems to be a highly creative individual. Here is an excerpt from that novel:

> "Many manic-depressives achieve fame in the arts because the condition itself provides the fervor necessary to create something monumental. Which, of course, was exactly what Marianne Engel did: create monuments. If her account of her carving habits was not a description of a manic at work, I can't imagine what is. But there was also so much evidence for schizophrenia. She described the voices that came out of the stone, giving her instructions. She saw herself as a channel of the Divine, and her work as a circle of communication between God, the gargoyles, and herself" (Davidson, 2008 p. 81).

Like Marianne Engel, many artists and writers have some form of mental illness, and there is a long-standing and controversial relationship between the two (Kaufman, 2001a). A great deal of creative individuals are also affected by personality problems and substance abuse issues (Feist, 1998; Ludwig, 1995). However, are these deficits the result of self-fulfilling prophecies fueled by stereotypes and misconceptions about creativity? Though a definitive answer to that question was beyond the scope of the

present paper, it is possible to investigate whether such stereotypes exist. Understanding this relationship would provide insight into why people may either avoid or gravitate toward careers in the arts and sciences. The present study investigated stereotypes of mental illness as a function of career choice and gender.

<u>Mental Illness</u>

Through his biographical research of eminent individuals, Ludwig (1995) found that populations of creative individuals, including professionals in the fields of art, musical performance and composition, theatre, and creative writing have some of the highest lifetime prevalence rates of mental disorders. Kaufman (2001a) also found a significant difference between Pulitzer and Nobel-Prize winning writers and non-winners in likelihood of mental illness. However, as cited by Kaufman (2001b, p. 38), Rothenberg (1995) noted that "biographies of eminent individuals, especially creative artists, often emphasize traits and stories that might be considered signs of mental illness… [and] may not necessarily be a perfect representation of writers."

Piirto (2009) indicated that the personality tests given to writers by Barron (1963, 1968a, 1995) revealed that writers displayed many characteristics of manic-depression and schizophrenia; however, their ego strength and intelligence were also much higher than for other individuals with manic-depression and schizophrenia. "Creative writers were 'markedly deviant' from the regular population, and the distinguished writers

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seemed to have tendencies to be schizoid, depressive, hysterical, or psychopathic"
(Piirto, 2009, p. 12).

Does the writing make the writer mad? Or does the madness make a writer?
Ludwig (1995) found from his biographical research that some individuals (16%) who
suffered from an emotional disorder, such as mania and alcoholism, showed an
improvement in their creative activity. Some creative individuals viewed their manic
episodes as sources of creativity (Ludwig, 1995). Kaufman (2001b) found that female
poets were significantly more likely to display signs of mental illness, which has been
dubbed the "Sylvia Plath Effect." Kaufman suggests that Bandura's (1977, 1997) theory
of self-efficacy accounts for why poets are vulnerable to mental illness. Instead of
thinking of all the positive aspects of their abilities, the poet focus on the negative, and
thereby becomes more anxious and depressed, which "could result in poorer mental
health for poets" (Kaufman, 2001b, p.46). In Kaufman's study, poets also experienced
more personal tragedy. As cited by Kaufman, Nolen-Hoeksema (1990) found that
female poets had a predisposition to depression and lower self-esteem.

A breakdown of the writing professions according to Ludwig's (1995) study of
eminent creative people, shows that poets have the highest rate of any mental disorders
(87%), while having the highest rate of depression (77%) of any profession overall. Poets
also had a 13% lifetime rate of mania, along with architects, while the theatre careers
had the highest (17%). Nonfiction writers had the highest rates of anxiety (16%), but

overall least lifetime rate of any mental disorder out of the writers (72%), while the fiction writer had 77% lifetime rate of all mental disorders. The arts (73%) and theater (74%) had a slightly higher lifetime rate than the nonfiction writers, while the musical performance had the next highest rate at 68%. The artistic career tracks may allow for more creative freedom, as well as more freedom as an individual, which may be a contributing factor to the high rates of mental illnesses in these fields (Ludwig, 1995). Perhaps the artistic occupations have just the right atmosphere to magnify mental illnesses; because artists, writers and musicians often work alone, they might not have the support of others when they begin to feel upset or depressed ("Are Creativity and Mental Illness Linked?", n.d.).

As discussed above, a body of research has explored the link between creative individuals and mental illness. The current study explored the level to which creative writers are stigmatized as having a mental illness. As cited by Kaufman, Bromley, and Cole (2006), Corrigan (2005) concluded that people with mental illnesses are subject to constant stigma from both the public and the individual every day and may often internalize these notions and think in order to be a good writer they have to be 'crazy'.

Personality

The personality traits of creative individuals are similar to traits associated with mental illness including, but not limited to, excessive emotionality, compelling obsessions, lack of social conformity, impulsivity, independence, and aloofness

(Kaufman, Bromley & Cole, 2006; Feist, 1999). These findings are also concurrent with Eysenck's (1995) assumption of psychotic-like characteristics in creative individuals (i.e. aggressive, cold, egocentric, impersonal, impulsive, anti-social, etc.) (As cited by Fink, Slamar-Halbedl, Unterrainer, & Weiss, 2011).

While there are many competing views of personality, a consolidation of personality traits into the Big Five personality traits combines many of the aforementioned traits (Piirto, 2009). The Revised NEO Personality Inventory (NEO-PI-R) includes Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A), and Conscientiousness (C) (Costa & McCrae, 1992). These five domain traits can also be broken down into facets. For example, the domain trait of openness to experience can be broken down into several facets that can be speculatively be applied to creative writers: Fantasy (O1), Aesthetics (O2), Feelings (O3), Actions (O4), Ideas (O5), and Values (O6); as do the facets of Tender-Mindedness (A6) and Depression (N3, Piirto, 2009).

Piirto (1998) also conducted a study in which the Myers-Briggs Type Indicator (MBTI) was used to describe the inclinations of many occupational groups. She tested female elementary school teachers to a comparison group of female successful writers. She found that the female writers preferred the NF (Intuition Feeling) or NT (Intuition Thinking) combination. While females generally prefer Feeling (F) rather than Thinking (T), most writers also preferred Intuition and Perception, which may affirm that writers generally seem to like to work with the symbols, impressions, metaphors, and abstract

theories of Intuition (N); rather than the facts, bottom line, big picture of Sensing (S) ("Sensing or Intuition", n.d.).

Creative personalities appear to be a paradox. Kaufman (2002) summarized creative writers' personality tendencies as impulsive yet sensitive, and possessing strong self-image despite being prone to anxiety and affective disorders. Interestingly, Kaufman found conflicting research about whether extraversion or introversion is more strongly associated with creative personalities. Csikzentmihalyi (1996) expressed the "dichotomy between two stereotypes: the creative person as being gregarious and outgoing, and the artist as being introverted and reclusive" (p. 33).

In *The Psychology of Creative Writing*, Singer and Barrios (2009) collected data from a sample of professional writers to explore the phenomenon of writer's block. From their data, they present a typology of blocked writers, in which there are four types: The Dysphoric/Avoidant Type, the Guilty/Interpersonally Hindered Type, the Constricted/Dismissive/Disengaged Type, and the Angry/Disappointed Type. The Dysphoric/Avoidant blocked type is characterized by a fear of the chaos that comes from their career as life's primary activity that is no longer a primary reward; a primarily depressed and anxiety ridden affect; and an impaired ability to structure and modulate thoughts and feelings. These individuals are generally avoidant, self-isolating, and grieving in their interpersonal relationships. The Guilty/Interpersonally Hindered Type is characterized by a fear of betrayal from their work on their

interpersonal lives. These blocked writers display guilt and inhibition; ambivalence about actualizing personal ambitions; and sensitivity to the expectations of others. The Constricted/Dismissive/Disengaged Type is characterized by a lack of arousal from writing. These blocked writers are detached and constricted in their expression; detached from their own imaginative resources and emotions; and politely indifferent and disengaged with others. Lastly, the Angry/Disappointed Type is characterized by disappointment with work product and a high level of negative emotion. For these individuals, their primary affect is shame and rage; their central difficulty comes from a failure to actualize personal ambitions; and they are impatient and seeking affirmation from others. Such writers are also prone to use alcohol or drugs when writing, and to report relatively high levels of anxiety, depression, somatic complaints, and paranoid or psychotic ideation.

Substance Abuse

Piirto (2009) quoted John Cheever (1991) from his journal: "The excitement of alcohol and the excitement of fantasy are very similar" (p.52). Ludwig (1995) noted that it was rare to find a writer or artist who did not go to a pub or café to drink with his or her companions. Alcoholism among writers reached near epidemic proportions in the first half of the 20th century, while Edgar Allan Poe was the lonely alcoholic writer of the 19th century (Goodwin, 1992). It seems that a considerable amount of writers turn to alcohol to cope with their anxiety and depression (Rothenberg, 1990). To illustrate, five

of the seven Nobel laureates in literature in the United States suffered from alcoholism: William Faulkner, Ernest Hemingway, Eugene O'Neill, Sinclair Lewis, and John Steinbeck (Ludwig, 1995,). Alcohol may have become a muse, so to speak, for many writers, needing it to either spark their creativity or facilitate the writing process (Goodwin, 1992). Several writers found that alcohol reduced "sensory overload." For example, F. Scott Fitzgerald drank to relieve his "tortured sensitivity" and overcome his shyness and fear of rejection in order to get closer to people (Goodwin, 1992, p. 425). Goodwin (1992) also recounts novelist Walker Percy's explanation that alcohol numbs the left brain hemisphere, the "locus of consciousness" (p. 426).

Among Ludwig's (1995) eminent creative individuals, those with the highest incidences of drug-related problems include musical entertainers, actors, and fiction writers (19-36%). For example, a prolific number of musical performers have fallen prey to drugs including Janis Joplin, Jim Morrison, Jimi Hendrix, Kurt Cobain, and, most recently, Amy Winehouse. All were affected by drug abuse, and all died at the age of 27.

As mentioned previously, perhaps it is only certain types of writers who are susceptible to substance abuse. Of Singer and Barrios' (2009) four types of blocked writers, the Angry/Disappointed Type (Type 4) writers were more prone to using drugs or alcohol when writing. This may be related to their reportedly high levels of psychopathology.

<u>Stereotypes</u>

According to Myers (2008), a stereotype is a belief or set of beliefs about the personal attributes of a group of people, which are sometimes inaccurate, overgeneralized, and resistant to new information. These beliefs, or preconceived notions, are usually negative judgments and attitudes towards a group and its individual members, or, in short, prejudice. This may lead to discrimination, the negative behavior that results from these prejudices. Even seemingly positive stereotypes may have a negative impact on the individual. For example, researchers at the University of Illinois (2012) found that broad generalizations about a group, e.g. boys or girls likely success on a test, actually undermined both boys' and girls' performance.

The behavior of females underachieving on mathematics performance exams can be linked to the phenomenon known as stereotype threat. Stereotype threat, as cited by Inzlicht and Schmader (2012), is defined a situational problem in which individuals are at risk, by impression of their action or behaviors, of confirming the negative stereotypes about their group (Steele & Aronson, 1995). Females' underachievement on math tests is one of the most recognizable and talked about stereotypes. In July 1992, Mattel released a Teen Talk Barbie that spoke about 270 phrases, including "Math class is tough!" which was criticized by the American Association of University Women (New York Times, 1992); these stereotypes and stigmas "perpetuate the gendered task

division in society" (Bonnot & Croizet, 2007, p. 169). Furthermore, Quinn and Spencer (2001) found that when placed in a situation where the level of mathematical stereotype threat was high, women were less able to formulate problem-solving strategies, but when the stereotype threat was reduced, women performed equally as well as men on the standardized math test.

Gunderson et al. (2011) also found that while the gap between boys and girls achievement on math tests has all but vanished, negative math attitudes can still affect females' choice of STEM (Science, Technology, Engineering, and Mathematics) related career fields. These attitudes start from an early age in girls, where their parents' and teachers' own gender-related stereotypes and anxieties shape girls' development of math related attitudes and interests. Gender-related math attitudes can put girls at risk for a Multi-Threat Framework of stereotype threats (Shapiro & Williams, 2011). Shapiro and Williams describe the Multi-Threat Framework as having "six qualitatively distinct stereotype threats that emerge from the interaction of two dimensions" – the target of the threat, being the self or group, and the source of the threat, being the self, in-group others, or out-group others. The imprinting of these gender-related math attitudes on young girls can also put them at risk for 'self-as-source' stereotype threats, where these attitudes are rooted in their mind and their performance confirms the stereotype; while knowledge of these attitudes can put girls at risk of 'other-as-source' stereotypes, where the concerns are born out of how others perceive their performance, thereby confirming the stereotype (Shapiro & Williams, 2011).

Sometimes these stereotypes lead to self-fulfilling prophecies, or beliefs that lead to their own fulfillment (Myers, 2008). This phenomenon, coined the Pygmalion Effect, is especially seen in teacher expectations of student performance. The famous experiment by Rosenthal and Jacobson (1968) studied children in a San Francisco school. Some of the children were randomly assigned the condition of being above average to the teachers, but the teachers were not supposed to treat them any differently. These 'above average' students, because of teachers' perception, performed better throughout the class. Students seemed to be conforming to the teacher's expectations even though there were no differences in ability.

These expectations can be translated to just about any situation. For example, you believe you're going to do badly on a test, and you do. Perhaps these expectations can also be translated to negative stereotypes of creative individuals, such as: to be creative you must also be insane; however, there have been "carefully designed studies" that provide no substantiation of this relationship (Plucker, n.d., para. 9). In the famous longitudinal study by Terman (1925), over 1,500 gifted children were found less vulnerable to mental illness at mid-life (Silverman, n.d.). Devdah and Cattell (1958) studied 153 American writers and found that they did not have higher incidences of psychopathology. There is also a belief that being under the influence of a controlled substance enhances creativity. Unfortunately, artists who had untreated mental illness and addictions also shortened their lives (e.g. Jackson Pollock, Vincent Van Gough, Frida Kahlo), in contrast to those who addressed their emotional problems and

substance abuse (e.g. Edvard Munch and John Callahan), and continued to live and

remain creative (Zausner, 2011).

HYPOTHESES

This study explores whether creative writers are still stereotyped as being the 'crazy, neurotic, alcoholic writer.'

H1: participants will rate creative writing students as having a higher likelihood of mental illness (e.g. bipolar, schizophrenia, depression, emotional disorder, personality disorder) compared to science students, when scored on the Symptom Checklist-90-R.

H2: participants will rate creative writing students as having personality high in Openness, low in Extraversion, low in Conscientiousness, low in Agreeableness, and high in Neuroticism, as measured by the NEO Five-Factor Inventory, and as more creative, as measured by the Creative Personality Scale.

H3: creative writers will be rated as more likely to abuse drugs or alcohol as compared to science students, as measured by the Alcohol Use Disorders Identification Test and the Drug Abuse Screening Test-10.

Research Question: A further research question will be explored to determine whether female creative writers, specifically, will be judged as having higher incidences of mental illnesses, a deviant but creative personality, and more likely to abuse drugs or alcohol as compared to her male counterpart.

METHODS

<u>Participants</u>

The present study included 55 undergraduate students. All participants were recruited through UCF undergraduate Psychology courses for extra credit. The average age of participants was 21.58 with a standard deviation of 4.06, and 58.2% of the sample was female. In addition, 69.1% of the sample described themselves as Caucasian, 14.5% African-American, 7.3% Hispanic, & 7.3% Asian. Furthermore, 55% of the participants were physical science majors, 36% were life science majors, 5% were arts and humanities majors, and 4% were business majors.

<u>Materials</u>

Vignettes

Each participant was randomly assigned to read one of four vignettes. Each vignette told of a short scenario of a college student who wakes up late for class. There was a female creative writing student, a male creative writing student, a female science student, and a male science student. The female was named Meg Smith, while the male was named Matt Smith. This student needs to turn in a final paper, respective to their major, to a professor who does not like lateness. The vignettes are presented in Appendix C.

Manipulation Check

Participants received 5 questions to test their knowledge and understanding of the vignette. For example, participants were asked, "What is the major of the character you read about?" and "What is the gender of the character you read about?" The manipulation check questions are presented in Appendix C.

Psychological Measures

Participants of the study were given the following measures: the Symptom Checklist-90 (SCL-90-R), the NEO Five-Factor Inventory (NEO-FFI), the Creative Personality Scale (CPS), the Alcohol Use Disorders Identification Test (AUDIT), and the short form of the Drug Abuse Screening Test (DAST-10). Each measure was changed to have the participant answer the items as they perceived the character from the vignette they saw.

Symptom Checklist-90-R The Symptom Checklist-90-R (SCL-90-R, Derogatis, 1994) was used to assess the perception of mental illness towards the vignette character. The SCL-90-R is designed to measure community, psychiatric, and medical type psychological symptom patterns in participants. It is a 90-item self-report symptom inventory, where each item is rated on a five-point scale of distress (0-4) ranging from 'Not at All' to 'Extremely' (Derogatis, 1994). The SCL-90-R assesses nine symptom dimensions: Somatization (SOM), Obsessive-Compulsive (O-C), Interpersonal Sensitivity (I-S), Depression (DEP), Anxiety (ANX), Hostility (HOS), Phobic Anxiety (PHOB), Paranoid Ideation (PAR), and Psychoticism (PSY), plus Seven Additional Items

that can fall across several symptom dimensions. The SCL-90-R also interprets the scores in terms of three global indices of distress, which include: Global Severity Index (GSI), Positive Symptom Distress Index (PSDI), and Positive Symptom Total (PST). Participants answered all 90 items to the following instructions: Below is a list of problems people sometimes have. Please read each one carefully, and select the option that best describes how much you believe that the problems has distressed or bothered *Matt Smith/Meg Smith* recently. (Derogatis, 1994). Participants rated items such as: How often headaches have distressed the character, how often the character has been bothered by feelings of low energy, how often the character has been distressed by suddenly feeling scared for no reason, and how often the character is bothered by feelings of extreme restlessness. For the purposes of this experiment, the instructions were changed not only for the participant to answer from their perception of the character, but also for online testing. The internal consistency of the each of primary symptom dimensions for the SCL-90-R range from .77 to .90, and the Test-Retest reliability ranges from .68 to .90, indicating a high reliability for all dimensions (Derogatis, 1994; for the complete list of reliability coefficients see Appendix B). The SCL-90-R has shown high correlations (ranging from .64 to .42) of convergent validity with all the clinical scales of the MMPI except for the Obsessive-Compulsive dimension which has no comparable scale on the MMPI. In addition to the MMPI, the Wiggins (1969) content scales and Tryon's (1966) cluster scales were also scored for comparable convergent validity. For the complete list of correlations, see Appendix E.

NEO Five-Factor Inventory The NEO Five-Factor Inventory (NEO-FFI, Costa & McCrae, 1992) was used to determine the participants' view of the character's personality. The NEO-FFI consists of 60 items that are rated on a five point Likert-type scale (1 "Strongly Disagree to 5 "Strongly Agree") that measure the five domains of adult personality, which include Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism. Prior studies have reported internal consistency values from .68 (A) to .89 (N) (Costa & McCrae, 1992). Appendix D reports the complete scale.

Creative Personality Scale The Creative Personality Scale (CPS, Gough & Heilbrun, 1965) was employed to determine whether the participants believed that the character in the vignette they received was creative or not creative. It consists of a list of 30 adjectives that the participants would check off if they believed that adjective described the character. Of the 30 adjectives, 18 are presented as indicative items of creativity and the remaining 12 are contraindicative items (Gough & Heilbrun, 1965). Creative adjectives include Clever, Humorous, Individualistic, and Unconventional, whereas noncreative adjectives include Artificial, Commonplace, Sincere, and Submissive. Normally the CPS asks participants to indicate which adjectives described themselves, but for the purposes of the study it has been changed to reflect the participants' perception of the vignette character. Cropley (2000) reports that reliability coefficients for the CPS are often about .80; however, Gough and Heilbrun (1965) found an internal consistency coefficient of .63 and test-retest reliabilities of about .70, depending on gender. The CPS "correlates moderately with scores on Guilford tests of divergent

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thinking (about .25) and with measures of openness, as well as with self-assessments

(.41) and peer assessments (.48) of creativity" (Cropley, 2000, p. 77).

Drug Abuse Screening Test The Drug Abuse Screening Test (DAST-10, Skinner,

1982) was utilized to assess the participants' belief of the character's propensity for drug

abuse. The measure identifies individuals who are abusing drugs, and measures the

degree to which the individual's lifestyle is impacted by drug use and misuse

(EMCDDA, 2008). There are 10 items that each participant answers with a 'yes' or 'no'

response. Each 'yes' response will get a 1 and each 'no' response will get a 0. The more

'yes' responses indicate a higher degree to which a client may have a drug abuse

problem. For this study, participants answered the questions instead for the vignette

character. The questions will be changed to read as follows: "Do you think that Matt

Smith uses drugs other than those required for medical reasons?" or "Do you think that

Meg Smith has neglected their family because of their use of drugs?" The DAST-10 has

two estimated internal consistency coefficients of .86 and .94. Test-retest reliability was

found to be .71 (n=45). Convergent validity of the DAST is reported to be demonstrated

by the fact that the measure accomplished 85% of overall accuracy in classifying clients

according to the DSM-III diagnosis (Yudko, Lozhkina, & Fouts, 2006).

Alcohol Use Disorders Identification Test The Alcohol Use Disorders Identification

Test (AUDIT, Babor, Higgins-Biddle, Saunders, & Monteiro, 2001) was used to evaluate

participants' belief of the character's propensity for alcohol abuse. The AUDIT is used

to screen individuals for deleterious patterns of alcohol consumption. The questionnaire

consists of ten items related to alcohol consumption, rated on a 5 point Likert-type scale. For the present study, each question were changed for the purposes of this study to reflect the participants' view of the vignette character; for example, "How often do you think Meg Smith has a drink containing alcohol?" or "How often during the last year do you think Matt Smith has failed to do what was normally expected of him because of drinking?". The AUDIT correlates highly with other screening tests; for example, the MAST has a correlation with the AUDIT of .88 and the CAGE has a correlation of .78. The AUDIT has a high internal consistency and a test-retest reliability of .86 (Babor, et al., 2001).

Demographic Questionnaire Participants completed demographic questions about themselves if they chose to. Questions included information about their age, gender, ethnicity, race, major, and year in college. The Demographic Questionnaire is reported in Appendix I.

Procedure

Participants in this study first logged on to the SONA website with their own username and password. The participants who chose the present study then clicked on a link diverting them to the Survey Gizmo survey hosting website. The participants then began the experiment with the informed consent page. Next, the Survey Gizmo website and randomly assigned the participants to read one of four versions of a vignette: a female creative writing student, a male creative writing student, a female

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science student, and a male science student. The vignette relates the story of a student

who is late for class and needs to turn in a final project respective to their major.

After reading the vignette, the participants then went through a manipulation

check, in which they answered simple questions about the vignette to be sure they read

and understood it. Participants then completed the aforementioned measures: the SCL-

90-R, NEO, CPS, DAST-10 and AUDIT. After the measures have been completed,

participants then provided basic demographic information about themselves. Finally,

the participants read the debriefing document, and were given the opportunity to email

their SONA ID and the completion code to confirm participation for extra credit.

RESULTS

Three 2 (gender of character) X 2 (major of character) multivariate ANOVAs were performed on the 3 subsets of dependent measures: 1) Symptoms of Mental illness on the subscales of the SCL-90-R, 2) Personality variables including the NEO Five-Factor Inventory and the Creative Personality Scale, and 3) Substance Abuse measures including the DAST-10 and AUDIT. An alpha level of .05 was applied to all analyses. Three participants (7.27% of the data) were eliminated due to failing the manipulation check, which indicated they did not adequately read the vignette.

SCL-90-R Analysis

A 2 (gender of character) X 2 (major of character) multivariate ANOVA was performed on the 9 symptom dimensions of the SCL-90-R, also including the 7 additional items, the Global Severity Index, and the Positive Symptom Total. There were no main effects for major or gender; however, interactions for all subscales were significant. The general pattern was that females were perceived as having significantly more symptoms when they were creative writing majors, whereas men were perceived as having more symptoms when they were science majors. Simple main effects were compared using the Tukey test with the error variance from the multivariate analysis. For brevity, only the results of the Global Scale Index (GSI) are reported for the SCL-90. The GSI was chosen because it represents the overall degree of symptoms. However, the means and standard deviations for all SCL-90 subscales are reported in Table1.

Global Scale Index: There was no main effect for major or for gender. The interaction between gender and major was significant, $F (1, 47) = 6.872$, $p = .012$, $\eta_p^2 = 13$. For creative writing majors, females are perceived as having significantly more symptoms of mental illness ($M = 0.125$, $SD = 0.082$) compared to male creative writing majors ($M = 0.060$, $SD = 0.057$). The gender difference was reversed for science majors; Males were perceived as having more symptoms of mental illness ($M = 0.106$, $SD = 0.083$) than females ($M = 0.66$, $SD = 0.043$). There was a significant simple main effect comparing female creative writing majors to male creative writing majors, $F (1, 47) = 5.285$, $p = .026$. The simple main effect of gender was not significant for science majors on the GSI, $F (1, 47) = 1.506$, $p = .226$. Figure 1.1 demonstrates the means for GSI scores across conditions. Refer to Table 1 for all the means and standard deviations per condition. Figures 1 to 10 relate the gender by major mean scores for all symptom dimensions.

<u>Alcohol and Drugs Subscales</u>

 A 2 (gender of character) X 2 (major of character) multivariate ANOVA was performed on the 2 scales measuring drug and alcohol use (the DAST-10 and the AUDIT). There were no main effects for major or gender. However, there was a significant interaction for the AUDIT and a marginally significant interaction for the DAST-10. Simple main effects were compared using the Tukey test using the error variance from the

multivariate analysis. Refer to Table 1 for the means and standard deviations per condition.

DAST-10: There was no main effect for major or for gender. The interaction between gender and major was marginally significant, $F(1, 47) = 3.967$, $p = .052$, $\eta_p^2 = .08$. Males who were science majors were perceived as having the most symptoms of drug abuse ($M = 3.82$, $SD = 3.25$), followed by female creative writers ($M = 2.75$, $SD = 2.73$), followed by male creative writers ($M = 2.30$, $SD = 2.32$), followed by female science majors ($M = 1.38$, $SD = 0.052$). The pattern of means may be symbolized as follows: MS > FCW > MCW > FS. Figure 11 displays the means per group. The simple main effect comparing female creative writing majors to male creative writing majors was not significant. The simple main effect of gender was also not significant for science majors on the DAST-10, $F(1, 47) = 3.503$, $p = .067$.

AUDIT: There was no main effect for major or for gender. The interaction between gender and major was significant, $F(1, 47) = 5.928$, $p = .02$, $\eta_p^2 = .11$. Males who were science majors were perceived as having the most symptoms of alcoholism ($M = 13.91$, $SD = 9.99$), followed by female creative writers ($M = 10.92$, $SD = 7.33$), followed by male creative writers ($M = 7.85$, $SD = 6.89$), followed by female science majors ($M = 6.25$, $SD = 4.20$). The pattern of means may be symbolized as follows: MS > FCW > MCW > FS. Figure 12 displays the means per group on the AUDIT.

Personality Variables:

Five-Factor Inventory and Creative Personality Scale.

A 2 (gender of character) X 2 (major of character) multivariate ANOVA was performed

on the personality measures including 5 subscales of the FFI and the CPS. Only 2 main

effects were found: a main effect of gender for Neuroticism, F (1, 47) = 5.151, p = .028,

η_p^2 = .10. Females were perceived as more neurotic overall (M = 28.05, SD = 6.485)

compared to males (M = 23.87; SD = 5.284). Also, a main effect of gender for

Extraversion, F (1, 47) = 7.926, p = .007, η_p^2 = .14. Females were perceived as more

extraverted (M = 29.50, SD = 4.541) compared to males (M = 26.58; SD = 3.128). Refer to

Table 1 for the means and standard deviations per condition.

DISCUSSION

The purpose of the present study was to determine whether creative writers were perceived as more mentally ill, having a deviant personality, and as more likely to have a drug or alcohol abuse problem as found in previous research (Ludwig, 1995; Kaufman, 2001b, 2002; Kaufman, Bromley. & Cole, 2006; Eysenck, 1995; Piirto, 2009; Goodwin, 1992; Zausner, 2011). According to these findings, the answer depends on gender and the group to which creative writers are compared. The three hypotheses presented earlier were not completely supported; however, the research question of whether or not gender influences the question of mental illness was a definitive 'yes'.

H1: The first hypothesis was only supported for female creative writers. They were perceived as having the most amount of mental illness; while interestingly, male science majors were found to have the second highest perception of mental illness.

H2: The second hypothesis was not supported. However; a main effect of gender was found for Neuroticism and Extraversion for females.

H3: The third hypothesis was also not confirmed. Surprisingly, male science majors were found to be perceived as having the highest likelihood of having drug and alcohol abuse problems.

The research question of whether gender influences the perception of mental illness was confirmed by the first hypothesis. It also seems that females in this sample were perceived as being more neurotic than males in the same set of circumstances, which perhaps exacerbates the perception of mental illness.

The findings of the first hypothesis are consistent with Ludwig's (1995) and Kaufman's (2001b) findings. In Ludwig's research, creative writers in general were found to be were more susceptible to mental illnesses over all the artistic domains. Writers were especially prone to depression, psychosis, and anxiety. Kaufman found that female poets were significantly more likely to be vulnerable to mental illness, especially depression. Ludwig also found that poets to have higher incidences of any mental illness, especially depression as well.

Although the third hypothesis concerning substance abuse was not supported by the data, the results revealed an interesting find. The male science major was judged as having the second highest perceived mental illness and the most perception of substance abuse. The stereotypical scientist seems to be "the image of a mad genius." This stereotype has been documented by Frayling in his novel *Mad, Bad and Dangerous? The Scientist and the Cinema* (2005). According to his documentation of the 45 years of research surveying schoolchildren's drawings and descriptions of scientists, the stereotypical scientist is usually described as a white man and, when portrayed in a more positive light, the scientist

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"wears a white coat … wears glasses … may wear a beard, may be unshaven and

unkempt … a very intelligent man – a genius or almost a genius … prepared to

work for years without getting results … he will try again … [until he one day

shouts] 'I've found it! I've found it!'" (Frayling, 2005, p. 12-13).

But the scientist has a darker side, he

"is a brain. He spends his days indoors, sitting in a laboratory, pouring things

from one test tube into another … If he works for the government, he as to keep

dangerous secrets, he is endangered by what he does … He may even sell secrets

to the enemy. His work may be dangerous. Chemicals may explode. He may be

hurt by radiation … He neglects his family" (Frayling, 2005, p. 13).

The stereotype is so ingrained, that when asked to participate in the "Draw-A-Scientist"

test, an assessment of public perceptions of scientists, even scientists themselves drew

stereotypical versions of scientists (Brooks, 2012). Kaufman, Bromley, and Cole (2006)

developed a measure called "the Mad Genius Endorsement Scale (MGES)." The MGES

is a seven question measure, answered on a 1-9 Likert scale, asking questions about the

mad genius stereotype. The MGES included questions such as "People who are creative

are more likely to be mentally ill than people who are less creative." When used

alongside the Creative Personality Scale and the Remote Associations Test to determine

levels of creativity, the results of the study indicated that "the more creative a person

considered him or herself to be, the more likely he or she was to endorse the stereotype"

(p. 156). This view, that to be a genius you must be mad, idealizes mental illness. Although this perception may reduce the stigma associated with mental illness, it can create a phenomenon where being normal is considered to be boring.

The present study found that female creative writers were perceived as having higher levels of mental illness, while male science majors were perceived as more susceptible to substance abuse. The participants of the present study may have focused on the disorganized behaviors and tardiness from the character in the vignette, rather than just the major of the student. As they answered questions, the participants may have been seeking explanations for this behavior. Behaviors that may be acceptable for the creative writer, such as tardiness or disorganization, may not be acceptable for the scientist. The scientific community strives for predictability and reliability; which may indicate that the behavior exhibited by the science student may be the kind of public and professional expectations that are disadvantageous (Ludwig, 1995). Previous studies have found that males are more often associated with STEM majors (Gunderson et al., 2011); perhaps the male science student's tardiness violated the stereotypical image of the male scientist, invoking instead the underlying stereotype of the crazed, dangerous, 'I-want-to-take-over-the-world' scientist. This leads to the issue that the media has portrayed male scientists as these insane, destroyers of the world, creators of Frankenstein monsters and atomic bombs (Brooks, 2012); while female scientists have

been portrayed as needing to work extraordinarily hard and sacrifice time at home to be successful (Steinke, 1997).

Applications of the Research

Even though the present study's hypotheses were not fully supported, the research still presents an interesting set of data. The research provides insight into the stereotypes of the arts and sciences, and provides interesting contributions to the growing field of STEM research. Because gender biases still exist, it is important to research and analyze every aspect of academia to present an entire picture of stereotypes that need to be eradicated.

Limitations

The conclusions of the present study must be regarded with caution in light of several limitations. One limitation is the small sample size. In fact, only 8 observations were collected for the female science major. With a larger sample size, a more accurate statistical generalizability may be reached. Also, creative writers were only compared with science majors. It would be useful to compare different disciplines. Another limitation of the study s was the topic of the vignette. While the vignette may have been relatable to college students it may have evoked certain stereotypes that were not intended. A variety of vignettes and majors would be ideal.

Future Research

Future research could include a larger sample size, different academic majors, and a more neutral vignette. Further research is needed to explore the reasons behind the perceptions that were found in this study. Also, the Creative Personality Scale may have created a further bias. While the scale presented adjectives that are associated with creativity, from the view of a participant, certain adjectives may also apply to the realm of the science major, such as: clever, intelligent, capable, and inventive. Perhaps for further research, the scale may be removed or replaced.

Overall, the present research provides insight into the stigma of mental illness and the stereotypes of creative individuals in both the arts and sciences. Although there are limitations and changes to be made, this is a fruitful contribution to the established research in the field of social psychology. While present research in the STEM fields is focused on the detrimental effects of stereotype threat to females, the present study serves as a reminder not to forget the deleterious effects stereotypes have on both sexes, as well as the constant stigma of individuals with mental illness who are subject to persistent prejudice in their everyday lives.

Table 1

Mental Illness Descriptive Statistics				
	gender	major	Mean	Std. Deviation
Somatization	Female	Creative Writer	0.92	0.83
		Science Major	0.41	0.34
		Total	0.72	0.72
	Male	Creative Writer	0.37	0.46
		Science Major	0.67	0.74
		Total	0.48	0.58
	Total	Creative Writer	0.58	0.67
		Science Major	0.56	0.61
		Total	0.57	0.64
Obsessive-Compulsive	Female	Creative Writer	1.56	0.68
		Science Major	1.01	0.54
		Total	1.34	0.67
	Male	Creative Writer	1.02	0.79
		Science Major	1.35	0.74
		Total	1.14	0.78
	Total	Creative Writer	1.22	0.79
		Science Major	1.21	0.67
		Total	1.22	0.74
Interpersonal-Sensitivity	Female	Creative Writer	1.22	0.86
		Science Major	0.63	0.63
		Total	0.99	0.82
	Male	Creative Writer	0.55	0.72
		Science Major	0.88	0.72
		Total	0.67	0.72
	Total	Creative Writer	0.80	0.83
		Science Major	0.77	0.67
		Total	0.79	0.77
Depression	Female	Creative Writer	1.36	0.81
		Science Major	0.69	0.39
		Total	1.09	0.74
	Male	Creative Writer	0.72	0.72
		Science Major	1.13	0.85

		Total	0.86	0.78
	Total	Creative Writer	0.96	0.81
		Science Major	0.94	0.71
		Total	0.95	0.77
Anxiety	Female	Creative Writer	1.53	0.70
		Science Major	1.09	0.52
		Total	1.35	0.65
	Male	Creative Writer	0.81	0.63
		Science Major	1.23	0.95
		Total	0.96	0.77
	Total	Creative Writer	1.08	0.73
		Science Major	1.17	0.78
		Total	1.11	0.74
Hostility	Female	Creative Writer	0.87	0.89
		Science Major	0.39	0.47
		Total	0.68	0.77
	Male	Creative Writer	0.41	0.51
		Science Major	0.85	0.78
		Total	0.57	0.64
	Total	Creative Writer	0.58	0.70
		Science Major	0.66	0.69
		Total	0.61	0.69
Phobic Anxiety	Female	Creative Writer	0.70	0.87
		Science Major	0.28	0.47
		Total	0.53	0.75
	Male	Creative Writer	0.13	0.29
		Science Major	0.58	0.94
		Total	0.29	0.63
	Total	Creative Writer	0.34	0.63
		Science Major	0.46	0.77
		Total	0.39	0.68
Paranoid Ideation	Female	Creative Writer	1.11	0.78
		Science Major	0.54	0.36
		Total	0.88	0.70
	Male	Creative Writer	0.53	0.69

		Science Major	0.86	0.62
		Total	0.65	0.68
	Total	Creative Writer	0.74	0.77
		Science Major	0.73	0.54
		Total	0.74	0.69
Psychoticism	Female	Creative Writer	0.70	0.68
		Science Major	0.24	0.28
		Total	0.51	0.59
	Male	Creative Writer	0.27	0.38
		Science Major	0.69	0.92
		Total	0.42	0.65
	Total	Creative Writer	0.43	0.54
		Science Major	0.50	0.75
		Total	0.46	0.62
Seven Additional Items	Female	Creative Writer	1.21	0.87
		Science Major	0.64	0.44
		Total	0.98	0.77
	Male	Creative Writer	0.61	0.52
		Science Major	1.16	0.81
		Total	0.80	0.68
	Total	Creative Writer	0.83	0.72
		Science Major	0.94	0.71
		Total	0.87	0.72
Global Scale Index	Female	Creative Writer	0.13	0.08
		Science Major	0.07	0.04
		Total	0.10	0.07
	Male	Creative Writer	0.06	0.06
		Science Major	0.11	0.08
		Total	0.08	0.07
	Total	Creative Writer	0.08	0.07
		Science Major	0.09	0.07
		Total	0.09	0.07
Positive Symptom Total	Female	Creative Writer	50.83	23.73
		Science Major	35.13	17.98
		Total	44.55	22.52

	gender	major	Mean	Std. Deviation
	Male	Creative Writer	31.25	25.95
		Science Major	43.45	27.27
		Total	35.58	26.64
	Total	Creative Writer	38.59	26.56
		Science Major	39.95	23.60
		Total	39.10	25.26

Drug and Alcohol Descriptive Statistics				
	gender	**major**	**Mean**	**Std. Deviation**
TOTAL Drug	Female	Creative Writer	2.75	2.73
		Science Major	1.38	0.52
		Total	2.20	2.22
	Male	Creative Writer	2.30	2.32
		Science Major	3.82	3.13
		Total	2.84	2.68
	Total	Creative Writer	2.47	2.45
		Science Major	2.79	2.66
		Total	2.59	2.51
TOTAL Alcohol	Female	Creative Writer	10.92	7.33
		Science Major	6.25	4.20
		Total	9.05	6.57
	Male	Creative Writer	7.85	6.89
		Science Major	13.91	9.99
		Total	10.00	8.48
	Total	Creative Writer	9.00	7.10
		Science Major	10.68	8.79
		Total	9.63	7.73

Personality Descriptive Statistics				
	gender	**major**	**Mean**	**Std. Deviation**
Neuroticism	Female	Creative Writer	29.17	6.79
		Science Major	26.38	6.02
		Total	28.05	6.49
	Male	Creative Writer	23.90	5.24
		Science Major	23.82	5.62
		Total	23.87	5.28
	Total	Creative Writer	25.88	6.32

		Science Major	24.89	5.77
		Total	25.51	6.08
Extraversion	Female	Creative Writer	30.42	5.30
		Science Major	29.13	3.27
		Total	29.90	4.54
	Male	Creative Writer	26.50	2.91
		Science Major	26.73	3.64
		Total	26.58	3.13
	Total	Creative Writer	27.97	4.34
		Science Major	27.74	3.60
		Total	27.88	4.05
Openness to Experience	Female	Creative Writer	26.42	4.14
		Science Major	25.75	2.71
		Total	26.15	3.57
	Male	Creative Writer	24.35	3.36
		Science Major	25.45	3.17
		Total	24.74	3.29
	Total	Creative Writer	25.13	3.75
		Science Major	25.58	2.91
		Total	25.29	3.44
Agreeableness	Female	Creative Writer	28.83	5.32
		Science Major	27.38	3.50
		Total	28.25	4.63
	Male	Creative Writer	25.60	3.73
		Science Major	26.18	3.92
		Total	25.81	3.75
	Total	Creative Writer	26.81	4.60
		Science Major	26.68	3.70
		Total	26.76	4.25
Conscientiousness	Female	Creative Writer	28.42	8.49
		Science Major	30.38	4.34
		Total	29.20	7.05
	Male	Creative Writer	27.45	4.45
		Science Major	25.45	5.30
		Total	26.74	4.78

	Total	Creative Writer	27.81	6.16
		Science Major	27.53	5.40
		Total	27.71	5.84
TOTAL Creative Adjective	Female	Creative Writer	4.83	3.95
		Science Major	7.25	3.99
		Total	5.80	4.05
	Male	Creative Writer	4.40	3.20
		Science Major	4.36	3.38
		Total	4.39	3.21
	Total	Creative Writer	4.56	3.45
		Science Major	5.58	3.83
		Total	4.94	3.59

Global Scale Index

Average GSI Ratings

Gender of Character in Vignette

Creative Writer
Science Major

Figure 1

Somatization

Average SOM Ratings

Gender of Character in Vignette

Creative Writer
Science Major
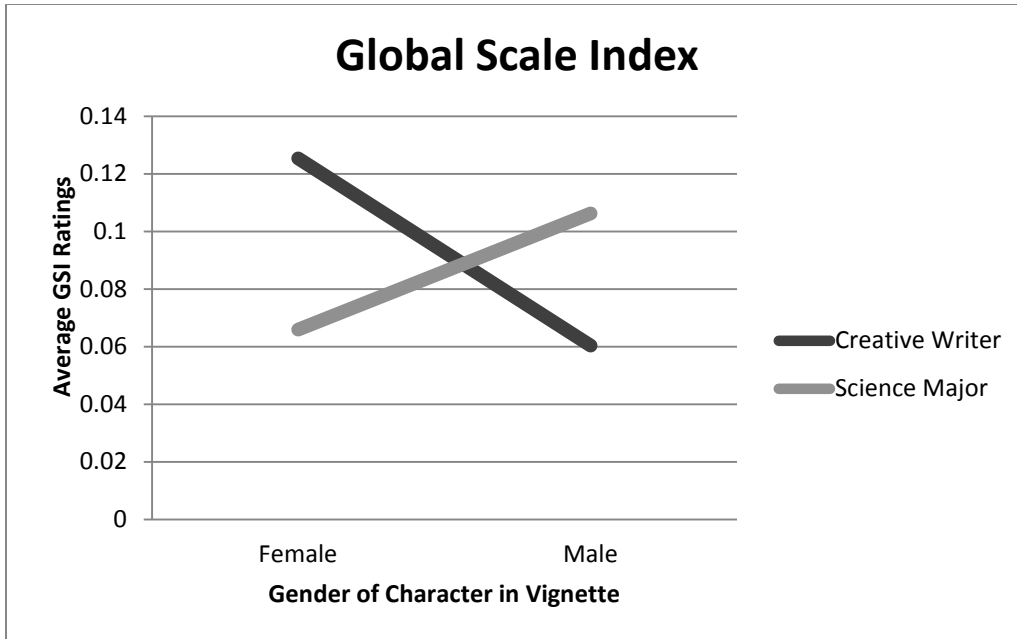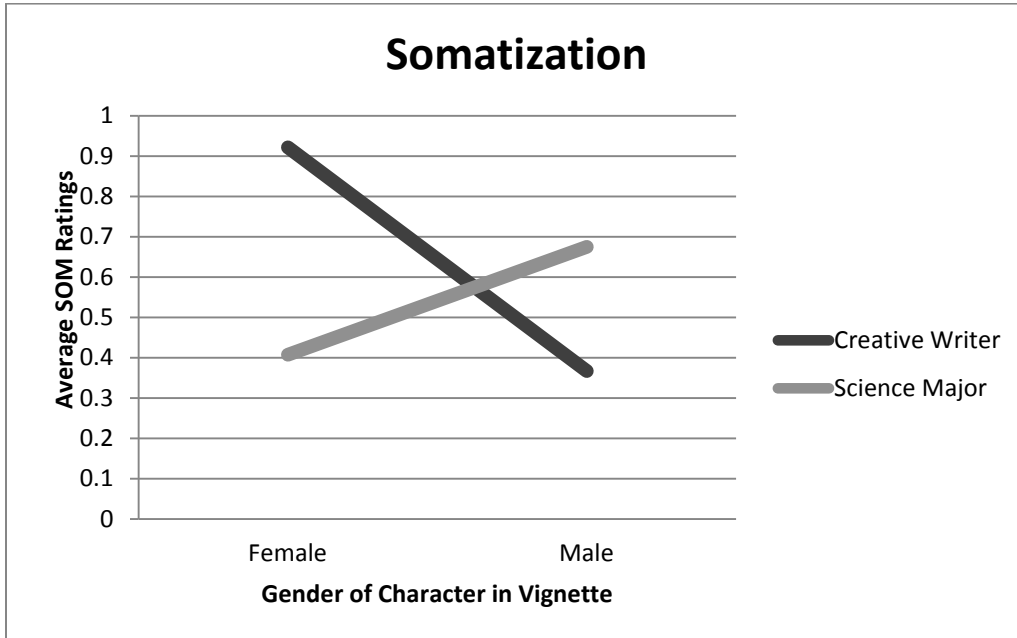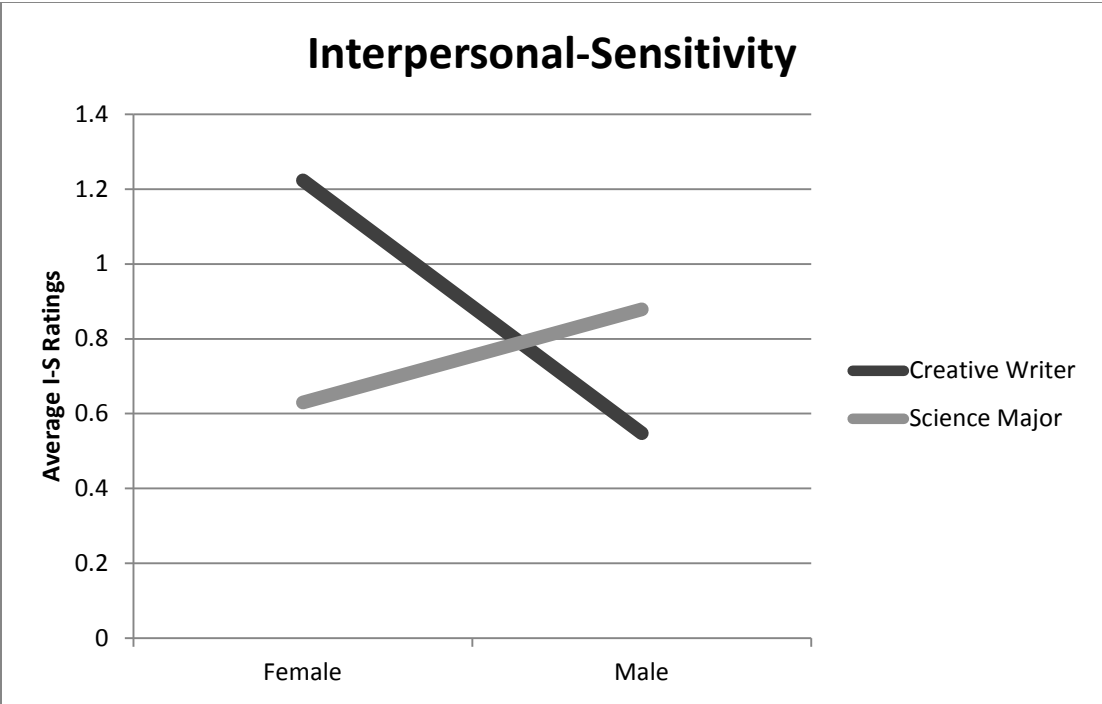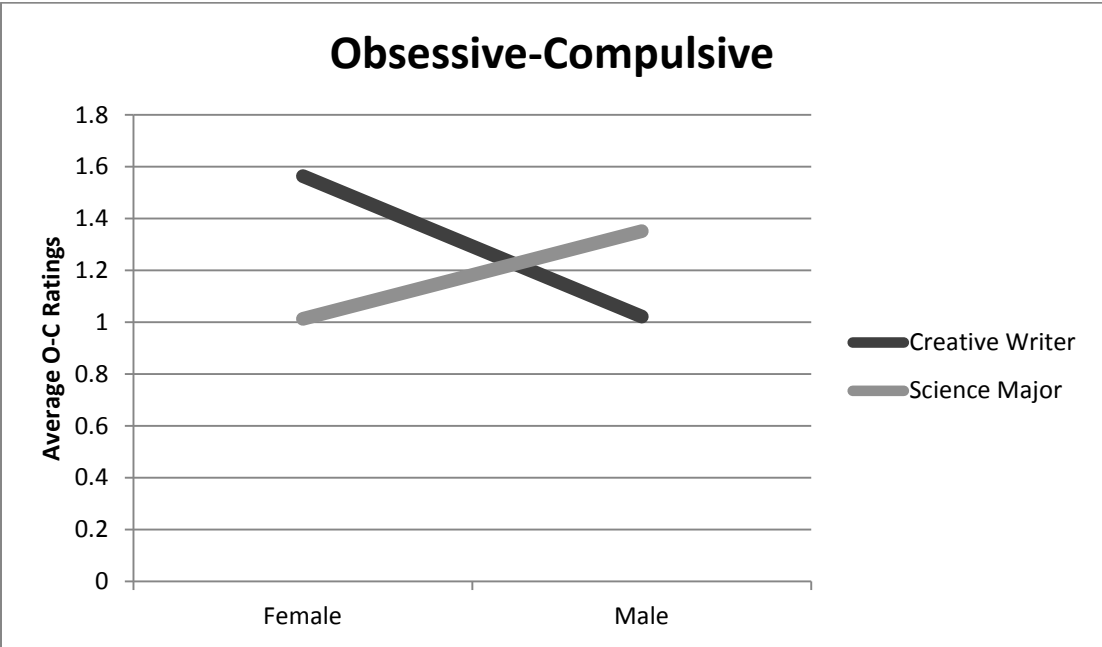
Figure 2

Figure 3

Figure 4
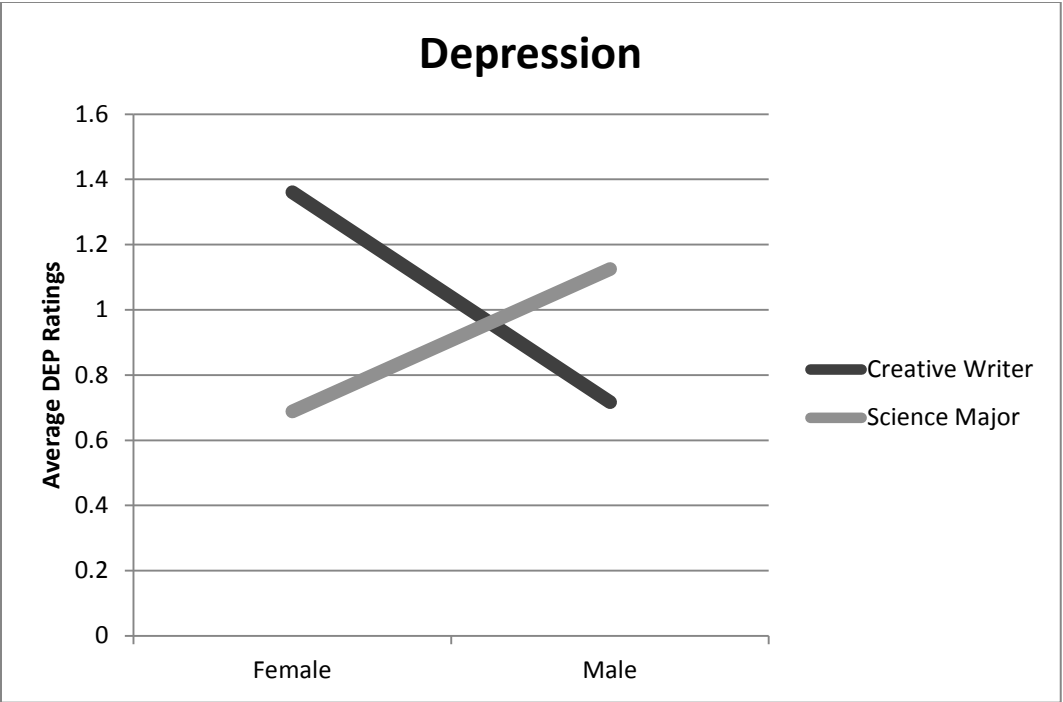
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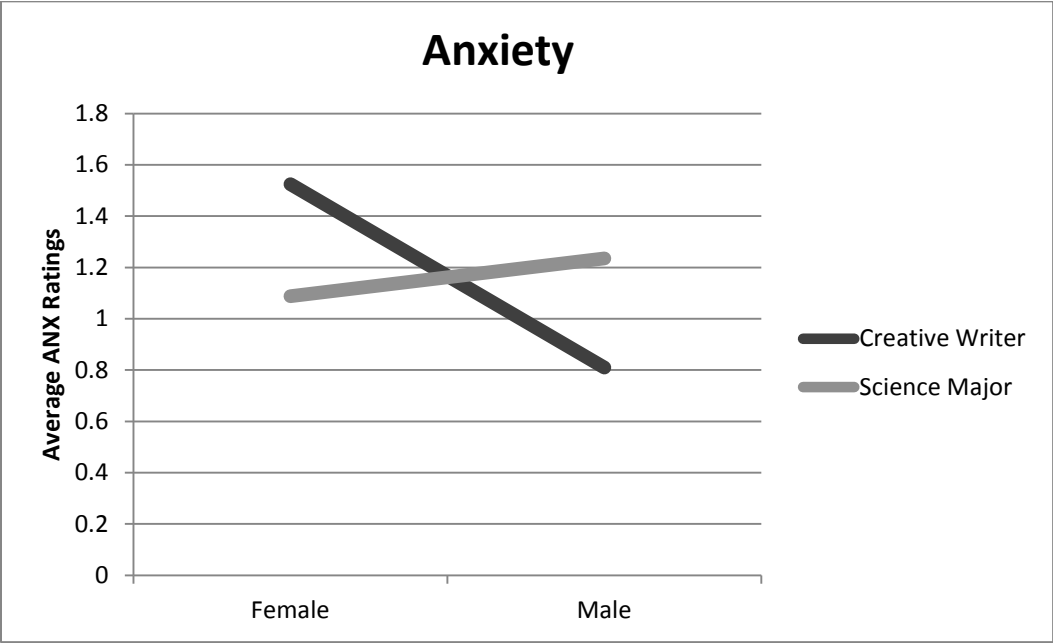
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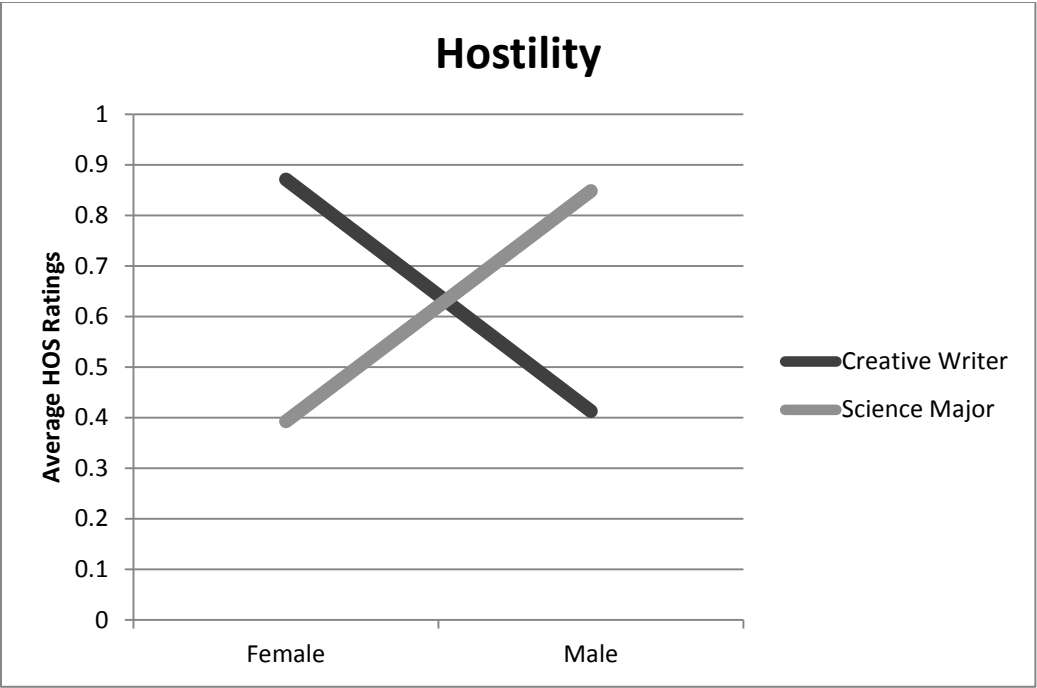
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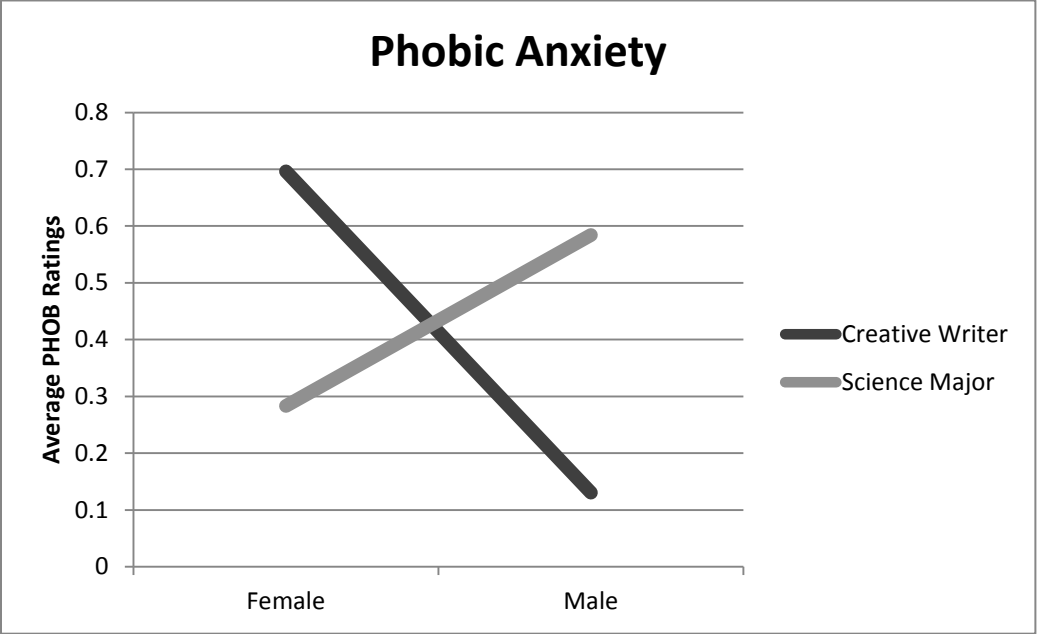
Figure 8

Figure 9

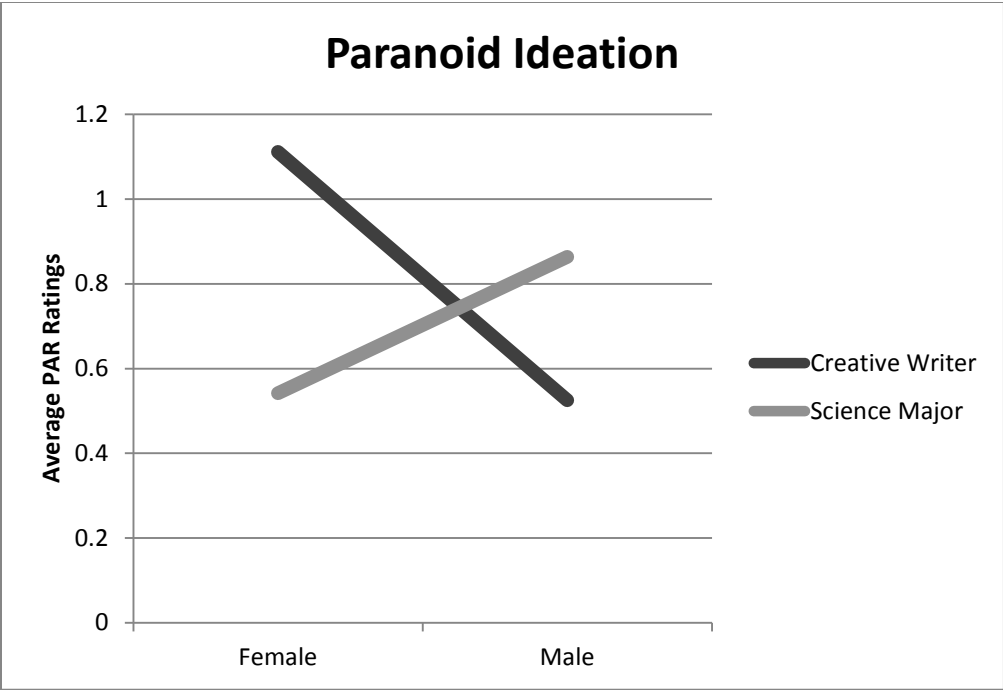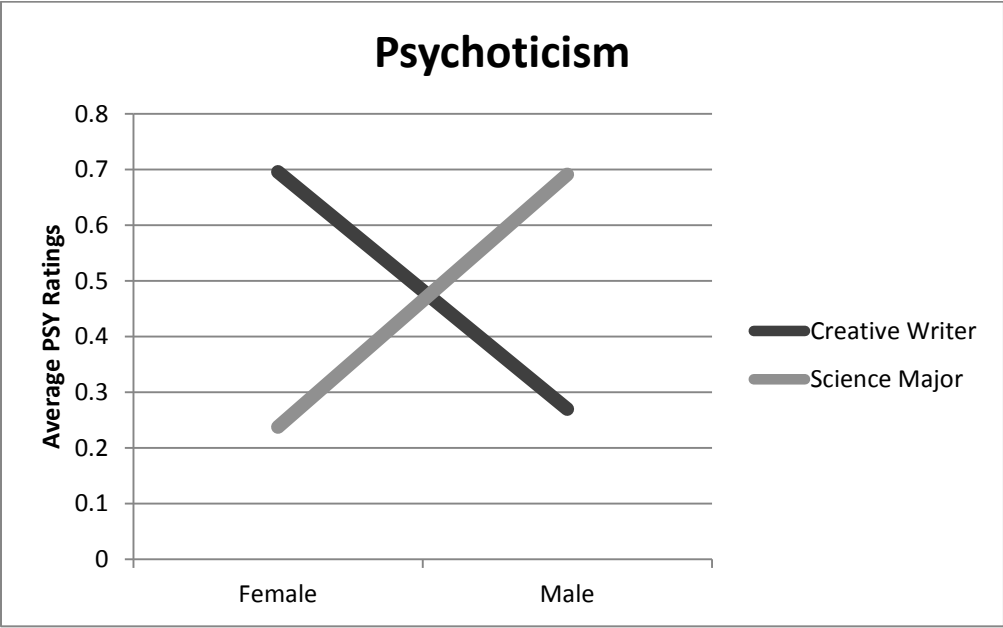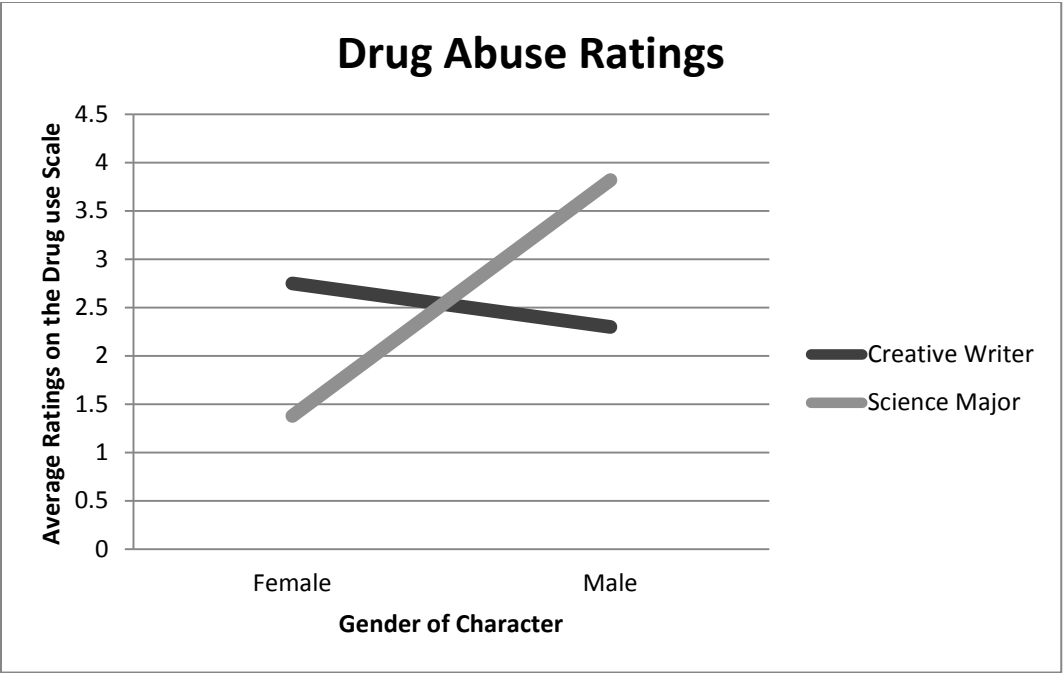**Figure 10**

Figure 11

7

Figure 12

APPENDIX A: IRB APPROVAL LETTER

IRB APPROVAL LETTER

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1**
          FWA00000351, IRB00001138

To: **Shannon N. Whitten**

Date: **March 05, 2013**

Dear Researcher:

On 3/5/2013, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Project Title:	Student Perceptions on Peer Conduct
Investigator:	Shannon N. Whitten
IRB Number:	SBE-13-09098
Funding Agency:	
Grant Title:	
Research ID:	n/a

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Patria Davis on 03/05/2013 10:56:24 AM EST

IRB Coordinator

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APPENDIX B: EXPLANATION OF RESEARCH

EXPLANATION OF RESEARCH

Title of Project: Student Perceptions on Peer Conduct

Principal Investigator: Shannon Whitten, PhD

Other Investigators: Angela Vanella

Faculty Supervisor: Shannon Whitten, PhD

You are being invited to take part in a research study. Whether you take part is up to you.

• The purpose of this study is to explore the ways in which students evaluate their peers' conduct. Students often stereotype their peers based on observed behaviors. The researcher would like to explore the levels to which students stereotype their peers based on certain conduct.

• During this study, participants will first be asked to read a short story. Then, participants will be asked questions specifically about the character in the story. After answering the questions about the character, participants will then be asked to provide demographic information about themselves.

• We expect that you will be in this research study for approximately ninety (90) minutes.

You must be 18 years of age or older to take part in this research study.

Study contact for questions about the study or to report a problem: If you have questions, concerns, or complaints If you have questions, concerns, or complaints, or

think the research has hurt you, talk to: Angela Vanella, Undergraduate Student, College of Science, at avanella@knights.ucf.edu or Dr. Shannon Whitten, Faculty Supervisor, Department of Psychology at Shannon.whitten@ucf.edu.

IRB contact about your rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901.

APPENDIX C: VIGNETTES

VINGETTES

Female Creative Writing

Meg woke up to find her cat snoozing in front of her face on the bedside table; his tail drifted lazily across the bed.

"Hey Mittens," she reached over to scratch her cat behind the ears and he sprang up and jumped to the floor. "Fine, I didn't want to pet you anyways." She said to her sometimes bratty cat.

With Mittens out of the way, her alarm clock came into view. It read 12:47 pm. Meg was going to be late for one of the most important classes of the semester: her final short story portfolio was due. These were the times that she cursed herself for staying up so late and not finding an apartment closer to campus.

Meg rushed to get dressed and brushed her teeth as fast as she could. She grabbed her manuscript and shoved it in her backpack. Flying out the door, she ran to her car and threw it in reverse. Hardly looking where she was going, she blew through two stop signs in her apartment complex. Realizing her hectic driving, she looked around to make sure there were no cop cars around, and resumed driving at a more reasonable, albeit still fast, pace.

Once she arrived on campus, she circled the always full parking lot outside of the English building like vulture trying to find a spot, checking the clock every few seconds

in her desperation to arrive at a decent time. Of course, she found one in the farthest spot of the lot at 1:08 pm. Meg's Creative Writing professor was going to be livid. He hated tardiness almost as much as he hated people saying that *Romeo & Juliet* was *just* a story.

She finally walked up the steps to the main entrance, feeling a sense of impending doom. If he didn't accept this story portfolio, she'd fail. She really wanted to show her teacher all the hard work she had put into her story. She had spent so much time creating this character, that she really felt she had captured a story worth publishing. It would be a shame if her teacher wouldn't accept it.

Meg peeked into the window of the classroom, he was calling roll still! Hopefully he wasn't too far down and she could sneak in.

"…Heather North?"

"Here."

"Jennifer Mawry?"

"Here!"

"Zachary Perse?"

"Here."

"Meg Smith?"

"Here!" Meg called out as she was trying to sneak to her seat. She didn't quite make it. Mr. Harlow's face began start to flush and then his beard started to quiver. She stood there quietly, waiting for the professor to unleash his fury. His deep, menacing voice quietly told her to take her seat. She hoped this wouldn't impact her story grade.

Male Creative Writing

Matt woke up to find his cat snoozing in front of his face on the bedside table; his tail drifted lazily across the bed.

"Hey Mittens," he reached over to scratch his cat behind the ears and he sprang up and jumped to the floor. "Fine, I didn't want to pet you anyways," he said to his sometimes bratty cat.

With Mittens out of the way, his alarm clock came into view. It read 12:47 pm. Matt was going to be late for one of the most important classes of the semester: his final short story portfolio was due. These were the times that he cursed himself for staying up so late and not finding an apartment closer to campus.

Matt rushed to get dressed and brushed his teeth as fast as he could. He grabbed his manuscript and shoved it in his backpack. Flying out the door, he ran to his car and threw it in reverse. Hardly looking where he was going, he blew through two stop signs in his apartment complex. Realizing his hectic driving, he looked around to make sure there were no cop cars, and resumed driving at a more reasonable, albeit still fast, pace.

Once he arrived on campus, he circled the always full parking lot outside of the English building like vulture trying to find a spot, checking the clock every few seconds in his desperation to arrive at a decent time. Of course, he found one in the farthest spot

of the lot at 1:08 pm. Matt's Creative Writing professor was going to be livid. He hated

tardiness almost as much as he hated people saying that *Romeo & Juliet* was *just* a story.

Matt finally walked up the steps to the main entrance, feeling a sense of

impending doom. If he didn't accept this story portfolio, he'd fail. He really wanted to

show his teacher all the hard work he had put into his story. He had spent so much time

creating this character, that he really felt he had captured a story worth publishing. It

would be a shame if his teacher wouldn't accept it.

Matt peeked into the window of the classroom, he was calling roll still!

Hopefully he wasn't too far down and he could sneak in.

"…Heather North?"

"Here."

"Jennifer Mawry?"

"Here!"

"Zachary Perse?"

"Here."

"Matt Smith?"

"Here!" Matt called out as he was trying to sneak to his seat. He didn't quite

make it. Mr. Harlow's face began start to flush and then his beard started to quiver. He

stood there quietly, waiting for the professor to unleash his fury. His deep, menacing

voice quietly told him to take his seat. He hoped this wouldn't impact his story grade.

Female Science

Meg woke up to find her cat snoozing in front of her face on the bedside table; his tail drifted lazily across the bed.

"Hey Mittens," she reached over to scratch her cat behind the ears and he sprang up and jumped to the floor. "Fine, I didn't want to pet you anyways," she said to her sometimes bratty cat.

With Mittens out of the way, her alarm clock came into view. It read 12:47 pm. Meg was going to be late for one of the most important classes of the semester: her hydrogen compound analysis was due. These were the times that she cursed herself for staying up so late and not finding an apartment closer to campus.

Meg rushed to get dressed and brushed her teeth as fast as she could. She grabbed her analysis report and shoved it in her backpack. Flying out the door, she ran to her car and threw it in reverse. Hardly looking where she was going, she blew through two stop signs in her apartment complex. Realizing her hectic driving, she looked around to make sure there were no cop cars around, and resumed driving at a more reasonable, albeit still fast, pace.

Once she arrived on campus, she circled the always full parking lot outside of the Biological Sciences building like vulture trying to find a spot, checking the clock every few seconds in her desperation to arrive at a decent time. Of course, she found one in

the farthest spot of the lot at 1:08 pm. Meg's Organic Chemistry professor was going to be livid. He hated tardiness almost as much as he hated people saying that the Periodic Table of Elements was just a chart.

She finally walked up the steps to the main entrance, feeling a sense of impending doom. If he didn't accept this analysis, she'd fail. She really wanted to show her teacher all the hard work she had put into her analysis. She had spent so much time analyzing this compound that she really felt she had written an analysis report worth publishing. It would be a shame if her teacher wouldn't accept it.

Meg peeked into the window of the classroom, he was calling roll still! Hopefully he wasn't too far down and she could sneak in.

"…Heather North?"

"Here."

"Jennifer Mawry?"

"Here!"

"Zachary Perse?"

"Here."

"Meg Smith?"

"Here!" Meg called out as she was trying to sneak to her seat. She didn't quite make it. Mr. Harlow's face began start to flush and then his beard started to quiver. She stood there quietly, waiting for the professor to unleash his fury. His deep, menacing voice quietly told her to take her seat. She hoped this wouldn't impact her compound analysis grade.

Male Science

Matt woke up to find his cat snoozing in front of his face on the bedside table; his tail drifted lazily across the bed.

"Hey Mittens," he reached over to scratch his cat behind the ears and he sprang up and jumped to the floor. "Fine, I didn't want to pet you anyways," he said to his sometimes bratty cat.

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farthest spot of the lot at 1:08 pm. Matt's Organic Chemistry professor was going to be livid. He hated tardiness almost as much as he hated people saying that the Period Table of Elements was just a chart.

Matt finally walked up the steps to the main entrance, feeling a sense of impending doom. If he didn't accept this analysis, he'd fail. He really wanted to show his teacher all the hard work he had put into his analysis. He had spent so much time analyzing this compound that he really felt he had written an analysis report worth publishing. It would be a shame if his teacher wouldn't accept it.

Matt peeked into the window of the classroom, he was calling roll still! Hopefully he wasn't too far down and he could sneak in.

"…Heather North?"

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APPENDIX D: MANIPULATION CHECK

MANIPULATION CHECK

1. Does the character own a cat?

2. What was the character's gender?

3. Was the character late for class?

4. What was the character's major?

5. Did the character need to turn something in or take a test?

APPENDIX E: SYMPTOMS CHECKLIST 90-R

SYMPTOMS CHECKLIST 90-R

INSTRUCTIONS:

Below is a list of problems people sometimes have. Please read each one carefully, and choose the number that corresponds with the amount that best describes how much you believe that the problems has distressed or bothered **_Matt Smith/Meg Smith_** recently.

0 = Not at all	1 = A little bit	2 = Moderately	3 = Quite a bit	4 = Extremely

Item/Symptom

1. Headaches
2. Nervousness or shakiness inside
3. Repeated unpleasant thoughts that won't leave Matt/Meg's mind
4. Faintness or dizziness
5. Loss of sexual interest or pleasure
6. Feeling critical of others
7. The idea that someone else can control Matt/Meg's thoughts
8. Feeling others are to blame for most of Matt/Meg's troubles
9. Trouble remembering things
10. Worried about sloppiness or carelessness
11. Feeling easily annoyed or irritated
12. Pain in heart or chest
13. Feeling afraid in open spaces or on the streets
14. Feeling low in energy or slowed down
15. Thoughts of ending Matt/Meg's life
16. Hearing voices that other people do not hear
17. Trembling
18. Feeling that most people cannot be trusted
19. Poor appetite
20. Crying easily
21. Feeling shy or uneasy with the opposite sex
22. Feelings of being trapped or caught
23. Suddenly scared for no reason
24. Temper outbursts that Matt/Meg could not control
25. Feeling afraid to go out of Matt/Meg's house alone
26. Blaming themselves for things
27. Pains in lower back

28. Feeling blocked in getting things done
29. Feeling lonely
30. Feeling blue
31. Worrying too much about things
32. Feeling no interest in things
33. Feeling fearful
34. Matt/Meg's feelings being easily hurt
35. Other people being aware of Matt/Meg's private thoughts
36. Feeling others do not understand Matt/Meg or are unsympathetic
37. Feeling that people are unfriendly or dislike Matt/Meg
38. Having to do things very slowly to insure correctness
39. Heart pounding or racing
40. Nausea or upset stomach
41. Feeling inferior to others
42. Soreness of their muscles
43. Feeling that they are watched or talked about by others
44. Trouble falling asleep
45. Having to check and double-check what they do
46. Difficulty making decisions
47. Feeling afraid to travel on buses, subways, or trains
48. Trouble getting their breath
49. Hot or cold spells
50. Having to avoid certain things, places or activities because they frighten Matt/Meg
51. Matt/Meg's mind going black
52. Numbness or tingling in parts of Matt/Meg's body
53. A lump in their throat
54. Feeling hopeless about the future
55. Trouble concentrating
56. Feeling weak in parts of Matt/Meg's body
57. Feeling tense or keyed up
58. Heavy feelings in Matt/Meg's arms or legs
59. Thoughts of death or dying
60. Overeating
61. Feeling uneasy when people are watching or talking about Matt/Meg
62. Having thoughts that are not their own
63. Having urges to beat, injure, or harm someone
64. Awakening in the early morning
65. Having to repeat the same actions such as touching, counting, or washing
66. Sleep that is restless or disturbed
67. Having urges to break or smash things

68. Having ideas or beliefs that others do not share
69. Feeling very self-conscious with others
70. Feeling uneasy in crowds, such as shopping or at a movie
71. Feeling everything is an effort
72. Spells of terror or panic
73. Feeling uncomfortable about eating or drinking in public
74. Getting into frequent arguments
75. Feeling nervous when they are left alone
76. Others not giving them proper credit for their achievements
77. Feeling lonely even when they are with people
78. Feeling so restless they couldn't sit still
79. Feelings of worthlessness
80. The feeling that something bad is going to happen to Matt/Meg
81. Shouting or throwing things
82. Feeling afraid Matt/Meg will faint in public
83. Feeling that people will take advantage of Matt/Meg if Matt/Meg lets them
84. Having thoughts about sex that bother them a lot
85. The idea that Matt/Meg should be punished for their sins
86. Thoughts and images of a frightening nature
87. The idea that something serious is wrong with Matt/Meg's body
88. Never feeling close to another person
89. Feelings of guilt
90. The idea that something is wrong with Matt/Meg's mind

APPENDIX F: NEO-FIVEFACTOR SCALE

NEO-FIVE FACTOR SCALE

Instructions:
Please rate how accurately each of the following statements describes *Matt Smith/Meg Smith* using the 1-5 rating scale where (1) is "Strongly Disagree," (2) is "Disagree," (3) is "Neutral," (4) is "Agree," and (5) is "Strongly Agree."

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. Matt/Meg is not a worrier.
2. Matt/Meg likes to have a lot of people around him/her.
3. Matt/Meg doesn't like to waste his/her daydreaming.
4. Matt/Meg tries to be courteous to everyone he/she meets.
5. Matt/Meg keeps his/her belongings neat and clean.
6. Matt/Meg often feels inferior to others.
7. Matt/Meg laughs easily.
8. Once Matt/Meg finds the right way to do something, he/she sticks to it.
9. Matt/Meg often gets into arguments with his/her family and co-workers.
10. Matt/Meg is pretty good about pacing himself/herself so as to get things done on time.
11. When Matt/Meg is under a great deal of stress, sometimes he/she feels like he/she is going to pieces.
12. Matt/Meg doesn't consider himself/herself especially "light-hearted".
13. Matt/Meg is intrigued by the patterns he/she finds in art and nature.
14. Some people think Matt/Meg is selfish and egotistical.
15. Matt/Meg is not a very methodical person.
16. Matt/Meg rarely feels lonely or blue.
17. Matt/Meg really enjoys talking to people.
18. Matt/Meg believes letting students hear controversial speakers can only confuse and mislead him/her.
19. Matt/Meg would rather cooperate with others than compete with them.
20. Matt/Meg tries to perform all the tasks assigned to him/her conscientiously.

21. Matt/Meg often feels tense and jittery.
22. Matt/Meg likes to be where the action is.
23. Poetry has little or no effect on Matt/Meg.
24. Matt/Meg tends to be cynical and skeptical of others' intentions.
25. Matt/Meg has a clear set of goals and works toward them in an orderly fashion.
26. Sometimes Matt/Meg feels completely worthless.
27. Matt/Meg usually prefers to do things alone.
28. Matt/Meg often tries new and foreign foods.
29. Matt/Meg believes that most people will take advantage of you if you let them.
30. Matt/Meg wastes a lot of time before settling down to work.
31. Matt/Meg rarely feels fearful or anxious.
32. Matt/Meg often feels as if they're bursting with energy.
33. Matt/Meg seldom notices the moods or feelings that different environments produce.
34. Most people Matt/Meg knows like them.
35. Matt/Meg works hard to accomplish their goals.
36. Matt/Meg often gets angry at the way people treat them.
37. Matt/Meg is a cheerful, high-spirited person.
38. Matt/Meg believes we should look to our religious authorities for decisions on moral issues.
39. Some people think of Matt/Meg as cold and calculating.
40. When Matt/Meg makes a commitment, Matt/Meg can always be counted on to follow through.
41. Too often, when things go wrong, Matt/Meg gets discouraged and feels like giving up.
42. Matt/Meg is not a cheerful optimist.
43. Sometimes when Matt/Meg is reading poetry or looking at a work of art, he/she feels a chill or wave of excitement.
44. Matt/Meg is hard-headed and tough-minded in his/her attitudes.
45. Sometimes Matt/Meg is not as dependable or reliable as he/she should be.
46. Matt/Meg is seldom sad or depressed.
47. Matt/Meg's life is fast-paced.
48. Matt/Meg has little interest in speculating on the nature of the universe or the human condition.
49. Matt/Meg generally tries to be thoughtful and considerate.

50. Matt/Meg is a productive person who always gets the job done.
51. Matt/Meg often feels helpless and wants someone else to solve his/her problems.
52. Matt/Meg is a very active person.
53. Matt/Meg has a lot of intellectual curiosity.
54. If Matt/Meg doesn't like people, he/she lets them know it.
55. Matt/Meg never seems to be able to get organized.
56. At times Matt/Meg has been so ashamed he/she just wanted to hide.
57. Matt/Meg would rather go their own way than be a leader of others.
58. Matt/Meg often enjoys playing with theories or abstract ideas.
59. If necessary, Matt/Meg is willing to manipulate people to get what he/she wants.
60. Matt/Meg strives for excellence in everything he/she does.

APPENDIX G: CREATIVE PERSONALITY SCALE

CREATIVE PERSONALITY SCALE

Please indicate which of the following adjectives that you think best describes *Matt Smith/Meg Smith.*

Check all that apply.

_____ Capable	_____ Honest
_____ Artificial	_____ Intelligent
_____ Clever	_____ Well-mannered
_____ Cautious	_____ Wide interests
_____ Confident	_____ Inventive
_____ Egotistical	_____ Original
_____ Commonplace	_____ Narrow interests
_____ Humorous	_____ Reflective
_____ Conservative	_____ Sincere
_____ Individualistic	_____ Resourceful
_____ Conventional	_____ Self-confident
_____ Informal	_____ Sexy
_____ Dissatisfied	_____ Submissive
_____ Insightful	_____ Snobbish
_____ Suspicious	_____ Unconventional

APPENDIX H: DRUG ABUSE SCREENING TEST-10

DRUG ABUSE SCREENING TEST-10

DRUG USE QUESTIONAIRE (DAST-10)

The following questions concerns information about a person's possible involvement with illegal substances during the past 12 months. Carefully read each statement and decide if your answer about _**Matt Smith/Meg Smith**_ is "Yes" or "No", then, chose the appropriate response.

In the statements "drug abuse" refers to (1) the use of prescribed or over the counter that may include: cannabis (e.g. marijuana, hash), solvents, tranquilizers (e.g. Valium), barbiturates, cocaine, stimulants (e.g. speed), hallucinogens (e.g. LSD) or narcotics (e.g. heroin).

Please answer every question. If you have difficulty with a statement, then choose the response that is mostly right.

 These questions refer to the past 12 months.
1. Do you believe Matt/Meg has used drugs other than those required for medical reasons?
2. Do you believe Matt/Meg abuses more than one drug at a time?
3. Do you believe Matt/Meg is always able to stop using drugs when he/she wants to?
4. Do you believe Matt/Meg has had "blackouts" or "flashbacks" as a result of drug use?
5. Do you believe Matt/Meg ever feels bad or guilty if they are using drugs?
6. Do you believe Matt/Meg's significant other, parents or friends ever complain about his/her involvement with drugs?
7. Do you believe Matt/Meg has neglected his/her family because of using drugs?
8. Do you believe Matt/Meg has ever engaged in illegal activities in order to obtain drugs?
9. Do you believe Matt/Meg has ever experienced withdrawal symptoms (felt sick) when he/she stopped taking drugs?
10. Do you believe Matt/Meg has had medical problems as a result of his/her drug use (e.g. memory loss, hepatitis, convulsions, bleeding, etc.)?

APPENDIX I: ALCOHOL USE DISORDERS IDENTIFICATION TEST

ALCHOHOL USE DISORDERS IDENTIFICATION TEST

1. How often do you have a drink containing alcohol?	Never	Monthly or Less	2-4 times a month	2-3 times a week	4 or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking	1 or 2	3 or 4	5 or 6	7 to 9	10 or more
3. How often do you have six or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
4. How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
5. How often during the last year have you failed to what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily

8. How often during the last year have you been unable to remember what happened the night before because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
9. How you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year

APPENDIX J: DEMOGRAPHICS

DEMOGRAPHICS

1. How old are you?

   _____

2. Please indicate your gender.

   o Male

   o Female

3. Please indicate your ethnicity.

   o American Indian or Alaskan Native

   o Asian

   o Black or African American (Not of Hispanic origin)

   o Hispanic or Latino

   o Native Hawaiian or Other Pacific Islander

   o White or Caucasian (Not of Hispanic Origin)

4. What is your major?

   _____

5. What academic year are you?

   o Freshman

   o Sophomore

   o Junior

   o Senior

Other, please specify: _____

APPENDIX K: DEBRIEFING STATEMENT

DEBRIEFING STATEMENT

For the study entitled: **"Student Perceptions on Peer Conduct"**

Dear Participant;

During this study, you were asked to judge student conduct. You were told that the purpose of the study was to determine student perceptions of their peers. The actual purpose of the study was determine whether creative writers would be judged as having higher incidences of mental illness, a deviant personality and a higher likelihood of substance abuse.

We did not tell you everything about the purpose of the study because it was essential to determine if just stating the student's major would change the perception of the individual. You were also randomly assigned one of four vignettes in order to account for differences in particpants: a female creative writer, a male creative writer, a female science student, and a male science student.

If you have any concerns about your participation or the data you provided in light of this disclosure, please discuss this with us. We will be happy to provide any information we can to help answer questions you have about this study.

The responses in this study are de-identified and cannot be linked to you.

Study contact for questions about the study or to report a problem: If you have questions, concerns, or complaints or think the research has hurt you, please contact: Angela Vanella at avanella@knights.ucf.edu.

IRB contact about your rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901.

If you have experienced distress as a result of your participation in this study, a referral list of mental health providers is attached to this document for your use.6 (Please remember that any cost in seeking medical assistance is at your own expense.)

Please again accept our appreciation for your participation in this study. *

APPENDIX L: INTERENAL CONSISTENCY AND TEST-RETEST RELIABILITY COEFFICIENTS OF THE SCL-90-R

INTERNAL CONSISTENCY AND TEST-RETEST RELIABILITY COEFFICIENTS OF

THE SCL-90-R

Internal Consistency and Test-Retest Reliability Coefficients

	Internal Consistency (coefficient a)		Test-Retest (r_{tt})	
	Study 1[a]	**Study 2[b]**	**Study 2[b]**	**Study 3[c]**
Somatization	.86	.88	.68	.86
Obsessive-Compulsive	.86	.87	.70	.85
Interpersonal Sensitivity	.86	.84	.81	.83
Depression	.90	.90	.75	.82
Anxiety	.85	.88	.80	.80
Hostility	.84	.85	.73	.78
Phobic Anxiety	.82	.89	.77	.90
Paranoid Ideation	.80	.79	.83	.86
Psychoticism	.77	.80	.77	.84

[a]N = 209 "symptomatic volunteers" (Derogatis, Rickels, & Rock, 1976).
[b]N = 103 psychiatric outpatients (Horowitz et al., 1988); elapsed time between tests = 10 weeks.
[c]N = 94 heterogeneous psychiatric outpatients with one week elapsed time between tests (Derogatis, Rickels, & Rock, 1976).

APPENDIX M: CORRELATIONS BETWEEN SCL-90-R PRIMARY SYMPTOM DIMENSIONS AND MMPI CLINICAL (C), WIGGINS (W), AND TRYON (T) SCALES

CORRELATIONS BETWEEN SCL-90-R PRIMARY SYMPTOM DIMENSIONS AND MMPI CLINICAL (C), WIGGINS (W), AND TRYON (T) SCALES

Symptom	Correlation	Symptom	Correlation
Somatization		**Hostility**	
Body Symptoms (T)	.66	Resentment & Aggression (T)	.68
Organic Symptoms (W)	.62	Manifest Hostility (W)	.57
Poor Health (W)	.58	Depression (W)	.52
Hypochondriasis (C)	.57	Anxiety (T)	.44
Conversion Hysteria (C)	.48	Suspicion & Mistrust (T)	.41
Obsessive-Compulsive		**Phobic Anxiety**	
Schizophrenia (C)	.57	Phobias (W)	.50
Organic Symptoms (W)	.55	Anxiety (T)	.44
Psychasthenia (C)	.54	Psychasthenia (C)	.43
Depression (W)	.51	Poor Morale (W)	.42
Autism (T)	.50	Depression (W)	.40
Resentment & Aggression (T)	.43		
Depression (T)	.41		
Interpersonal Sensitivity		**Paranoid Ideation**	
Poor Morale (W)	.64	Suspicion & Mistrust (T)	.56
Depression (W)	.63	Resentment & Aggression (T)	.50
Depression (T)	.57	Manifest Hostility (W)	.50
Schizophrenia (C)	.53	Family Problems (W)	.49
Introversion (T)	.52	Autism (T)	.48
Social Introverison (C)	.49	Paranoia (C)	.42
Anxiety (T)	.49		
Social Maladjustment (W)	.48		
Depression		**Psychoticism**	
Depression (W)	.75	Schizophrenia (C)	.64
Depression (T)	.68	Autism (T)	.55
Poor Morale (W)	.60	Psychoticism (W)	.52
Schizophrenia (C)	.55	Poor Morale (W)	.51
Resentment & Aggression (T)	.53	Psychopathic Deviate (C)	.51
Autism (T)	.48	Paranoia (C)	.48
Anxiety (T)	.48	Psychasthenia (C)	.48
Psychasthenia (C)	.48		
Anxiety			
Anxiety (T)	.57		
Schizophrenia (C)	.51		
Depression (C)			

Psychasthenia (C)	.50
Poor Morale (W)	.47
Autism (T)	.46
Resentment & Aggression (T)	.44
Organic Symptoms (W)	.43
Phobia (W)	.43
	.41

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