

Pre-screen of traits that lead to post-traumatic stress disorder

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**PRE-SCREEN OF TRAITS THAT LEAD TO POST-TRAUMATIC STRESS
DISORDER**

by

KRYSTAL A. LEE

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 Burnet Honors College
At the University of Central Florida
Orlando, FL

Spring 2011

Thesis Chair: Dr. Peter Hancock

ABSTRACT

Post-Traumatic Stress Disorder (PTSD) is a disorder that is affecting many lives and families. Since it is believed that over 50% of Americans will experience a traumatic event and 25% will experience multiple traumatic events, PTSD is an issue that cannot be overlooked. Although PTSD is most commonly associated with war victims, the official definition of PTSD was stated in the DSM-IV as “an extreme traumatic stressor involving direct personal experience or that involves actual or threatened death or serious injury or other threat to one’s physical integrity; or witness to an event that involves death, injury, or a threat to the integrity of another person...” This definition shows that PTSD can be generalized to not only war victims but to anyone who has a traumatic experience. This study shows 82% of the participants are likely to experience PTSD if exposed to a traumatic event. This study provides a pre-screen of traits that likely lead to PTSD, in hopes to raise awareness and provide a potential cure and preventative measure in the future. Current forms of treatment include cognitive therapy; however, there is no solution. The usage of simulations such as Virtual Reality Exposure (VRE) could provide both a treatment but also a preventative measure.

DEDICATIONS

For my parent's thank you for you love and support throughout my endeavors.

For my committee thank you for your constant supervision and encouragement.

And for the victims of Post-Traumatic Stress Disorder

ACKNOWLEDGMENTS

Thank you to Dr. Hancock, Dr. McConnell, and Dr. Cumpton-Young for your support and guidance throughout my endeavors and serving on my committee. Thank you to Denise Crisafi and Kelly Astro for organizing and providing an invaluable experience. Thank you to all of my professors, co-workers, family, and friends who have helped me grow as a person and develop this thesis throughout the past year. Special thanks to Chelsea Page who assisted in the development and proctoring of the surveys and dedicated her time in order for my success.

TABLE OF CONTENTS

Introduction.....	1
Methods.....	4
Participants	4
Material	4
Background Survey.....	5
Personality Test.....	6
Alexithymia Test.....	6
Social Support Scale	6
Anxiety Test.....	6
Mini-MASQ.....	7
Statistical Analysis	7
Results.....	8
Discussion.....	11
Appendix A: IRB Approval Letter	13
Appendix B: Consent Form	15
Appendix C: Background Survey	18
Appendix D: Personality Survey	22
Appendix E: Alexthymia Survey	24
Appendix F: Social Support Survey	27

Appendix G: Social Anxiety	29
Appendix H: MiniMASQ Survey	31
Appendix I: IRB Protocol	33
References	40

Introduction

Post-Traumatic Stress Disorder (PTSD) has been reported for over a century. PTSD was formerly attached to times of war or conflict as is apparent in past literature such as Homer's Iliad and Gary Paulsen's "Soldier's Heart" both of which stem from times of great conflict. The first formal study took place during World War I, under the term, "Shell Shock" (Mackowiak & Batten 2008). Since this initial study, many other experiments have been completed in order to help understand this mental disorder. Although, PTSD is still more commonly associated with the devastations of war, its symptoms are known to affect those of all "traumatic events." Since it is believed that over 50% of Americans will experience a traumatic event and 25% will experience multiple traumatic events (Seides 2010), the stress from these traumatic events is likely to cause damage to the mental health and well being of a large portion of our society. Thus there is an increasing level of attention to PTSD in all facets including its symptoms, affects, and treatment.

The official definition of PTSD was stated in the DSM-IV as "an extreme traumatic stressor involving direct personal experience or that involves actual or threatened death or serious injury or other threat to one's physical integrity; or witness to an event that involves death, injury, or a threat to the integrity of another person..."(Seides 2010). The disorder has been shown to affect individuals in highly varying degrees and symptoms. The severity of an individual's PTSD symptoms is directly correlated to their gender, severity of the experience, frequency of traumatic experience, and their history of anxiety. In an Israeli study acute symptoms of PTSD were recorded such as paranoia, restlessness, withdrawal, nausea, hyperstartle, psychomotor retardation, and sympathetic hyperactivity (Davidson 1993). Kolter et

al. conducted an experiment in 2001 on suicide rates in PTSD patients, this study showed that those diagnosed with PTSD had higher suicide rates than those who were not (TARRIER 2004). These symptoms resulting from PTSD imply how individuals suffering from the aftermath of traumatic experiences can become harmful to themselves and to society in general if left untreated.

The severity of an individual's symptoms will determine the level of treatment that they will require to recover. And as an individual's ability to cope with the stressors of trauma is linked to their personal history and mental condition, it is important to implement a means of identifying which people will be most likely to experience severe PTSD so as to afford them proper attention. In order to accomplish this, a pre-screening evaluation of a subject's mental susceptibility to PTSD is proposed. This pre-screen will identify those most likely to exhibit particularly harmful forms of PTSD from their personal history of anxiety as well as mental, physical, and sexual abuse.

Current forms of treatment for PTSD include a range of Cognitive Behavioral Therapy (CBT) types. These treatments include exposure therapy, inoculation training, eye movement desensitization and reprocessing, as well as general cognitive therapy (Hembree&Foa 2010). In the category of exposure therapy, Virtual Reality Exposure (VRE) is used as an intensive means of forcing the subject to revisit the traumatic experience in order to grow from it by altering the previously dominating thought patterns of unhappiness thereby habituating their anxiety (Josman, Reisberg, Weiss, Garcia-Palacios, & Hoffman 2008). However the VRE style exposure therapy has only been implemented in treating PTSD once the individual has already begun to manifest symptoms and has become a detriment to their self or surroundings. It is

hypothesized that the use of simulated trauma such as VRE can be used to pre-habituate individuals who have been predetermined as at high risk for PTSD via the proposed pre-screen evaluation. This process thereby can be implemented in civilian and military fields to properly condition individuals to deal with traumatic events in healthy ways and prevent the probable consequences of PTSD.

Methods

Participants

Participants were recruited from the University of Central Florida via Sona-Systems. The total number of participants for this experiment is (N=500), all participants were asked to complete all surveys. Participants were compensated through, “Sona-Credits” which can be translated to extra credit if the participants professor(s) permit. Students are required to be at least 18 years of age, this will be stated on Sona-Systems and be determined prior to beginning the experiment. Data collection was deemed complete at the 500 participant benchmark. Upon completion statistical analysis was performed by the primary investigator. Participants had the contact information via debriefing form in order to obtain overall results of the experiment if they wish.

Participant anonymity is required due to the sensitive material that is asked. Participants were withdrawn without consent if they are under the age of 18. Participants could also withdraw upon request if they did not feel comfortable completing the surveys, they still received compensation.

Material

This study was placed on the University of Central Florida’s Sona Systems. The system required its participants to sign-up for an hour time slot. They were required to come into the Psychology Building and were asked to fill out a series of surveys. Research assistants were collected in order to make more time slots available to the participants, all were CITI qualified and were registered with the IRB. They were given information on how to run the experiment and keep anonymity of the participants.

Both completed and uncompleted surveys were kept in a locked box that only researchers had access to. Statistical analysis was then completed using the program SPSS in the University of Central Florida's computer lab by the primary investigator only.

Procedure

The study was available for sign-up via University of Central Florida's Sona-Systems. 500 participants were asked to come into the Psychology building and were given a series of surveys. All participants were awarded "Sona-Credit" upon arrival.

Participants were provided with an Informed consent letter. This letter stated that the participant will remain anonymous and all information obtained will be used for research purposes only. This letter also makes the participant aware of their ability to terminate the experiment at any time, and receive full compensation. The Informed consent letter was signed and dated by both the participant and the researcher in order to enter a written agreement prior to beginning the experiment. The Informed Consent letters were stored in a separate lock box than the completed and uncompleted surveys in order to maintain confidentiality.

Each participant was assigned an experiment ID number. This ID number was written on the top of all the surveys in order to link the surveys to one another, however will not be linked to the consent form or participants name in order to maintain anonymity.

Background Survey

Six surveys were given to the participants the first of which will determine the background information (Appendix 3) on the participant and their family. This survey will also determine if the participant has ever experienced physical or sexual abuse or if the participant has been threatened with a weapon.

Personality Test

The second survey is a brief personality test developed by Gosling, S. D., Rentfrow, P. J., & Swann, W. B., Jr in 2003 (Appendix 4). The personality test was utilized to determine if the person either extroverted or introverted, open to new experiences or reserved, or if they are emotionally stable or easily upset. These traits were assessed by the individual using a scale from 1 to 7 one being disagree strongly and 7 being agree strongly and 4 being neither agree nor disagree.

Alexithymia Test

An Alexithymia test (OAQ-G2) was given to the participants (Appendix 5). This test was developed by Jason Thompson in 2003, permission to use this survey was required, and email consent has been received. The Alexithymia test is a test used to determine the person level of emotional stability. This test determines how affected a person may or may not be by an event. This particular test is important to this experiment because the emotional stability of a person should have a direct relation to how susceptible a person is to receiving post-traumatic stress after traumatic event.

Social Support Scale

To measure Social Support a Social support scale (BSSS) developed by Schulz, U. & Schwarzer, R. was used (Appendix 6). The social support scale helps to determine the level of dependency on other the participant exerts. It is believed that the more dependence a person has the more likely they are to be affected by a traumatic event.

Social Anxiety Test

Another scale that measures Interaction anxiousness developed by Leary, M. R. was used to buttress both the social support survey and the anxiety survey (Appendix 7). This anxiety scale

mostly measures the level of anxiety a person experiences in a social setting. If the participants tests highly positive for anxiety in a social setting, if they are exposed to more anxiety, such as a traumatic experience, it is believe they will receive post-traumatic stress disorder.

Mini-MASQ

A Mini-MASQ developed by Casillas, A. & Clark, L. A (Appendix 8) was utilized to determine the anxiety level and depression level of the participant. The Mini-MASQ is a combination of several of the other tests on a smaller scale. This test will help bring together the personality test, the anxiety test, and the Alexithymia test. The results for this test should rate the same as the participant rated in each of the other surveys.

Each survey has a scale that determined the level at which the participant inhabits the trait. If the participant exhibits multiple traits they are likely candidates to have Post-Traumatic Stress disorder if exposed to a traumatic event.

Statistical Analysis

The initial background survey was used to determine if the participant has already experienced a traumatic event, which deems them likely to develop post-traumatic stress disorder. Five other surveys were administered and compared to their scales to determine if the participant has a high probability if exposed to a traumatic event. If the participant tests positive for either the initial background survey or any three of the five other surveys the participant will most likely develop post-traumatic stress disorder succeeding a traumatic incident.

Results

It was determined that 407 of the 500 participants were likely to develop Post-Traumatic Stress Disorder (PTSD) if exposed to a traumatic experience. In support of the hypothesis more than 50% of the participants scored that they are likely to develop PTSD if exposed to a traumatic experience.

Background Survey

The background survey determined that 378 of the participants were female and 122 of the participants were male. 178 of the 500 participants answered that they had already been exposed to a traumatic experience. 7 of the participants indicated they had been exposed to physical, abuse, sexual abuse, and have been threatened with a weapon, 28 of the participants indicated they have experienced both sexual and physical abuse, 12 of the participants indicated they have been physically abused and threatened with a weapon, and 17 of the participants indicated they have been sexually abused and threatened with a weapons. Of the remaining 114 46 indicated they have been threatened with a weapon, 31 indicated they had been sexually abused, and 37 indicated they have been physically abused.

The participants who were pre-exposed to a traumatic experience are automatically likely to receive Post-traumatic Stress Disorder if exposed to another traumatic experience. Of the 322 participants remaining 229 scored likely to develop PTSD based on the other five surveys.

Personality Test

The second survey given was a personality test. 208 of the 500 participants stated that they are anxious an easily upset. 100% of the participants who describe themselves as anxious or easily upset also described themselves as extroverted. 82% of the 208 participants that marked

themselves as anxious or easily upset also listed themselves as open to new experiences or complex. 247 of the participants listed themselves as calm or emotionally stable, leaving 45 of the participants describing themselves as neither emotionally stable nor easily upset.

Alexithymia Test

The results from the brief personality test were not supported by the Alexithymia test. 317 of the participants tested as emotionally unstable or unsure when evaluating all answers on the survey. Again, 43 of the participants registered as neither stable nor unstable leaving only 140 of the participants as scoring emotionally stable.

Social Support Scale

82% of the participants scored that they are socially dependent on others. Of the 82% of participants 96% stated that they care about what others think, and 74% stated they need others approval when making important decisions.

Social Anxiety Test

The Social Anxiety Test buttressed the results of the Social Support Scale. 78% of the participants stated they experience social anxiety. Of the 78% of participants, 67% stated they feel uncomfortable when they are with a group of people that they don't know, and 43% said they feel nervous in casual get-togethers.

Mini-MASQ

The results from the Mini-MASQ supported all but the Personality test. The feelings that the participants experienced relate directly to the social anxiety, and dependency that was discovered in the Social Support Scale and the Social Anxiety test. 34% of participants experience feelings of depression, and 79% experience feeling of anxiety.

Gender

Of the 378 female participants 312, or 82.5%, showed that they are likely to experience a traumatic experience if exposed to a traumatic event. Similarly 97 of the 122, or 79.5%, male participants showed that they are likely to have Post-Traumatic Stress if exposed to a traumatic event as well. Much like the overall results of the experiment, all questions on the survey received similar scores for both men and woman. However, woman scored slightly higher on social dependency than men.

Discussion

The research conducted in this experiment opened windows into the exploration of Post-Traumatic Stress Disorder. Based on the results 82% of participants scored likely to develop Post-traumatic stress disorder if exposed to a traumatic experience. Since there is no current treatment it is necessary to develop and expand on the knowledge in this area. This experiment contains six surveys that determine the likelihood of developing PTSD if exposed to a traumatic experience; however, a further experiment could develop a more in depth pre-screen of traits and eventually lead to the development of a simulation to prevent PTSD.

This experiment could also be utilized by the military. Since PTSD is commonly associated with war, it is in the government's best interest to keep its soldiers safe. The military currently has an extensive health test in place; however, there is no current mental health check in place. Since 407 of the 500 participants tested a high risk to PTSD, you can generalize this data to the military. The military could develop a mandatory health check and utilize, when developed, a preventative simulation. This simulation would give members of the military a pre-exposure to what they are going to experience in the future. This would be a type of exposure therapy that would not only slowly expose the soldiers to the stresses of war, but would also allow their mental behavior to be monitored in order to prevent any in duty or post duty mishaps.

This study provides invaluable data that provides insight to future studies; however, the experiment had its flaws. The questionnaires were short and contained personal information. Since the experiment was done face to face the participant may have felt uncomfortable answering some of the questions in person. If the experiment was conducted online the question may have been answered more accurately. The short questionnaires may also not give a true

depiction of the character traits of the participants. In future studies I would include analyzes the extent to which each character is portrayed and creating a scale based on not only if they have that trait but on how high or low they score in that particular section.

In conclusion, this study does provide insightful knowledge to Post-traumatic stress disorder and the extent to which it affects our society. This study creates room for more experimentation in the future and a potential development of better treatments and preventative measures.

Appendix A: 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: Krystal A. Lee

Date: March 30, 2011

Dear Researcher:

On 3/30/2011, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review:	Initial Review Submission Form
Project Title:	Screen of Traits Which Are Known to Lead to Traumatic Stress
Investigator:	Krystal A. Lee
IRB Number:	SBE-10-07279
Funding Agency:	None

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 Kendra Dimond Campbell, MA, JD, UCF IRB Interim Chair, this letter is signed by:

Signature applied by Janice Turchin on 03/30/2011 09:26:07 AM EST

A handwritten signature in black ink that reads "Janice Turchin".

IRB Coordinator

Appendix B: Consent Form



Informed Consent Form

University of Central Florida
Department of Psychology

Pre-Screen of Traits That Lead to Post-Traumatic Stress Disorder with a Proposed Usage of Simulations as Treatment

Principal Investigator: Krystal Lee
Faculty Advisor: Dr. Peter Hancock

The Objective of this experiment is to determine the approximate number of people in the population who are susceptible to Post-traumatic Stress Disorder (PTSD) based on traits that are thought to be risk factors for PTSD.

You will be asked to complete 6 questionnaires pertaining to your Mental Health background, personality type, and prior occurrences. A demographic survey will inquire about your personal information such as gender, race, age, family history, and any past history with physical or sexual abuse and alcohol/cannabis use. The study should take about 45 minutes to complete.

All information gathered from your participation will be completely anonymous. Your name will not be linked to the data collected from any of the six questionnaires. Furthermore, you are free to withhold answers to any specific questions and you are free to withdraw from the study at any time. The compensation will be awarded regardless of your completion of the entire questionnaire. Individual test results will not be revealed.

The risks to participants are minimal, but dealing with certain questions on our survey may cause minimal emotional distress to subjects who had had past experience with issues of physical, mental, or emotional abuse. Further, those who have had difficult family history may experience minimal emotional distress. It is possible that the scenarios will be somewhat stressful for some participants. If at any time during this study you decide that you need to talk to a counselor, the UCF counseling center can be reached at (407) 823-2052.

Study contact for questions about the study or to report a problem: If you have questions, concerns, or complaints contact Dr. Peter Hancock, Faculty Supervisor at (407) 823-2310.

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: Background Survey

ID #: _____

Please complete the following survey inquiring certain Background knowledge.

1. Gender: **Male** **Female**

2. Age: _____

3. Has anyone in your family been diagnosed with Post-Traumatic Stress Disorder?

Yes **No**

a. If yes, How many? _____

4. Has any of your first degree relative been diagnosed with major depression?

Yes **No**

a. If yes, How many? _____

5. Have you been diagnosed with any pre-existing conditions?

Yes **No**

a. If yes, are they related to Depression? **Yes** **No**

b. If yes, are they related to Anxiety? **Yes** **No**

c. If yes, are they related to Anti-Social Personality? **Yes** **No**

6. Have you ever consumed alcohol?

Yes **No**

a. If yes, How often?

Often **Sometimes** **Rarely** **Never**

7. Have you ever consumed cannabis?

Yes **No**

a. If yes, How often?

Often **Sometimes** **Rarely** **Never**

8. Have you ever experienced physical abuse?

Yes **No**

- | | | |
|----------------------------|------------|-----------|
| a. By a relative? | Yes | No |
| b. By a friend? | Yes | No |
| c. By a stranger? | Yes | No |
| d. By A significant other? | Yes | No |
| e. Other: _____ | | |

f. If yes, at what age were you abused? _____

g. If yes, how long did you experience the abuse? _____

9. Have you ever been threatened with a weapon?

Yes **No**

- | | | |
|----------------------------|------------|-----------|
| a. By a relative? | Yes | No |
| b. By a friend? | Yes | No |
| c. By a stranger? | Yes | No |
| d. By A significant other? | Yes | No |
| e. Other: _____ | | |

f. If yes, at what age were you abused? _____

g. If yes, how long did you experience the abuse? _____

10. Have you ever experienced sexual abuse?

Yes **No**

- | | | |
|---------------------------------------------------------|------------|-----------|
| a. By a relative? | Yes | No |
| b. By a friend? | Yes | No |
| c. By a stranger? | Yes | No |
| d. By A significant other? | Yes | No |
| e. Other: _____ | | |
| f. If yes, at what age were you abused? _____ | | |
| g. If yes, how long did you experience the abuse? _____ | | |

Appendix D: Personality Survey

ID # : _____

Here are a number of personality traits that may or may not apply to you. Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

1	2	3	4	5	6	7
Disagree strongly	Disagree moderately	Disagree a little	Neither agree nor disagree	Agree a little	Agree moderately	Agree strongly

I see myself as:

1. _____ Extraverted, enthusiastic.
2. _____ Critical, quarrelsome.
3. _____ Dependable, self-disciplined.
4. _____ Anxious, easily upset.
5. _____ Open to new experiences, complex.
6. _____ Reserved, quiet.
7. _____ Sympathetic, warm.
8. _____ Disorganized, careless.
9. _____ Calm, emotionally stable.
10. _____ Conventional, uncreative.

Appendix E: Alexthymia Survey

ID # : _____

Instructions: Answer the following questions as spontaneously as possible. If you get stuck on a question, leave it out and continue with the next. Each question can have one of 5 possible answers. These are:

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

1. _____ When asked which emotion I'm feeling, I frequently don't know the answer.
2. _____ I'm unsure of which words to use when describing my feelings.
3. _____ I prefer to find out the emotional intricacies of my problems rather than just describe them in terms of practical facts.
4. _____ When other people are hurt or upset, I have difficulty imagining what they are feeling.
5. _____ People tell me to describe my feelings more, as if I haven't elaborated enough.
6. _____ Sex as a recreational activity seems kind of pointless.
7. _____ I can describe my emotions with ease.
8. _____ You cannot functionally live your life without being aware of your deepest emotions.
9. _____ People sometimes get upset with me, and I can't imagine why
10. _____ People tell me I don't listen to their feelings properly, when in fact I'm doing my utmost to understand what they're saying!
11. _____ When I am upset I find it difficult to identify the feelings causing it.
12. _____ Describing the feelings I have about other people is often difficult.
13. _____ I prefer doing physical activities with friends rather than discussing each others' emotional experiences.
14. _____ I am not much of a daydreamer.
15. _____ I don't like people's constant assumptions that I should understand or guess their needs... it's as if they want me to read their minds!
16. _____ I sometimes experience confusing sensations in my body.
17. _____ For me sex is more a functional activity than it is an emotional one
18. _____ Some people have told me I am cold or unresponsive to their needs.
19. _____ I don't dream frequently, and when I do the dreams usually seem rather boring.
20. _____ Friends have indicated, in one way or another, that I'm more in my head than in my heart.
21. _____ I can't identify feelings that I vaguely sense are going on inside of me.
22. _____ I often ask other people what they would feel if in my personal situation (any situation), as this better helps me understand what to do.
23. _____ I find it useful to ponder on my feelings as much as the practical issues when setting my priorities.
24. _____ I use my imagination mainly for practical means, eg., like how to work out a problem or construct a useful idea or object.
25. _____ I often feel incompetent, awkward, uncomfortable, or occasionally physically sick in sexual situations.
26. _____ When involved in difficult or turbulent relationships, I sometimes develop confusing

- physical symptoms.
27. _____ I tend to rely on other people for interpreting the emotional details of personal/social events.

Instructions: Answer the following questions as spontaneously as possible. If you get stuck on a question, leave it out and continue with the next. Each question can have one of 5 possible answers. These are:

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

28. _____ I don't like conversations in which more time is spent discussing emotional matters than daily activities because it detracts from my enjoyment.
29. _____ I often get confused about what the other person wants from a sexual relationship.
30. _____ People I've been in close relationships with have complained that I neglect them emotionally.
31. _____ I like it when someone describes the feelings they experience under circumstances similar to my own, because this helps me see what my own feelings might be.
32. _____ My imagination is often spontaneous, unpredictable and involuntary.
33. _____ When helping others I prefer to assist with physical tasks rather than offering counsel about their feelings.
34. _____ I have puzzling physical sensations that even friends/acquaintances/others don't understand.
35. _____ I get in a muddle when I try to describe how I feel about an important event.
36. _____ My imagination is usually not spontaneous and surprising, but rather used/employed in a more controlled fashion.
37. _____ I make decisions based on principles rather than gut feelings.

Appendix F: Social Support Survey

ID # : _____

Below is a list of questions regarding social interactions. Read each item and then fill in the blank with the number that best describes how much you have felt or experienced things this way during the past week, including today. Use this scale when answering:

1	2	3	4
strongly disagree	somewhat disagree	somewhat agree	strongly agree

1. _____ There are some people who truly like me.
2. _____ Whenever I am not feeling well, other people show me that they are fond of me.
3. _____ Whenever I am sad, there are people who cheer me up.
4. _____ There is always someone there for me when I need comforting.
5. _____ I know some people upon whom I can always rely.
6. _____ When I am worried, there is someone who helps me.
7. _____ There are people who offer me help when I need it.
8. _____ When everything becomes too much for me to handle, others are there to help me.
9. _____ When I am down, I need someone who boosts my spirits.
10. _____ It is important for me always to have someone who listens to me.
11. _____ Before making any important decisions, I absolutely need a second opinion.
12. _____ I get along best without any outside help.
13. _____ In critical situations, I prefer to ask others for their advice.
14. _____ Whenever I am down, I look for someone to cheer me up again.
15. _____ When I am worried, I reach out to someone to talk to.
16. _____ If I do not know how to handle a situation, I ask others what they would do.
17. _____ Whenever I need help, I ask for it.

Appendix G: Social Anxiety

ID # : _____

Indicate how characteristic each of the following statements is of you according to the following scale:

- 1 = **Not at all** characteristic of me.
- 2 = **Slightly** characteristic of me.
- 3 = **Moderately** characteristic of me.
- 4 = **Very** characteristic of me.
- 5 = **Extremely** characteristic of me.

- _____ 1. I often feel nervous even in casual get-togethers.
- _____ 2. I usually feel comfortable when I'm in a group of people I don't know.
- _____ 3. I am usually at ease when speaking to a member of the other sex.
- _____ 4. I get nervous when I must talk to a teacher or a boss.
- _____ 5. Parties often make me feel anxious and uncomfortable.
- _____ 6. I am probably less shy in social interactions than most people.
- _____ 7. I sometimes feel tense when talking to people of my own sex if I don't know them very well.
- _____ 8. I would be nervous if I was being interviewed for a job.
- _____ 9. I wish I had more confidence in social situations.
- _____ 10. I seldom feel anxious in social situations.
- _____ 11. In general, I am a shy person.
- _____ 12. I often feel nervous when talking to an attractive member of the opposite sex.
- _____ 13. I often feel nervous when calling someone I don't know very well on the telephone.
- _____ 14. I get nervous when I speak to someone in a position of authority.
- _____ 15. I usually feel relaxed around other people, even people who are quite different from me.

Appendix H: MiniMASQ Survey

ID # : _____

Below is a list of feelings, sensations, problems, and experiences that people sometimes have. Read each item and then fill in the blank with the number that best describes how much you have felt or experienced things this way during the past week, including today. Use this scale when answering:

1	2	3	4	5
not at all	a little bit	moderately	quite a bit	extremely

- _____ 1. Felt really happy
- _____ 2. Felt tense or “high strung”
- _____ 3. Felt depressed
- _____ 4. Was short of breath
- _____ 5. Felt withdrawn from other people
- _____ 6. Felt dizzy or lightheaded
- _____ 7. Felt hopeless
- _____ 8. Hands were cold or sweaty
- _____ 9. Felt like I had a lot to look forward to
- _____ 10. Hands were shaky
- _____ 11. Felt like nothing was very enjoyable
- _____ 12. Felt keyed up, “on edge”
- _____ 13. Felt worthless
- _____ 14. Had trouble swallowing
- _____ 15. Felt like I had a lot of interesting things to do
- _____ 16. Had hot or cold spells
- _____ 17. Felt like a failure
- _____ 18. Felt like I was choking
- _____ 19. Felt really lively, “up”
- _____ 20. Felt uneasy
- _____ 21. Felt discouraged
- _____ 22. Muscles twitched or trembled
- _____ 23. Felt like I had a lot of energy
- _____ 24. Was trembling or shaking
- _____ 25. Felt like I was having a lot of fun
- _____ 26. Had a very dry mouth

Appendix I: IRB Protocol



Proposal For:

Pre-Screen of Traits That Lead to Post-Traumatic Stress Disorder with a Proposed Usage of Simulations as Treatment

1) Protocol Title

Pre-Screen of Traits That Lead to Post-Traumatic Stress Disorder with a Proposed Usage of Simulations as Treatment

2) Investigator(s)

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3) Objectives

The Objective of this experiment is to determine the approximate number of people in the population who are susceptible to Post-traumatic Stress Disorder (PTSD) based on traits that are thought to be risk factors for PTSD.

It is hypothesized that greater than 50% of the sample population will be susceptible to Post-Traumatic Stress Disorder. This will show a need for treatment on a larger basis. Once these results are obtained a cost-effective simulation will be proposed as a preventative treatment.

4) Background

Post-Traumatic Stress Disorder (PTSD) has been reported for over a century. PTSD was formerly attached to times of war or conflict as is apparent in past literature such as Homer's Iliad and Gary Paulsen's "Soldier's Heart" both of which stem from times of great conflict. The first formal study took place during World War I, under the term, "Shell Shock" (Mackowiak&

Batten 2008). Since this initial study, many other experiments have been completed in order to help understand this mental disorder. Although, PTSD is still more commonly associated with the devastations of war, its symptoms are known to affect those of all “traumatic events.” Since it is believed that over 50% of Americans will experience a traumatic event and 25% will experience multiple traumatic events (Seides 2010), the stress from these traumatic events is likely to cause damage to the mental health and well being of a large portion of our society. Thus there is an increasing level of attention to PTSD in all facets including its symptoms, affects, and treatment.

The official definition of PTSD was stated in the DSM-IV as “an extreme traumatic stressor involving direct personal experience or that involves actual or threatened death or serious injury or other threat to one’s physical integrity; or witness to an event that involves death, injury, or a threat to the integrity of another person...”(Seides 2010). The disorder has been shown to affect individuals in highly varying degrees and symptoms. The severity of an individual’s PTSD symptoms is directly correlated to their gender, severity of the experience, frequency of traumatic experience, and their history of anxiety. In an Israeli study acute symptoms of PTSD were recorded such as paranoia, restlessness, withdrawal, nausea, hyperstartle, psychomotor retardation, and sympathetic hyperactivity (Davidson 1993). Kolter et al. conducted an experiment in 2001 on suicide rates in PTSD patients, this study showed that those diagnosed with PTSD had higher suicide rates than those who were not (TARRIER 2004). These symptoms resulting from PTSD imply how individuals suffering from the aftermath of traumatic experiences can become harmful to themselves and to society in general if left untreated.

The severity of an individual’s symptoms will determine the level of treatment that they will require to recover. And as an individual’s ability to cope with the stressors of trauma is linked to their personal history and mental condition, it is important to implement a means of identifying which people will be most likely to experience severe PTSD so as to afford them proper attention. In order to accomplish this, a pre-screening evaluation of a subject’s mental susceptibility to PTSD is proposed. This pre-screen will identify those most likely to exhibit particularly harmful forms of PTSD from their personal history of anxiety as well as mental, physical, and sexual abuse.

Current forms of treatment for PTSD include a range of Cognitive Behavioral Therapy (CBT) types. These treatments include exposure therapy, inoculation training, eye movement desensitization and reprocessing, as well as general cognitive therapy (Hembree&Foa 2010). In the category of exposure therapy, Virtual Reality Exposure (VRE) is used as an intensive means of forcing the subject to revisit the traumatic experience in order to grow from it by altering the previously dominating thought patterns of unhappiness thereby habituating their anxiety (Josman, Reisberg, Weiss, Garcia-Palacios, & Hoffman 2008). However the VRE style exposure therapy has only been implemented in treating PTSD once the individual has already begun to manifest symptoms and has become a detriment to their self or surroundings. It is hypothesized that the use of simulated trauma such as VRE can be used to pre-habituate individuals who have been predetermined as at high risk for PTSD via the proposed pre-screen evaluation. This process thereby can be implemented in civilian and military fields to properly condition individuals to deal with traumatic events in healthy ways and prevent the probable consequences of PTSD.

5) Setting of the Human Research

This study will take place at the University of Central Florida in the Psychology building. The participant will be required to fill out a survey over a 45 minute time period.

6) Resources available to conduct the Human Research

This study will be placed on the University of Central Florida's Sona Systems. The system will require it's participants to sign-up for an hour time slot. They will then be required to come into the Psychology Building and will be asked to fill out a series of surveys.

7) Study Design

a) Recruitment Methods

Participants will be recruited from the University of Central Florida via Sona-Systems. The total number of participants for this experiment will be (N=1000), all participants will be asked to complete all surveys. Participants will be eligible to receive credit points through SONA.

b) Inclusion and Exclusion Criteria

Students are required to be at least 18 years of age, this will be stated on Sona-Systems and be determined prior to beginning the experiment.

c) Study Endpoints

Data collection will be complete at the 1,000 participant benchmark. Upon completion statistical analysis will be performed by the primary investigator, and a formal report will be written and released of the data.

d) Procedures involved in the Human Research.

The study will be available for sign-up via University of Central Florida's Sona-Systems. 1,000 participants will be asked to come into the Psychology building and will be given a series of surveys that will take approximately 45 minutes to complete. The participants will not receive the results of their individual tests. All participants will be awarded "Sona-Credit" upon arrival. Each participant will be assigned an experiment ID number. This ID number will be written on the top of all the surveys in order to link the surveys to one another, however will not be linked to the consent form or participants name in order to maintain anonymity.

Six surveys will be given to the participants the first of which will determine the background information on the participant and their family. This survey will also determine if the participant has ever experienced physical or sexual abuse or if the participant has been threatened with a weapon.

The second survey will be a brief personality test developed by Gosling, S. D., Rentfrow, P. J., & Swann, W. B., Jr in 2003.

An Alexithymia test (OAQ-G2) will be given to the participants. This test was developed by Jason Thompson in 2003, permission to use this survey was required, and email consent has been received.

To measure Social Support a Social support scale (BSSS) developed by Schulz, U. & Schwarzer, R. will be used. Another scale that measures Interaction anxiousness developed by Leary, M. R. will be used to buttress both the social support survey and the anxiety survey.

A Mini-MASQ developed by Casillas, A. & Clark, L. A. will be utilized to determine the anxiety level and depression level of the participant.

Each survey has a scale that will determine the level at which the participant inhabits the trait. If the participant exhibits multiple traits they are likely candidates to have Post-Traumatic Stress disorder if exposed to a traumatic event.

e) Data management

As previously stated each participant will receive an ID number that will connect all of their surveys together in order to determine if they manifest multiple traits of Post-Traumatic Stress Disorder. However this number will be in no way associated with the participant. Both completed and uncompleted surveys will be kept in a locked box that only researchers will have access to. Statistical analysis will then be completed by the primary investigator only.

f) Provisions to monitor the data for the safety of participants (Required when Human Research involves more than minimal risk to participants.)

N/A

g) Withdrawal of participants

Participants will not be enrolled if they are under the age of 18. Participants can also be withdrawn upon request if they do not feel comfortable completing the surveys, they will still receive compensation.

8) Risks to participants

The risks to the participants are minimal, since the surveys are anonymous, however, dealing with certain questions on our survey may cause minimal emotional distress to subjects who had had past experience with issues of physical, mental, or emotional abuse. The

participant's answers will be in no way associated with the participant. The responses will be used for scientific purpose only. When results of the experiment is released the participants name will be in no way associated with this experiment. The participant may experience stress or anxiety due to some of the emotionally sensitive questions that are asked in the background information. The participant is in no way obligated to complete the survey and can terminate the survey at any point. The participant will be reminded of the surveys anonymity at the beginning of each survey.

9) Potential benefits to participants

The results of this study may raise community awareness of Post-Traumatic stress disorder. The pre-screening may uncover specific traits that are likely to result in PTSD if exposed to a traumatic event. In the future, this information may enable the public to become more aware of whether or not they should seek therapy. Determined from this experiment a cost-effective simulation will be proposed in order to prevent or treat PTSD.

10) Provisions to protect the privacy interests of participants

Sona-Systems will be used for all sign-up purposes of the participants and participants results will not be released to anyone except for the researcher who is responsible for conducting the experiment. Since an ID number will be assigned their names, they will be in no way associated with the responses on the surveys.

11) Provisions to maintain the confidentiality of data

Due to some of the sensitivity of the information contained in the surveys lock boxes have been purchased with the primary investigator's funds in order to ensure information is kept private. The lock boxes will also be kept in a locked room that only specific people have access to. The data analysis will be done by the primary investigator only.

12) Medical care and compensation for injury

N/A

13) Cost to participants

N/A

14) Consent process

Participants will be provided with summary explanation of research. This document will state that the participant will remain anonymous and all information obtained will be used for research purposes only. This document also makes the participant aware of their ability to terminate the experiment at any time, and receive full compensation. Participants will be given 5

minutes to review the consent and will be asked if they have any questions. They will then be asked if they would still like to participate. If the participant says “yes” the experiment will be conducted. If the participant says “no” the experiment will be terminated but they will still be eligible to receive a SONA credit.

15) Process to document consent in writing

This study is eligible for Exempt review and therefore, no signatures are needed during the consent process.

16) Vulnerable populations

N/A

17) Drugs or Devices

N/A

18) Multi-site Human Research

N/A

19) Sharing of results with participants

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