

# Exploring the Relationship Between Attitudes About Mental Illness, About Guns, and Personality Variables

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EXPLORING THE RELATIONSHIP BETWEEN ATTITUDES ABOUT  
MENTAL ILLNESS, ABOUT GUNS, AND PERSONALITY VARIABLES

by

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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  
at the University of Central Florida  
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## **ABSTRACT**

This study explores relationships among attitudes about mental illness and guns in order to shed some light on two issues often mentioned in the same realm: mental illness and gun violence.

This study also explores if personality variables relate to these attitudes about guns and mental illness. The results of this study found that those who reported more positive attitudes toward guns will have more negative attitudes toward mental illness. The data supported another part of the hypothesis that males would report more positive attitudes towards guns and more negative attitudes towards mental illness than females. This study did not support one part of the hypothesis that those participants with higher ratings of openness to experiences and conscientiousness will have more positive attitudes towards mental illness. Exploring these attitudes may advance our understanding of misconceptions, stereotypes, and stigma. This may also increase understanding of what leads to polarizing and divisive opinions on these issues.

## ACKNOWLEDGMENTS

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Another thank you to my family and friends for always supporting me in everything I do. I could not have done this without your support throughout this entire process. Especially to my parents, my biggest goal is to make you proud.

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Scales	ATGS	GAS	Public Opinion on MI	HealthStyles	N	E	O	A	C
ATGS		.877**	.291**	.095	-.211	.094	-.087	-.157	-.016
GAS	.877**		.324**	.108	-.243	.149	-.112	-.160	.021
Public Opinion on MI	.291**	.324**		.141	-.230	.058	-.397	-.234	-.024
HealthStyles	.095	.108	.141		-.021	.103	-.069	.118	.132
N	-.211	-.243	-.230	-.021		-.355	.009	-.224	-.324
E	.094	.149	.058	.103	-.355		.045	.294	.163
O	-.087	-.112	-.397	-.069	.009	.045		.215	-.003
A	-.157	-.160	-.234	-.069	-.224	.294	.215		.221
C	-.016	.021	-.024	.132	-.324	.163	-.003	.221	

Table 2a  
*Female Means and Standard Deviations on all Scales*

Scale	Mean	Standard Deviation
ATGS	28.22	13.50
GAS	35.06	15.55
Public Opinion on MI	13.25	4.86
HealthStyles	23.26	3.19

Table 2b  
*Male Means and Standard Deviations on all Scales*

Scale	Mean	Standard Deviation
ATGS	38.65	13.03
GAS	47.81	14.82
Public Opinion on MI	15.93	5.58
HealthStyles	23.71	3.17

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## INTRODUCTION

This study explores relationships among attitudes about mental illness, guns, and personality variables. Examining correlations between people's attitudes about mental illness, guns, and personality variables can help shed some light on two issues often mentioned in the same realm: mental illness and gun violence. Exploring these attitudes is the first step in overcoming misconceptions, stereotypes, and stigma. This may also increase understanding of what leads to polarizing and divisive opinions on these issues.

In recent years, mass shootings are the form of gun violence that receive the most attention. The media tends to emphasize the relationship between mental illness and gun violence. For example, Pinals and Anacker (2016) discuss the wide media coverage of the psychiatric history of shooters. After the Columbine High School shooting in Colorado on April 20, 1999, the perpetrator Dylan Klebold's history of mental health treatment for depression was widely discussed. Similarly, in 2007, Seung-Hui Cho, who killed 32 people at the Virginia Polytechnic Institute and State University, had been involuntarily committed to outpatient treatment two years prior to the shooting. In 2012, in a Colorado movie theater, James Holmes murdered 12 people and injured 70 others. Holmes was eventually found guilty after a long trial in which his mental state was highly debated after his psychiatrist revealed to police concern about Holme's homicidal thoughts. Clearly, most of these murderers were males with some form of mental health issues in their past; however, it is noteworthy that James Holmes was found guilty, rather than not guilty by reason of insanity.

The media and press coverage linking shooters and mental health issues contributes to the general public's association of gun violence with mental illness; yet statistics indicate that the relationship is very minimal. According to the Epidemiologic Catchment Area (ECA) survey “the 1-year population-attributable risk (PAR) of violence associated with serious mental illness alone was found to be only 4%” (Varshney et al., 1). Even if the violence perpetrated by those with serious mental illness was reduced, “an estimated 96% of the violence that currently occurs in the general population would continue to occur” (Varshney et al., 1). A study done on the use of firearms one year after discharge from acute psychiatric units found that “only approximately 1% of patients who committed violence used guns toward strangers” (Pinals & Anacker, 616).

Incidents of mass shootings also tend to trigger discussion about attitudes toward gun ownership. Within the American culture it seems that many Americans are proud of their founding fathers' decision to give them a right to bear arms. The study *Young People's Attitudes Towards guns in America, Great Britain and Western Australia*” (Cooke, 2004) reveals that more Americans believe it is an individual's right to own a gun than in Australia and Great Britain. American respondents believe guns can protect them from crime, while the respondents from Australia and Great Britain believe guns stimulate crime. Cooke's research suggests that nationality has a major impact on attitudes towards guns. Overall, American male respondents showed greatest support for gun use.

Not only is it important to know people's attitudes toward guns, but the psychological effects of possessing and using a gun are also noteworthy. Gun ownership can lead to a sense of empowerment and control, while decreasing feelings of insecurity (Cooke, 2004). However, the possession of a weapon also encourages violence. This is referred to as the "weapons effect."



Applying behaviorism to gun ownership, Berkowitz and Alioto (1973) report that the possession or presence of a gun produces a “classically conditioned association with aggression and serves as a cue to elicit aggressive arousal in provocative situations” (206). However, Geen (1976) argues that the effect that a weapon has on an individual’s behavior also depends on what memory associations it triggers. Although these are personality traits that can be found in some gun users, they are not found in all gun users.

The way news media presents events, such as mass shootings, as being perpetrated by people with a background of mental illness greatly affects the public’s view on individuals with mental illnesses and the support of gun violence policies. McGinty, Webster, and Barry (2013) studied how these news stories impacts the public’s attitudes. They utilized three experimental groups and one control group. Participants in each of the three experimental conditions read one of three news articles. One article reported a mass shooting in which the perpetrator had a history of mental illness; the second article discussed a gun control policy; and the last was about banning large capacity magazines. The results indicated that all three stories intensified negative attitudes towards persons with serious mental illnesses. Compared to the control group, those in the experimental groups were less willing to “work closely with or live near someone with a serious mental illness” (McGinty et al., 496). Those in the mass shooting story group reported that they perceived persons with serious mental illness as more dangerous.

People’s attitudes about mental illness result from their own experience with mental illness, whether they know someone who experiences a type mental illness, and their knowledge of mental illness. Kobau, DiIorio, and Chapman (2010) studied attitudes about mental illness using the HealthStyles survey, a survey that has been used every year since 1995 and is designed

to assess peoples' attitudes and beliefs about chronic diseases and behaviors. Of their 5,251 respondents 12% reported they experienced bad anxiety, 12% experienced depression, 4% had an eating disorder, and 1% reported that they had schizophrenia. Participants also reported whether they knew someone experiencing mental illness. One-third of the respondents knew someone with anxiety; more than half knew someone with depression; 20% knew someone with an eating disorder; and 13% reported that they knew someone with schizophrenia. Results of the survey questions about mental illness showed that 4% of the respondents agreed that a person with mental illness (PWMI) is to blame for their condition, and 19% agreed that a PWMI is hard to talk with. While 70% disagreed that a PWMI could pull themselves together if they wanted to, 30% disagreed that a PWMI can eventually recover.

Barry et. al (2013) studied the public opinion of mental health after the mass shooting at Sandy Hook Elementary school in Newtown, Connecticut. Using an eleven item survey they found that most respondents believed that those with a mental illness are more dangerousness than other members of the general population. Most were unwilling to have a person with mental illness as a neighbor and supported insurance companies providing treatment for mental health. More than half believed that discrimination against people with mental illness is a problem, but also believed those people could be treated to return to a productive life. Those who personally experienced mental illness or know someone who does have a more positive attitude about mental illness and its treatment. It seems that the public's attitudes about mental health are ambivalent.

For this study, I hypothesize that those who report more positive attitudes toward guns will have more negative attitudes toward mental illness. Also, men will report more positive

attitudes towards gun use and more negative attitudes toward mental illness than women. I also anticipate that those participants with higher ratings of openness to experience and conscientiousness will have more positive attitudes towards mental illness regardless of their sex.

## METHOD

### **Participants**

In this study, 518 undergraduate students at a large metropolitan university participated. Seven participants' data was deleted for choosing the same answer for the entire survey or completing the survey in four minutes or less. The age of the participants ranged from 18 to 59 years of age ( $M = 19.52$ ,  $SD = 3.53$ ). Of the sample, 54.4% of the participants were female ( $n = 278$ ), 45.2% were males ( $n = 231$ ), and .4% did not wish to provide their gender ( $n = 2$ ). Over half of the participants, 57.3%, were freshman or first time in college (FITC) students ( $n = 293$ ). When participants were asked to indicate their race/ethnicity 6.7% reported to be Asian, 7.8% were Black or African American, 13.5% were Hispanic/Latino, 53.2% were white, and 18.8% reported to be other race/ethnicity. Participants received course credit or extra credit in designated psychology courses for their participation.

### **Measures**

**Attitudes about Guns Scale.** (*ATGS; Branscombe et al., 1991*) This scale is comprised of 17 items and Likert-style response choices ranging from 1 (*most acceptance*) to 8 (*least acceptance*). A sample item is “*Gun ownership is a basic American value.*” This scale has two subscales; protection, crime, and rights. The scale has a high reliability at .89. The alpha coefficients for the subscales range from .78 for the Protection subscale to .90 for the Rights subscale.

**Gun Attitude Scale** (*GAS; Tenhundfeld et al., 2017*) This scale is comprised of 20 items and Likert-style response choices ranging from 1 (*disagree strongly*) to 4 (*agree strongly*). A sample

item is *“I would personally feel safer by owning a gun”*. This scale has high reliability at .91. Cronbach’s alpha was .95.

**Public Attitudes Mental Illness** (*Barry, et. Al, 2013*) This scale is comprised of 11 items and Likert-style response choices ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). It also includes three subscales. A sample item from the *Perceived dangerousness and social distance* subscale is *“Would you be willing or unwilling to have a person with serious mental illness start working closely with you on a job?”* A sample item from the *Insurance and treatment* is *“Would you like to see more or less government spending on mental health treatment?”* Lastly, a sample item from the *Perceived discrimination and belief in recovery* subscale is *“Do you agree or disagree that discrimination against people with mental illness is a serious problem?”*

**Mental Illness Attitudes Items from 2006 Health Styles Survey** (*Porter Novellis, a social marketing and public relations firm*). This scale is comprised of 11 items and a 5-point Likert-style response choices ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). A sample item is *“I believe a person with mental illness is hard to talk with.”*

**NEO Five-Factor Inventory-3 Form S** (*NEO-FFI 3; McCrae & Costa, 1992*) This scale is comprised of 240 items on a 5-point Likert scale with response choices ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). It measures five different personality traits including neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. Some sample items are *“I rarely experience strong emotions”* and *“I am not a very methodical person”*. This scale has a high validity score of .86 to .95. Studies have shown that this scale has short-term test-retest reliability.

**Participant Information Form** This measure includes 5 questions about participants' demographic information. All but one question has multiple choice response choices, while the one other is a fill in the blank. A sample question is "*What is your age?*"

**Procedure**

Upon giving consent, participants completed the measures related to their attitudes about guns, about mental illness and the personality inventory. First participants completed two attitudes on guns scales, the Attitudes Toward Guns Scale and the Gun Attitude Scale. Secondly, participants completed two attitudes towards mental illness scale, the Public Opinion of Mental Illness scale and the mental illness items from the 2006 HealthStyles survey. Then participants completed the NEO-FFI 3 Form S and the Participant Information Form.

## RESULTS

Pearson bivariate correlation coefficients were calculated to determine the relationships among the variables. As expected, there was a strong, positive correlation between the ATGS and GAS scores,  $r(511) = .88, p < .001$ . There was also a significant positive correlation between the ATGS and the Public Opinion on Mental Illness survey scores,  $r(511) = .29, p < .001$ . The GAS also had a statistically significant relationship with the Public Opinion on Mental Illness survey,  $r(511) = .32, p < .001$ . No significant relationships were found among the personality variables on the NEO-FFI 3, or between these variables and the ATGS, GAS, or the HealthStyles survey. The results correlation matrix is reported in Table 2.

To test the hypothesis that men would report more positive attitudes towards gun use and more negative attitudes toward mental illness than women, a one-way multivariate analysis of variance was performed. Gender was the independent variable and ATGS, GAS, Public Opinion of Mental Illness, and HealthStyles surveys were the dependent variables. There were significant differences for all the variables except the HealthStyles surveys. For the ATGS, females had a mean of 28.22 ( $SD = 13.50$ ), whereas males had a mean of 38.65 ( $SD = 13.03$ ). For the GAS, females had a mean of 35.06 ( $SD = 15.55$ ), whereas males had a mean of 47.81 ( $SD = 14.82$ ). For the Pub Op survey, females had a mean of 13.25 ( $SD = 4.86$ ) whereas males had a mean of 15.93 ( $SD = 5.59$ ). For the Healthstyles survey, females had a mean of 23.26 ( $SD = 0.18$ ) whereas males had a mean of 23.71 ( $SD = 0.20$ ). The means and standard deviations are reported in Table 2 a. and b.

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\*\* . Correlation is significant at the 0.01 level (2-tailed).



## DISCUSSION

This study supported my first hypothesis that those who reported more positive attitudes toward guns will have more negative attitudes toward mental illness. There was significant correlations between the ATGS and the Public Opinion on Mental Illness scale, as well as the GAS and the Public Opinion on Mental Illness scale. Higher scores on the ATGS and GAS indicated more positive attitudes toward guns, while higher scores on the Public Opinion on Mental Illness scale indicated more negative attitudes toward mental illness. There was no significant correlation between both gun scales and the HealthStyles survey. This could be an area of future research. Could the way the questions were asked in the HealthStyles survey cause the absence of a significant correlation?

The data supported another part of my hypothesis that males would report more positive attitudes towards guns and more negative attitudes towards mental illness than females. I hypothesized that females would report more negative attitudes towards guns and more positive attitudes towards mental illness because females tend to have more compassion towards emotions and steer away from aggression. Guns project an aggressive and intimidating image. This may be a result of the current media coverage on gun violence. Females who see the victims of gun violence and the victim's families in media may have developed negative attitudes towards guns. Females may have reported more positive attitudes toward mental illness because of their instinct of compassion and attention to emotions. On the other hand, males in this society are taught to hide their emotions and not taught how to cope with their emotions. They may have reported more positive attitudes towards guns because the aggressive and powerful image that guns project. Males tend to be more aggressive and desire more power than females.

This study did not support one part of my hypothesis that those participants with higher ratings of openness to experiences and conscientiousness will have more positive attitudes towards mental illness. There was no significant correlation between the attitudes towards gun scales and the NEO-FFI-3. This indicates that personality variables cannot predict attitudes towards guns and mental illness.

In future research, there are some procedural changes that could be made. For example, a larger, more diverse sample size would increase the generalizability of the study. In the present study, all participants were enrolled in higher education and many were nineteen years of age. In addition, over 50% of the participants identified as white. Future research could also explore the participants' experience with the mental illness either personally or among people they are close with and how that relates to their attitudes. Additional items could be added, such as "Have you or someone in your immediate family experienced some form of mental illness?"

In conclusion, the results of this study indicate that there is a correlation between attitudes towards guns and mental illness. It also indicates how one's gender can effect one's attitudes on these topics. However, personality variables cannot predict these attitudes. This is just one step in exploring these topics that are often mentioned in the same realm. Continued research can advance understanding of what leads to polarizing and divisive opinions on these issues.

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APPENDIX A: ATTITUDES TOWARD GUNS SCALE  
(Branscombe et al., 1991)

Please rate how accurately each of the following statements describes you using a 1-5 rating scale where (1) is "Strongly Disagree," (2) is "Disagree," (3) is "Neutral," (4) is "Agree," and (5) is "Strongly Agree." Please read each statement carefully.

People should be allowed to have handguns in their homes

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

A ban on handguns would be a violation of the U.S. constitution

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

The right to bear arms is an important freedom for Americans to retain

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

Regardless of their potential for injury, it is each person's right to choose to own a gun or not

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

People should be able to own guns because many people use them for sporting purposes

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

I should be able to get a handgun if I want one

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

Gun ownership is a basic American value

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

Owning a handgun decreases a person's chances of being a crime victim

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

When you have a handgun of your own, you can stop worrying about being victimized

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

Storeowners who have handguns on the premises are less likely to be robbed than are those without a weapon

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

Criminals do not attack people who own guns

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

The only way you can ensure that you will not be criminally victimized is by owning a handgun yourself

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

Gun availability makes killing too easy

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

People commit suicide often because handguns are too readily available

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

Many murders would not take place if a handgun had not been available

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

The easy access to handguns is likely to result in an increased crime rate

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

Guns stimulate crime

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





APPENDIX B: GUN ATTITUDE SCALE  
(Tenhundfeld et al., 2017)

Please rate how accurately each of the following statements describes you using a 1-5 rating scale where (1) is "Strongly Disagree," (2) is "Disagree," (3) is "Neutral," (4) is "Agree," and (5) is "Strongly Agree." Please read each statement carefully.

1. A gun in the home is more likely to shoot a household member than an intruder

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

2. I would personally feel safer by owning a gun

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

3. I would personally feel more in control by keeping a gun in my home

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

4. I would not hesitate to shoot an attacker on the street

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

5. I would not hesitate to shoot an intruder who breaks into my home

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

6. Owning a gun would give me a feeling of independence

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

7. Owning a gun would help me to protect my home and property

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

8. Handguns in the home cause too many accidental shootings

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

9. I support the right to own a firearm

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

10. I support the right to carry a firearm outside of the home

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

11. I am concerned about losing my second amendment right to own a gun

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

12. I would enjoy sport shooting

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

13. I would be interested in taking a self-defense course that included hand gun training

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

14. I would personally feel more powerful by carrying/keeping a handgun

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

15. I am confident that I could successfully defend myself using a handgun

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

16. A gun in the home is more likely to lead to the suicide of a family member than to protect family members

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

17. I am afraid of guns

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

18. Hunting with guns is a sport I am likely to enjoy

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

19. All guns stored at home should be locked in a safe

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

20. I enjoy hunting with guns but I would never use a gun on another person

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



## APPENDIX C: PUBLIC OPINION ON MENTAL ILLNESS SCALE

(Barry, et. Al, 2013)

Please rate how accurately each of the following statements describes you using a 1-5 rating scale where (1) is "Strongly Disagree," (2) is "Disagree," (3) is "Neutral," (4) is "Agree," and (5) is "Strongly Agree." Please read each statement carefully.

Please rate how accurately each of the following statements describes you using a 1-5 rating scale where (1) is "Definitely Unwilling," (2) is "Probably Unwilling," (3) is "Neither Unwilling nor Willing," (4) is "Probably Willing," and (5) is "Definitely Willing." Please read each statement carefully.

Please rate how accurately each of the following statements describes you using a 1-5 rating scale where (1) is "Strongly Oppose," (2) is "Somewhat Oppose," (3) is "Neither Oppose nor Favor," (4) is "Somewhat Favor," and (5) is "Strongly Favor." Please read each statement carefully.

Please rate how accurately each of the following statements describes you using a 1-5 rating scale where (1) is "Spend much less ," (2) is "Spend less," (3) is "Spend the same as now," (4) is "Spend more," and (5) is "Spend much more." Please read each statement carefully.

Do you agree or disagree that people with serious mental illness are, by far, more dangerous than the general population?

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

Do you agree or disagree that locating a group home or apartment for people with mental illness in a residential neighborhood endangers local residents?

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

Would you be willing or unwilling to have a person with serious mental illness start working closely with you on a job?

1: Definitely Unwilling 2: Probably Unwilling 3: Neither Unwilling nor Willing

4: Probably Willing 5: Definitely Willing

Would you be willing or unwilling to have a person with serious mental illness as a neighbor?

1: Definitely Unwilling 2: Probably Unwilling 3: Neither Unwilling nor Willing

4: Probably Willing 5: Definitely Willing

Do you favor or oppose requiring insurance companies to offer benefits for mental health and drug and alcohol abuse services that are equivalent to benefits for other medical services?

1: Strongly Oppose 2: Somewhat Oppose 3: Neither Oppose nor Favor

4: Somewhat Favor 5: Strongly Favor

Would you like to see more or less government spending on mental health treatment?

1: Spend much less 2: Spend less 3: Spend the same as now

4: Spend more 5: Spend much more

Would you like to see more or less government spending on drug and alcohol abuse treatment?

1: Spend much less 2: Spend less 3: Spend the same as now

4: Spend more 5: Spend much more

Do you favor or oppose increasing government spending on mental health screening and treatment as a strategy to reduce gun violence?

1: Strongly Oppose 2: Somewhat Oppose 3: Neither Oppose nor Favor

4: Somewhat Favor 5: Strongly Favor

Do you favor or oppose increasing government spending on drug and alcohol abuse screening and treatment as a strategy to reduce gun violence?

1: Strongly Oppose 2: Somewhat Oppose 3: Neither Oppose nor Favor

4: Somewhat Favor 5: Strongly Favor

Do you agree or disagree that discrimination against people with mental illness is a serious problem?

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

Do you agree or disagree that most people with serious mental illness can, with treatment, get well and return to productive lives?

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



APPENDIX D: MENTAL ILLNESS ATTITUDE ITEMS INCLUDED ON 2006  
HEALTHSTYLES SURVEY

(Porter Novellis, a social marketing and public relations firm)

Please rate how accurately each of the following statements describes you using a 1-5 rating scale where (1) is "Strongly Disagree," (2) is "Disagree," (3) is "Neutral," (4) is "Agree," and (5) is "Strongly Agree." Please read each statement carefully.

1. I believe a person with mental illness is a danger to others  
1: Strongly Disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly Agree
2. I believe a person with mental illness is unpredictable  
1: Strongly Disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly Agree
3. I believe a person with mental illness is hard to talk with  
1: Strongly Disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly Agree
4. I believe a person with mental illness has only himself/herself to blame for his/her condition  
1: Strongly Disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly Agree
5. I believe a person with mental illness would improve if given treatment and support  
1: Strongly Disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly Agree
6. I believe a person with mental illness feels the way we all do at times  
1: Strongly Disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly Agree
7. I believe a person with mental illness could pull himself/herself together if he/she wanted  
1: Strongly Disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly Agree
8. I believe a person with mental illness can eventually recover  
1: Strongly Disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly Agree
9. I believe a person with mental illness can be as successful at work as others  
1: Strongly Disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly Agree
10. Treatment can help people with mental illness lead normal lives  
1: Strongly Disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly Agree
11. People are generally caring and sympathetic to people with mental illness



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

APPENDIX E: NEO FIVE-FACTOR INVENTORY 3 FORM S  
(McCrae & Costa, 1992)

Please rate how accurately each of the following statements describes you using a 1-5 rating scale where (1) is "Strongly Disagree," (2) is "Disagree," (3) is "Neutral," (4) is "Agree," and (5) is "Strongly Agree."

I am not a worrier.

Strongly Disagree    D i s a g r e e    N e u t r a l    A g r e e    Strongly Agree  
                    1                        2                        3                        4   

I like to have a lot of people around me.

Strongly Disagree    D i s a g r e e    N e u t r a l    A g r e e    Strongly Agree  
                    1                        2                        3                        4   

I don't like to waste my time daydreaming.

Strongly Disagree    D i s a g r e e    N e u t r a l    A g r e e    Strongly Agree  
                    1                        2                        3                        4   

I try to be courteous to everyone I meet.

Strongly Disagree    D i s a g r e e    N e u t r a l    A g r e e    Strongly Agree  
                    1                        2                        3                        4   

I keep my belongings neat and clean.

Strongly Disagree    D i s a g r e e    N e u t r a l    A g r e e    Strongly Agree  
                    1                        2                        3                        4   

I often feel inferior to others.

Strongly Disagree    D i s a g r e e    N e u t r a l    A g r e e    Strongly Agree  
                    1                        2                        3                        4   

I laugh easily.

Strongly Disagree    D i s a g r e e    N e u t r a l    A g r e e    Strongly Agree  
                    1                        2                        3                        4

Once I find the right way to do something, I stick to it.

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

I often get into arguments with my family and coworkers.

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

I'm pretty good about pacing myself so as to get things done on time.

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

When I'm under a great deal of stress, sometimes I feel like I'm going to pieces.

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

I don't consider myself especially "light-hearted."

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

I am intrigued by the patterns I find in art and nature.

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

Some people think I'm selfish and egotistical.

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

I'm not a very methodical person.

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

I rarely feel lonely or blue.

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

I really enjoy talking to people.

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

I believe letting students hear controversial speakers can only confuse and mislead them.

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

I would rather cooperate with others than compete with them.

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

I try to perform all the tasks assigned to me conscientiously.

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

I often feel tense and jittery.

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

I like to be where the action is.

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

Poetry has little or no effect on me.

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

I tend to be cynical and skeptical of others' intentions.

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

I have a clear set of goals and work toward them in an orderly fashion.

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

Sometimes I feel completely worthless.

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

I usually prefer to do things alone.

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

I often try new and foreign foods.

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

I believe that most people will take advantage of you if you let them.

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

I waste a lot of time before settling down to work.

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

Please rate how accurately each of the following statements describes you using a 1-5 rating scale where (1) is "Strongly Disagree," (2) is "Disagree," (3) is "Neutral," (4) is "Agree," and (5) is "Strongly Agree."

I rarely feel fearful or anxious.

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

I often feel as if I'm bursting with energy.

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

I seldom notice the moods or feelings that different environments produce.

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

Most people I know like me.

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

I work hard to accomplish my goals.

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

I often get angry at the way people treat me.

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

I am a cheerful, high-spirited person.

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

I believe we should look to our religious authorities for decisions on moral issues.

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

Some people think of me as cold and calculating.

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

When I make a commitment, I can always be counted on to follow through.

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

Too often, when things go wrong, I get discouraged and feel like giving up.

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

I am not a cheerful optimist.

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

Sometimes when I am reading poetry or looking at a work of art, I feel a chill or wave of excitement.

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

I'm hard-headed and tough-minded in my attitudes.

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

Sometimes I'm not as dependable or reliable as I should be.

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

I am seldom sad or depressed.

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

My life is fast-paced.

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

I have little interest in speculating on the nature of the universe or the human condition.

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

I generally try to be thoughtful and considerate.

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

I am a productive person who always gets the job done.

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

I often feel helpless and want someone else to solve my problems.

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

I am a very active person.

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

I have a lot of intellectual curiosity.

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

If I don't like people, I let them know it.

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



I never seem to be able to get organized.

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

At times I have been so ashamed I just wanted to hide.

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

I would rather go my own way than be a leader of others.

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

I often enjoy playing with theories or abstract ideas.

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

If necessary, I am willing to manipulate people to get what I want.

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

I strive for excellence in everything I do.

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



APPENDIX F: PARTICIPANT INFORMATION FORM

Please read each question carefully and answer them accurately.

1. Do you identify as:

Male

Female

Skip this One/Do Not Wish to Answer

2. Age:

3. Race: (check all that apply)

White

Black or African American

Hispanic or Latino (any race)

American Indian and Alaska Native

Asian

Native Hawaiian and Other Pacific Islander

Other

4. Academic Rank:

FTIC/Freshman

Sophomore

Junior

Senior

Graduate Student

Other

5. Please indicate your Major(s)

Anthropology

Architecture

Art

Business/Economics/Management/Marketing/Advertising

Communication

Communication Sciences and Disorders

Computer Science/Information Technology

Criminal Justice/Legal Studies/Criminology

Digital Media

Education

Engineering

English/Writing

Environmental Studies

Film

Foreign Language(s)

Health Informatics/Health Sciences

History

Hospitality Management/Restaurant Food Service Management

Interdisciplinary Studies

Journalism

Mathematics/Statistics

Music

Nursing

Political Science

Psychology

Science (Biology, Chemistry, Forensic Science, Physics)

Social Work

Sociology

Sport/Exercise Science

Political Science

Theatre

Other

6. Where do you live?

Campus Housing

Rented Apartment/Home/Condo with Friends or Roommates

Apartment/Home/Condo alone or with significant other and/or children

Live with Parents/Grandparents

Other





APPENDIX G: IRB APPROVAL FORM

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](http://www.research.ucf.edu/compliance/irb.html)

**Determination of Exempt Human Research**

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

To: **Karen E. Mottarella and Co-PI: Shannon N. Whitten**

Date: **September 05, 2018**

Dear Researcher:

On 09/05/2018, the IRB reviewed the following activity as human participant research that is exempt from regulation:

Type of Review: Exempt Determination, Category #2  
Project Title: Attitudes about guns and personality variables (online study)  
Investigator: Karen E. Mottarella  
IRB Number: SBE-18-14243  
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](#).

This letter is signed by:

*Kamille Chap*

Signature applied by Kamille Chaparro on 09/05/2018 02:23:36 PM EDT

Designated Reviewer

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