

Do Personality Factors in Depressed Individuals Deter
Self-harm Behaviors?

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ABSTRACT

This study looked at depressed and non-depressed individuals to see if certain personality factors show up in people who engage in self-harming behaviors and if other factors show up in people who do not engage in self-harming behaviors. The data was collected through several surveys conducted on Bemidji State University students. The data was then analyzed using t-tests, and a multiple regressions through the SPSS system. It was expected that we would find that depressed individuals who engage in self-harm have traits such as openness to experience and neuroticism and depressed people who do not engage in self-harm have traits such as conscientiousness and agreeableness, not all of these expectations were met and some of them were very different from the past research.

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Introduction

Deliberate self-harm has been studied for many years because of its prevalence in young individuals. In a study done on college students by Saraff and Pepper (2014), they report that over one third of their sample had self-harmed in the past year, and that most began self-harming as adolescents. This amount of young people engaging in self-harm behavior is unacceptable and merits research to help find out why they are engaging in this dangerous behavior. In order to look into why individuals engage in self-harm, the question do personality factors in depressed individuals deter self-harm behavior should be looked into.

The question at hand comes up after looking into what past research has discovered. The studies conducted on self-harm and personality have used several different personality tests, but the most frequent traits measured are; Extroversion, Neuroticism, Openness to Experience, Agreeableness and Conscientiousness (Thompson, 2008). These are the five personality factors that are assessed during my study. In the study done by Goldstein et al. in 2009 they used the Gratz (2001) Deliberate Self-Harm Inventory (DSHI) and also added a few items of their own. They found that there were positive correlations between people who self-harm and three personality traits: neuroticism, openness to experience, and sensation seeking. They also saw a negative relationship between self-harm and agreeableness and conscientiousness (Goldstein et al., 2009). Another study done by Seth Brown in 2009 also using the Gratz DSHI found that people who self-harmed were high on neuroticism and openness to experience. Brown (2009) also noted that people without a history of self-harm were high on both agreeableness and conscientiousness scales. Furthermore a study run by MacLaren and Best (2010) using the DSHI and another self harm test which split people into high, low and no self-harm groups. The high

self-harm group was characterized by engaging in 10 or more acts of self-harm and/or three different ways of self-harm. The low self-harm group was less than 10 acts of self-harm and if someone had not engaged in self-harm they were in the no self-harm group. Their findings compared people in the high and low self-harm groups to the people in the no self-harm group (MacLaren and Best, 2010). The findings were much like the other research that mentioned neuroticism and openness to experience, which were attributed to people that self-harmed, and conscientiousness and agreeableness were not (MacLaren and Best, 2010).

Based on the previous research mentioned it is expected that depressed people who do not self-harm will be high on the scales of agreeableness and conscientiousness. It is also expected that people who do self-harm will be high on the scales of openness to experience and neuroticism. In this study, I expect to find the following with the demographic t-Test and correlation; there will be no significant difference between males and females, and there will be no significant correlation for age. Through the multiple regression it is expected that there will be a significant relationship showing more self-harm in people who score high in openness to experience and there will be a significant relationship showing more self-harm in people who score high in neuroticism. There will be a significant relationship showing less self-harm in people who score high in conscientiousness and also on agreeableness.

Methods

Students from the Bemidji State University Psychology Department were used for the study. Using an Abnormal Psychology class we obtained 66 participants between the ages of 18 and 35 years old. The students were given the option of attending class on the day of the study and participating for extra credit. Each student was given an informed consent sheet to read and it was also read aloud to them; once signed they were allowed to participate in the study. Each

student was asked their age and gender for demographic information. After removing any results that were not fully completed there were 59 participants. For gender frequencies we found that 12 (20.3%) were males and 47 (79.7%) were female. The age range was spread between 18 and 35 with 21(35.6%) students being 20 years of age.

In order to evaluate self-harm the Deliberate Self-harm Inventory (DSHI) (Gratz, 2001) was used. The DSHI uses 17-items to allow individuals to self report about self-harming behaviors that they have engaged in (Gratz, 2001) and the DSHI measures “[...] frequency, severity, duration, and type of self-harming behavior” (Gratz, 2001). The DSHI has internal consistency equal to .82 and when tested for reliability the Pearson r correlation was .92 (Gratz, 2001). In order to separate students into a self-harm group and a no self-harm group we used any answer of yes to put someone in the self-harm group and anyone without a yes was put in the no self-harm group.

The measure used to score personality traits was based on the International Personality Item Pool found on personality-testing.info. It measures the big five factors which are: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. Each participant's score was calculated by hand from the sheet they turned in upon completion. The personality test included 50 items that each participant scored using a likert scale (1 strongly agree, 3 neutral, 5 strongly disagree). This is a self assessing measurement of personality.

The participants were placed into depression categories by taking the Beck Depression Inventory-II (BDI-2). The BDI-2 placed people into levels of depression and uses the cutoff score of 21 to place someone in the depressed category. Due to a low number of participants, we did not make groups out of the BDI-2 score. Instead the scores were used as scale data and taken

at the value calculated. Many of the scores that were not included in the study were a result of misunderstanding the BDI-2 directions.

Several statistical analyses were used to evaluate the data. Descriptive statistics were established for all of the factors to find the mean scores. In order to determine if there was a gender difference a t-Test was conducted comparing gender and DSHI scores. Several multiple regressions were then run. The first included all of the participants and all of the variables. The second removed the men because there was a small population size represented. The third multiple regression removed the BDI-2 variable to account for how much effect it had on the effects of personality factors. When needed, an alpha ($p =$ the alpha level) level of less than or equal to .05 was used to obtain significance. The correlation results are represented using the Pearson-r correlation ($r =$ Pearson correlation).

Results

Of the sample obtained ($N = 59$), 50.8% ($n = 30$) reported at least 1 act of deliberate self-harm behavior. As a result of the t-Test to find differences of gender and DSHI score; there was no significant difference between men and women ($p = .128$).

The first multiple regression was run using all of the participants and all of the independent variables. The Pearson r correlation results were significant for the BDI-2 ($r = .535$, $p = .000$), Neuroticism ($r = -.278$, $p = .016$), and Conscientiousness ($r = -.236$, $p = .036$). Extraversion ($r = -.183$, $p = .082$), Agreeableness ($r = -.074$, $p = .289$) and Openness to Experience ($r = .188$, $p = .077$) were not significant when related to DSHI score. Overall the multiple regression was significant ($F = 5.039$, $p = .000$) with an R squared value of .368. When all of the independent values are looked at separately two were significant, BDI-2 ($t = 3.761$, $p = .000$) and Openness to Experience ($t = 2.338$, $p = .023$). BDI-2 was very significant, so in order

to see if taking it out made a difference, the second multiple regression does not include the BDI-2. The correlation results were identical to when the BDI-2 was included. The overall multiple regression was significant ($F = 2.579$, $p = .037$) and the R square was .196. The only personality factor that was significant in the breakdown was Openness to Experience ($t = 2.315$, $p = .025$).

The majority of participants were female and we wanted to see if taking out the men could change any of the results. This multiple regression contained a population equal to 47 once the men were removed. We used the DSHI score as a dependent variable and all five personality factors and the BDI-2 scores as independent variables for the multiple regression. The Pearson r correlation showed a clear significance between BDI-2 score and DSHI ($r = .573$, $p = .000$). When the DSHI was compared to the five personality factors several outcomes were found.

Extraversion was found to be significantly correlated with DSHI ($r = -.244$, $p = .049$).

Agreeableness was found to have no significant result ($p = .203$). Neuroticism was found to be significantly correlated with DSHI ($r = -.264$, $p = .027$). Conscientiousness was found to be significant ($r = -.309$, $p = .017$). Lastly, Openness to Experience was not found to have any significance. The results of the multiple regression resulted in an overall significance ($F = 4.863$, $p = .001$). However, found only BDI-2 scores to still be significant ($t = 3.682$, $p = .001$) The R square in this test showed .422 of the variance being accounted for. The last multiple regression removed the BDI-2 score. The correlation results were identical to the previous test. The overall multiple regression was not significant ($F = 2.377$, $p = .055$). As before none of the personality factors were significant in the multiple regression break down and this time the R square showed .225 of the variance being accounted for.

Discussion

Many of the results found were consistent with past research findings, but some of the results were a surprise. The most consistent result found was that the BDI-2 scores highly correlate with deliberate self-harm. In all of the tests, regardless of whether it was men and women or just women, the BDI-2 score was significant. When the BDI-2 was removed from the tests the amount of variance being accounted for went down. The R squared shows this, with the BDI-2 the R squared was .422 meaning that the independent variables accounted for around 42% of the variance. When the BDI-2 was removed it went down to about 22% (.225) which shows that the BDI-2 accounts for a lot of the variance in the multiple regression.

There was a difference between the multiple regressions done with only female participants and the multiple regressions done with both male and female participants. The biggest difference was that Openness to Experience was significant in the multiple regression when it included both men and women but it was not significant when only women were used. The results of Openness to Experience was an interesting because it was not significantly correlated with deliberate self-harm in any of the tests but it was significant in one of the multiple regressions.

Many of the personality factors were not consistent with previous research and with the predictions that were made. As expected Conscientiousness was significant and negatively correlated with deliberate self-harm. This means that when someone has a high score on the Conscientiousness scale then the amount of times they self-harm would be low. In this study it was significant even though it has not been significant in all previous research. In the previous research it was a negative correlation though. Agreeableness was thought to be a negative correlation with deliberate self-harm and that much was true in our results; however, it was not a

significant result so nothing can be concluded from that. Openness to Experience behaved in much the same way as Agreeableness the correlation was in the direction that we originally thought it would be, which was positively correlated with deliberate self-harm; however, it ended up not being a significant correlation. The results for Extraversion were a surprise. In most of the previous research extraversion has not had any consistent results and because of this it was not mentioned as a prediction for one way or the other. It ended up being one of the factors that were significantly correlated with deliberate self-harm. It was a positive relationship so the more extroverted an individual was the more likely they were to have engaged in self-harm behavior(s). The most surprising result was that Neuroticism was a negative significant correlation with deliberate self-harm. In all of the previous research Neuroticism was a positive correlation with deliberate self-harm.

Even though on their own several of the personality traits were significantly correlated with deliberate self-harm; in almost all of the multiple regressions the only significant factor was the BDI-2 score. Due to the BDI-2 score being a large factor in deliberate self-harm behavior it was removed from several of the tests to hopefully show a larger effect for the personality factors. Even when the BDI-2 was removed the personality factors were no more significantly related to deliberate self-harm. We've learned that even though the personality factors are on their own important that when we try to use them all together to better predict self-harming behaviors they actually become less helpful and depression remains a very useful tool to predict self-harm.

Limitations

Many of the results found were a surprise or very different from past research on this topic and some of this could be explained by the fact that there were some limitations to the

overall study. First, the population size was much smaller than the sizes for other studies: after taking out the participants that did not complete the survey packets correctly we were left with only 59 participants. With more participants we would be able to gain a better representation of populations and be able to generalize the results more.

The population size was not the only limitation that should be mentioned. All of the participants were involved in the Bemidji State University Psychology Departments' Abnormal Psychology class. This may not be a good representation of all people who are depressed or struggling with self-harm behaviors. There also may be a very specific type of person that enjoys psychology classes which could have skewed the personality results.

Another limitation was that all of our surveys were self reporting surveys, which allowed for participants to answer them however they saw fit. The participants could skip over parts if they wanted and they could lie about things that made them uncomfortable, and at times they may not have completely understood the surveys that were chosen. The personality test was a limitation on its own because it was essential an online test that was printed off. Even though the website may have based it off of a reliable and valid test that does not mean that this shortened and changed version was the most reliable or valid. When compared to the other tests that are very well known it was definitely a limitation. Also, all of the tests had to be hand scored, which allowed for errors to be made without realizing it, by the researcher that was scoring the material.

Conclusion

The research presented can help confirm that depression is a major factor in someone's likelihood to engage in deliberate self-harming behaviors. It did not show that any certain personality factors made it easier to predict self-harming behaviors when all added up together. Some traits are shown to significantly correlate with deliberate self-harming behaviors. Even

though they do not help when all placed together that does not mean that we cannot use them on their own. If we look closer at each personality factor they are made up of specific traits. It may be beneficial for future research to focus on the individual traits that make up each of the big five factors of personality. There could be certain traits within those factors that were significant, like Conscientiousness, that contribute to someone not engaging in self-harm behaviors. There were only 59 participants and yet over 50% of them had some history of self-harm behaviors. The majority of our population is engaging in dangerous ways to deal with events that are going on in their lives. The research into this should continue for the purpose of discovering ways to help people learn better coping strategies.

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Deliberate Self-Harm Inventory

This questionnaire asks about a number of different things that people sometimes do to hurt themselves. Please be sure to read each question carefully and respond honestly. Often, people who do these kinds of things to themselves keep it a secret, for a variety of reasons. However, honest responses to these questions will provide us with greater understanding and knowledge about these behaviors and the best way to help people. Please answer yes to a question only if you did the behavior intentionally, or on purpose, to hurt yourself. Do not respond yes if you did something accidentally (e.g., you tripped and banged you head on accident). Also, please be assured that your responses are completely confidential.

1. Have you ever intentionally (i.e., on purpose) cut your wrist, arms, or other area(s) of your body (without intending to kill yourself)? (circle one):

1. Yes

2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

2. Have you ever intentionally (i.e., on purpose) burned yourself with a cigarette? (circle one):

1. Yes

2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

3. Have you ever intentionally (i.e., on purpose) burned yourself with a lighter or a match? (circle one):

1. Yes

2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

4. Have you ever intentionally (i.e., on purpose) carved words into your skin? (circle one):

1. Yes

2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

5. Have you ever intentionally (i.e., on purpose) carved pictures, designs, or other marks into your skin? (circle one):

1. Yes

2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

6. Have you ever intentionally (i.e., on purpose) severely scratched yourself, to the extent that scarring or bleeding occurred? (circle one):

1. Yes

2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

7. Have you ever intentionally (i.e., on purpose) bit yourself, to the extent that you broke the skin? (circle one):

1. Yes

2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

8. Have you ever intentionally (i.e., on purpose) rubbed sandpaper on your body? (circle one):

1. Yes

2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

9. Have you ever intentionally (i.e., on purpose) dripped acid onto your skin? (circle one):

1. Yes

2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

10. Have you ever intentionally (i.e., on purpose) used bleach, comet, or oven cleaner to scrub your skin? (circle one):

1. Yes

2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

11. Have you ever intentionally (i.e., on purpose) stuck sharp objects such as needles, pins, staples, etc. into your skin, **not including** tattoos, ear piercing, needles used for drug use, or body piercing? (circle one):

1. Yes

2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

12. Have you ever intentionally (i.e., on purpose) rubbed glass into your skin? (circle one):

1. Yes

2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

13. Have you ever intentionally (i.e., on purpose) broken your own bones? (circle one):

1. Yes

2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

14. Have you ever intentionally (i.e., on purpose) banged your head against something, to the extent that you caused a bruise to appear? (circle one):

1. Yes

2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

15. Have you ever intentionally (i.e., on purpose) punched yourself, to the extent that you caused a bruise to appear? (circle one):

1. Yes

2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

16. Have you ever intentionally (i.e., on purpose) prevented wounds from healing? (circle one):

1. Yes

2. No

If yes,

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____

17. Have you ever intentionally (i.e., on purpose) done anything else to hurt yourself that was not asked about in this questionnaire? (circle one):

1. Yes

2. No

If yes,

What did you do to hurt yourself? _____

How old were you when you first did this? _____

How many times have you done this? **Please write an actual number (e.g., 1, 5, or 15 NOT some, many, or few).** _____

When was the last time you did this? _____

How many years have you been doing this? (If you are no longer doing this, how many years did you do this before you stopped?) **Please write the actual number of years you engaged in this behavior.** _____

Has this behavior ever resulted in hospitalization or injury severe enough to require medical treatment? _____