Summary

This paper focuses on the relationship between personality, specifically the Big Five, and certain health risk behaviors. Health risk behaviors investigated include: violence, tobacco, alcohol, suicide, marijuana, disordered eating, risky sexual behavior, and other drugs. Researchers found many significant correlations between various personality dimensions and various health risk behaviors. Most notably, agreeableness correlated with more health risk behaviors than any other personality dimensions. Researchers also found significant gender differences in many of the health risk behaviors and three personality dimensions. Males participated in more violent acts, tobacco use, alcohol use, marijuana use, and other drug use when compared to females.

Running head: PERSONALITY AND RISK BEHAVIORS

Personality Characteristics as Predictors of Health Risk Behaviors

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Abstract

This study examines personality characteristics as predictors of risky behavior, utilizing the widely accepted Big Five personality dimensions as indicators. The Big Five dimensions include: Extraversion, agreeableness, conscientiousness, neuroticism, and openness. Researchers utilized the 2005 Youth Risk Behavior Survey that investigates different types of risky behavior and for our purposes we utilized: delinquency, smoking & drinking, disorderly eating, and engagement in risky sexual behavior. Previous research has shown varying relationships between personality dimensions and risky health behavior. In addition, some problem behaviors have been investigated more thoroughly than others. Utilizing anonymous questionnaires, researchers surveyed 272 college undergraduates. For each risky behavior we predicted specific outcomes on each personality dimension. Some predictions are in line with previous research whereas others aimed to clarify those dimensions marked by the most variation. Researchers found agreeableness to be correlated with most delinquent behavior. Researchers also found gender differences in extraversion, agreeableness, and emotional stability as well as, various health risk behaviors.

Keywords: Personality, Big Five, Health Risk Behaviors.

Personality Characteristics as Predictors of Health Risk Behaviors

Language provides us with a tool that allows us to describe differences in people and further, these adjectives have allowed researchers to take a lexical approach in identifying personality dimensions (McCrae & John, 1992). It is hypothesized that traits that describe individual differences of personality would have become encoded in our language as adjectives (McCrae & John, 1992). These adjectives were clustered and analyzed to form what researchers have adopted as the Big Five or also known as Five-Factor Model (FFM) as the main representation of personality. These personality dimensions are extraversion (E), agreeableness (A), conscientiousness (C), neuroticism or lack of emotional-stability (N), and openness to experience (O). Research in identifying personality dimensions started in the 1960s, but seemed to disappear until the 1980s, when many researchers agreed that these were fundamental dimensions of personality (McCrae & Costa, 1986; McCrae & John, 1992). The following descriptions of the Big Five are in terms of higher scores: extraversion is characterized as being energetic, talkative, sociable; agreeableness is characterized as being friendly, trusting, generous, and tolerant; conscientiousness is considered as being cautious, orderly, dependable, graceful, and responsible; neuroticism is characterized as being terse, anxious, and emotionally-unstable; openness is considered to be imaginative, and focused on wisdom, art, knowledge, and objectivity (Friedman & Schustack, 2003; Goldberg, 1990; McCrae & John, 1992).

There are many implications for the use of this personality taxonomy. It would be extremely helpful in its application in a clinical setting when concerning psychopathology. It would also be helpful to administer a personality assessment to find out how one varies in agreeableness before hiring them to work in a group setting. More importantly, it would be useful in predicting risky behavior such as, smoking, drinking, unprotected sex,

counterproductive behavior, delinquency, eating disorders, and other aberrant behavior. According to McCrae and John (1992), the FFM can predict external phenomena with notable validity.

The rest of the paper will be a review of the literature that investigate various problem behaviors such as delinquency, smoking and drinking, disordered eating, and risky sexual behavior in relation to the Big Five. From this literature, hypotheses will be made for each of the Big Five dimensions and each of the problem behaviors.

Delinquency

There are many factors that can contribute to delinquency such as lower IQ scores, but most interesting was that less shyness and higher levels of emotional instability displayed at an early age was a predictor of an increased frequency of delinquent behavior (Leech, Day, Richardson, & Goldschmidt, 2003). Leech et al. used the Emotionality-Activity-Sociability and Shyness scale to find those attributes, which seem similar to extraversion and neuroticism of the Big Five. In addition, one study found support for neuroticism as being the best predictor of risky behavior (Lauriola & Levin, 2001). However, another study found that extraversion and neuroticism displayed little correlation with delinquency, whereas agreeableness showed the most support for this type of behavior (Heaven, 1996). In a study of school absenteeism, researchers found that openness, conscientiousness, and emotional stability were all negatively correlated to absences (Lounsbury, Steel, Loveland, & Gibson, 2004), and increased absences were correlated with increased drop-out rates, gang membership, and lower IQ scores. Another study found conscientiousness to be a valid predictor of counterproductive behavior (Salgado, 2002) like absenteeism; in addition to these finding about conscientiousness, one study found that it negatively correlated with the number of times inmates had been arrested, showing that

people involved in repeated criminal activity go about it uncontrolled ways (Clower & Bothwell, 2001). Identifying students, by way of the Big Five, who have frequent absences or early signs of involvement in delinquent behavior could help school counselors be more successful in their intervention (Lounsbury, Steel, Loveland, & Gibson, 2004). Unfortunately, there seems to be some consensus on only one or two dimensions of the Big Five, displaying an area where research should be conducted more thoroughly.

Smoking and Drinking

Other areas that researchers have investigated are that of smoking and drinking. The work that has been done investigating neuroticism, extraversion, and smoking has had inconclusive findings (Shadel, Niaura, Goldstein, & Abrams, 2000) and requires more research. An interesting finding is that of openness and nicotine dependence, which notes that smokers who view themselves as being more independent, or original, are less dependant on nicotine (Shadel, Niaura, Goldstein, & Abrams, 2000). Additionally, high extraversion scores are also related to smoking (Wilkinson & Abraham, 2004) along with high self-esteem which is usually a characteristic of high extraversion scores (Robins, Tracy, Trzesniewski, Potter, & Gosling, 2001). Different types of drinking, like average daily consumption, are also correlated with extraversion (Kubicka, Matejcek, Dytrych, & Roth, 2001), whereas low conscientiousness is the best predictor of the most drinking per episode according to the same study. One study found sociability to best predict an increase in intentions to consume alcohol over time (Hampson, Andrews, Barckley, & Severson, 2006). High extraversion scores are also linked to lower parental control and support (Wilkinson & Abraham, 2004), making it difficult to attribute drinking to the extraversion or the fact that the students lacked parental influence.

Eating Disorders

Few researchers have used the Big Five to investigate anorexia and the studies that have been conducted show mixed results concerning one or two of the Big Five factors (Bollen & Wojciechowski, 2004; Ghaderi & Scott, 2000). Also, one study had a control group containing more elderly people than the eating disorder sample (Bollen & Wojciechowski, 2004). Another study differentiated between the subtypes of anorexia (anorexia nervosa restricting subtype and anorexia nervosa binge-eating/purging subtype) and the Big Five, where they found anorexia nervosa-restricting (AN-R) participants to have higher conscientiousness scores when compared to those in the anorexia nervosa-binge-eating/purging (AN-BP), while both subtypes had higher levels of neuroticism compared to the control group (Bollen & Wojciechowski, 2004). Ghaderi and Scott (2000) found similar results in regards to neuroticism, but opposite findings for conscientiousness; in addition the researchers found lower levels of agreeableness and openness in their eating disorder group when compared to the control group. It is clear that personality is a factor and it is evident that both neuroticism and conscientiousness are factors, but more research is needed to examine the effects of agreeableness and openness in relation to eating disorders.

Risky Sexual Behavior

Risky sexual behavior (RSB), among other behaviors, has been attributed to sensation seeking (Gullette & Lyons, 2005; Shafer, 2001), which is related to high levels of extraversion. RSB can be unprotected sex (Gil, 2005) that would increase the risk of HIV and other sexually transmitted diseases; furthermore RSB can be sexual encounters that draw from impulsivity. This is also one area where gender in consistently investigated and one study found that males more than females report involvement in RSB at a higher frequency (Gil, 2005). Despite the support for sensation seeking being correlated with RSB (Gullette & Lyons, 2005), Bryan and Stallings

(2002) hypothesized there to be a relationship between novelty seeking and RSB because the correlation between novelty seeking and substance abuse, but to their surprise they found no relationship between novelty seeking and unprotected sexual activity. Bryan and Stallings (2002) also found the individuals who displayed lower levels of reward dependence (which they describe as warm, sensitive, and dependent) engaged in higher rates of RSB. Warmth, sensitivity, and dependence sound like the dimensions of agreeableness and conscientiousness according to the trait descriptive adjectives in Goldberg (1990); in addition it makes sense that lower levels of agreeableness and conscientiousness would cause problems because a higher conscientiousness score would be conducive to functioning well in society (Hayes & Joseph, 2003).

The Present Study

For each risky behavior we predicted specific outcomes on each personality dimension. Some predictions are in line with previous research, whereas others aimed to clarify those dimensions marked by the most variation. Concerning delinquency, we expected high scores for extraversion and neuroticism and low scores for agreeableness, conscientiousness and openness. For smoking and drinking we expected high scores in extraversion, neuroticism, and openness, and a low score in conscientiousness, while expecting little or no correlation with agreeableness. As for eating disorders, we expected high scores in conscientiousness and neuroticism, and low scores in extraversion, agreeableness, and openness. Lastly, for risky sexual behavior, we expect high scores in extraversion and openness, and low scores for agreeableness and conscientiousness, while expecting little or no correlation with neuroticism.

Method

Sample

Participants were (males = 95, females = 177) freshman college students from a large western state university who participated for points toward their psychology 101 grades. Majority of participants were freshmen level students (freshmen = 203, sophomores = 48, juniors = 18, seniors = 3) and Caucasian (Caucasian = 227, African-American = 5, Hispanic = 21, Asian = 5, other = 11). All participants were treated in accordance with the "Ethical Principles of Psychologist and Code of Conduct," publication manual (American Psychological Association., 2001).

Materials

Personality. The participants were given BFI-54 personality inventory for measuring the Big Five personality dimensions: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness (John & Srivastava, 1999). Students answered items about how they perceived themselves being, such as, 'I see myself as someone who is original, comes up with new ideas.' Each item was rated on a five-point Likert scale, which ranged from disagree strongly (A) to agree strongly (E).

Health risk behavior. Students were given the 2005 State and Local Youth Risk Behavior Survey to measure how frequently and what types of delinquent acts the participants had been involved in. This survey covered many different health risk behaviors, but for this study researchers used questions concerning behaviors of interest. We used questions concerning violence-related behaviors, suicide behaviors, tobacco use, alcohol use, marijuana use, other drug use, sexual behavior, and body weight dissatisfaction.

Procedure

Participants were asked to complete the survey anonymously while under supervision. They were asked to answer each question as they are and not how they would like to be and were informed that the results would be used for research purposes. The survey took 15-20 minutes to complete. Students were informed that if at any time they felt uncomfortable due to the questions they could stop and would not be penalized.

Results

To examine the relationship between personality dimensions and health risk behaviors we ran Pearson's *r* correlations between each personality dimension and all health risk behaviors. These correlations are shown in Table 1. Violence was significantly negatively correlated with agreeableness, but not with extraversion, conscientiousness, emotional stability, or openness. Suicide was found to have a strong negative correlation with emotional stability, but not with extraversion, agreeableness, conscientiousness, or openness. Tobacco displayed a negative correlation with agreeableness and conscientiousness, but no correlation with extraversion, emotional stability, or openness. Alcohol was significantly positively correlated with extraversion, but no significance was found between alcohol use and agreeableness, conscientiousness, and openness. It should be noted that the relationship between emotional stability and alcohol approached statistical significance. Marijuana use displayed a significant negative correlation with agreeableness and a positive correlation with openness, but no correlation was found concerning extraversion, conscientiousness, or emotional stability. Other drug use was found to have a strong negative correlation with agreeableness, but not with extraversion, conscientiousness, emotional stability, or openness. There were no statistically significant relationships found between risky sexual behavior and personality. Body weight

satisfaction was significantly positively correlated with agreeableness and significantly negatively correlated with emotional stability, but no significant correlations were found concerning extraversion, conscientiousness, or openness.

We examined gender differences in personality, as well as health risk behaviors by utilizing a two-tailed t-test. Many statistically significant differences were found. A significant difference was found concerning extraversion, with females tending to be more extraverted than males, t (270) = 3.01, $p < .003$. Agreeableness also displayed statistically significant differences between females and males showing that females tend to be more agreeable than do males, t (270) = 3.00, $p < .003$. Another statistically significant finding is that of emotional stability, with males tending to be more emotionally stable when compared to females, t (270) = -5.32, $p < .00$. Significant differences in participation in violence displayed a drastic difference between males and females, t (270) = -4.60, $p < .00$. Also, males tend to participate in the consumption of alcohol significantly more when compared to females, t (270) = -2.72, $p < .007$, also males tend to participate in marijuana usage more than females, t (270) = -4.66, $p < .00$. Males also displayed significantly higher levels of other drug use compared to females, t (270) = -3.46, $p < .001$. Body weight dissatisfaction was significantly higher in females compared to males, t (270) = 5.04, $p < .00$.

There were virtually no differences between males and females in respect to conscientiousness, t (270) = 1.86, $p = .06$, same is true concerning openness t (270) = -.34, $p = .734$. There was no statistical significance found between females and males when concerning suicide, t (270) = 1.74, $p = .08$. There was no statistical significance found between females and males concerning risky sexual behavior t (270) = -.46, $p = .65$.

Discussion

Research concerning the predictive power of personality and its dimensions has been of great interest, and we have set out to contribute to the body of literature. Examining personality characteristics as predictors of risky health behaviors was the goal of this study. Some of our hypotheses were confirmed, whereas other correlations failed to reach statistical significance.

Our results suggest there are correlations between personality dimensions and all risky behaviors investigated in this study, except risky sexual behavior. First, our hypothesis of higher scores in extraversion and neuroticism was not found, but low scores for agreeableness was found to be significant concerning delinquency. Participants who scored lower on agreeableness typically scored higher in the rate violent acts they participated in; this finding was in line with Heaven's study (1996). Also, those who scored higher in agreeableness were typically female, thus engaging in fewer acts of violence. This was also confirmed by our data with significant differences between men and women in violence and agreeableness, females scoring higher in agreeableness and lower in violence. This makes sense considering the dimension of agreeableness, that is, those who score low are likely to be argumentative, uncooperative, or unsympathetic, thus engaging in violent acts with increasing frequency. To our surprise, although we expected those involved in more acts of violence to have scored significantly higher in neuroticism as proposed by Lauriola and Levin (2001), statistical significance was not reached. One possible reason for neuroticism not being significantly correlated to violence is possibly because our finding of neuroticism and gender. Females tend to be more neurotic than males, yet engage in fewer acts of violence. We found support for only agreeableness when correlating the Big Five to violence. Identifying those individuals who score low in

agreeableness, specifically in school settings, would allow school counselors to better help students.

Drug use, more specifically marijuana use, was negatively correlated with agreeableness, as it was with violence. Also measured were a variety of other drugs, such as cocaine and methamphetamines, which were also negatively correlated with agreeableness. It seems that most socially unacceptable behaviors (e.g., violence, marijuana use, other drug use) are negatively correlated with agreeableness, making it a better predictor of delinquency. It is no surprise that violence, marijuana use, and other drug use are all negatively correlated with agreeableness due to the anti-social nature of these behaviors.

Second, openness was not positively correlated with smoking or drinking as suggested by the literature. Agreeableness displayed the strongest negative correlation with smoking, which was predicted to have little effect. Considering how previous literature supports the correlation between smoking and openness, we now can see how people who consider themselves as original and different, could be considered argumentative, uncooperative, or less agreeable. As predicted, low levels of conscientiousness were related to higher participation in smoking behaviors. Also found were gender differences in smoking, where males engaged in smoking behaviors more often than females. In line with agreeableness, males were less agreeable than were females, thus males should engage in smoking behaviors more than females, which was indicated by the results. As for drinking, extraversion displayed the strongest correlation, which is in line with previous research (Robins, Tracy, Trzesniewski, Potter, & Gosling, 2001) and seems to be the most agreed upon relationship. One relationship that is difficult to understand is gender differences found in extraversion. Because females tend to be more extraverted, they

ought to engage in more drinking, yet males tend to engage in drinking more frequently. This relationship needs further investigation.

Third, neuroticism seemed to be the best indicator of individuals engaged in disordered eating, which was in line with our hypothesis and previous research. It seems that those individuals who are emotionally reactive tend to engage in disordered eating more frequently. Females also engaged in disordered eating more frequently than males, which was found by previous research. We hypothesized that agreeableness would have little or no effect, yet agreeableness was positively correlated with disordered eating. This could be because individuals who tend to be agreeable tend to be cooperative and stress blending in socially, thus trying to associate themselves with their peers or the media. This relationship needs more investigation, specifically the peer relationships of those who engage in disordered eating.

Fourth, sexual behavior was not significantly correlated with any of the Big Five dimensions. It could be possible that were too few questions concerning sexual behaviors and more information about sexual behaviors would result a correlation with personality. There was a lack of gender differences as well, despite males being more involved in sexual behavior, the relationship was not significant. Perhaps, the lack of finding is due to the conservative nature the environment in which they live. Also, the majority of the participants were freshman and it could be that many of them are now just starting to explore their sexuality.

It is evident that there are indeed relationships between personality and risky health behaviors. In this study, agreeableness seems to be the best predictor for delinquent behavior, but only in males. Males tended to be less agreeable than females, thus females tended to be involved in fewer violent acts, less tobacco use, and less illegal drug use in general. The predictive power of agreeableness should be investigated in future research specifically

examining gender differences. It could be that agreeableness is considered to be different in the minds of males and females or how we define agreeableness.

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Table 1. Correlations Between Personality and Various Health Risk Behavior.

	Extraversion	Agreeableness	Conscient-iousness	Emotional Stability	Openness
Violence	-.06	-.23**	-.08	.04	-.05
Suicide	-.01	-.02	-.00	-.27**	.09
Tobacco	-.10	-.24**	-.19**	-.08	.04
Alcohol	.13*	-.06	-.05	.11	.06
Marijuana	-.03	-.13*	-.07	.09	.13*
Other Drugs	-.11	-.18**	-.09	-.06	.10
Bodyweight Dissatisfaction	.10	.13*	-.02	-.24**	.02

Note: *p< .05, **p<.01

Table 2. Means and Standard deviations in Gender Differences Displayed between Personality Dimensions and Various Health Risk Behaviors

		Mean	SD	t
Extraversion	Female	23.27	6.86	3.01**
	Male	20.73	6.19	
Agreeableness	Female	25.11	5.81	3.00**
	Male	22.99	5.00	
Emotional Stability	Female	15.86	5.57	-5.32***
	Male	19.85	6.49	
Conscientious-ness	Female	23.03	5.07	1.86
	Male	21.78	5.63	
Openness	Female	46.21	10.25	-.34
	Male	46.66	10.61	
Violence	Female	1.74	2.52	-4.60***
	Male	4.08	5.84	
Tobacco	Female	5.24	6.59	-2.33*
	Male	7.41	8.53	
Alcohol	Female	8.72	4.98	-2.72**
	Male	10.66	6.69	
Marijuana	Female	3.14	3.70	-4.66***
	Male	5.74	5.45	
Other Drugs	Female	1.11	2.60	-3.46***
	Male	2.59	4.46	
Bodyweight Dissatisfaction	Female	6.07	2.33	5.04***
	Male	4.62	2.14	
Suicide	Female	.93	1.32	1.74
	Male	.65	1.10	
Risky Sexual Behavior	Female	8.93	5.84	-.46
	Males	9.26	5.66	

Note:*p<.05, **p<.01,***p<.001