

The Influence of Physical Abuse on People's Suicidal Behavior: The Mediating Roles of Depression and Anxiety

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Abstract: This research examined the effect of physical abuse on people's suicidal behavior, and the mediating roles of depression and anxiety in this relationship. Participants were two hundred adults, including 38 males and 162 females. The Childhood Trauma Scale, the Suicidal Tendency Scale, the Depression Self-Assessment Scale, and the Anxiety Self-Assessment Scale (SAS) were used to measure physical abuse, suicidal behavior, depression, and anxiety. Findings revealed that physical abuse is positively related to suicide tendencies; Physical abuse is positively related to anxiety and depression; depression is positively related to suicidal tendencies. Depression but not anxiety plays a mediating role in the association of physical abuse and suicidal tendencies. The findings of the current study emphasize the role of depression in inducing suicidal behavior after physical abuse. It also suggested that the reduction of the suicide rate could be achieved by intervening in the target population, which would focus on those who had experienced childhood abuse. Reducing depression can also be an effective way to reduce suicidal behavior.

Keywords: Physical abuse, Suicidal tendencies, depression

1. Introduction

1.1. Research Background

According to a survey released by the World Health Organization on June 17, 2019, more than 700,000 people died by suicide every year. Meanwhile, studies have shown that suicide is one of the leading causes of death worldwide[1]. Twice as many people died by suicide or more than by homicide. The high number of suicides has become a serious problem. According to Dr. Maria Panagioti, 68 studies have shown a significant relationship between suicide attempts and physical abuse, with people experiencing physically abused as children being more likely to commit suicide than others [2]. Considering that the number of suicides worldwide is high, the present study will explore the association between physical abuse and suicide, as well as the mechanism of this association.

1.2. Question Raising

As for the causes of suicide, many studies have shown that physical abuse can lead to suicidal behavior. Dr. Maria Panagioti from the University of Manchester also led the NIHR Greater Manchester Patient Safety Translations Study. These 68 studies were conducted globally and studies were conducted, and physical abuse is widespread, with about 262,000 adults aged 18 or older experiencing childhood abuse and neglect [2]. These include, but are not limited to, verbal abuse, sexual abuse, physical abuse, and emotional abuse. According to the SAMS model, childhood experiences can lead to adversity and suicide as an escape [3]. At the same time, some researchers point out that severe physical abuse will lead to a habit of pain, so as to not fear injury, not fear death, and eventually build a person's ability to commit suicide [4]. Because these people are abused from an early age – severe types of childhood abuse such as sexual abuse and/or physical abuse – a habit of feeling pain are formed. These studies show that physical abuse and people's suicidal tendencies are inextricably linked.

The research on the mechanism of the association between physical abuse and suicidal behavior is relatively scarce. Some studies have shown that people who were physically abused in childhood have a higher risk of depression and anxiety than others. The previous study found that children who were physically abused had a 59 percent increased lifetime risk of major depression as a direct consequence of physical abuse [5]. In another study, researchers compared 680 children who were abused and neglected before age 11 with 520 children of similar age, race, gender, and social status, and the results showed that children who suffered physical abuse, neglect, or both had a 75% higher risk of major depressive disorder as adults. In addition, some studies also found that physical abuse is related to a high level of anxiety.

At the same time, people with depression and anxiety have a higher rate of suicide. Studies have shown that people with depression and anxiety do have an increased risk of suicide. Among hospitalized mentally ill people, they are twice the possibility (4 percent) to die by suicide, according to the survey. In addition, individuals with depression who had suicidal thoughts are three times more likely (6 percent) to die by suicide [6].

Based on previous studies, the present study hypothesizes that there is a correlation between physical abuse, depression, anxiety, and suicide. Anxiety and depression play a mediating role in the association between physical abuse and suicidal behavior.

2. Method

2.1. Participants

In this study, random sampling was used to select 200 subjects from different provinces and regions in China for investigation, including 38 males and 162 females. The proportion of females is 19% and for males, it's 81%. The age of the participant is between 18 and 45.

2.2. Measures

2.2.1. Physical Abuse

The Childhood Trauma Scale (CTQ) was applied to evaluate maltreatment, which has five subsets: emotional maltreatment, physical maltreatment, sexual maltreatment, emotional mistreatment, and physical mistreatment. The primary focus was the physical abuse subscale, which had four items, e.g., someone in my family hurt me so badly that I had to go to the hospital. Individuals evaluated how often their parents did some specific behaviors: never, occasionally, sometimes, often, and always. The alphas for this scale was 0.87.

2.2.2. Suicide

The Suicidal Ideation Scale (SSI) was used to measure suicide, which assesses a person's risk of committing suicide. Suicidal ideation scales include questions about one's thinking, outlook, and tendency to commit suicide. Additionally, this scale identifies warning indications of self-injury. The twelve questions collected from this scale are all related to how desirous people are of suicide and how likely they are to actually do it, e.g., How often do you have suicidal thoughts – three options, e.g., no, weak, moderate to strong. The alpha for the Suicidal Ideation Scale was 0.71.

2.2.3. Depression

To evaluate each person's level of depression, the SDS Self-rating Depression Scale was employed. The SDS is a 20-item, self-rating scale that decides how severely depressed symptoms have been present throughout the previous week. Ten items assess positive events or feelings, e.g., "My life is pretty full". The participant rates each item according to frequency, with options including "none of the time," "sometimes," "a large proportion of the time," or "most of the time". A score is then given to these ratings on a scale of 1-4, with higher scores denoting more severe depressive symptoms. The sum of the various item scores yields a raw score that ranges from 20 to 80. After that, 1.25 is multiplied by the raw score to create an index score out of 100. [raw score * 1.25 = index score]. The alphas for the SDS was 0.95

2.2.4. Anxiety

To evaluate an individual's level of anxiety, the Self-Rating Anxiety Scale (SAS) was employed. The SAS is a 20-item, self-administered tool that aids in identifying both psychological and physical signs of anxiety. The central nervous system, motor, autonomic, and cognitive symptoms of anxiety are all categorized by the SAS. The psychological and physical components of the scale reflect both positive and negative feelings, such as unwarranted fear or being able to breathe easily. Things like "I feel terrified without a reason," "I feel like I'm coming apart and going to bits," and "I get upset easily or feel anxious," for instance, are examples of items that refer to cognitive symptoms. "My arms and legs quiver and wobble," "I get headaches, my neck and back also get uncomfortable," and "I feel frail and get fatigued easily" are all indications of the motor and central nervous systems, respectively. The alphas for the SAS was 0.93

2.3. Procedure

Star platform was used to collect the data and issue questionnaires. People were instructed to fill out a form that was sent to WeChat, then the data were tested.

2.4. Data Analysis

Spss26 was used for descriptive statistical analysis, correlation analysis, and mediating effect tests.

3. Results

3.1. Descriptive Statistics

The mean standard deviation of the main variables is presented in Table 1. In the current study, the mean for maltreatment is 1.14, then the mean for suicide is 1.68, and the mean for depression and anxiety is 1.73. The maltreatment, suicide tendency, depression, and anxiety were at relatively low levels.

Table 1: Descriptive statistics.

	maltreatment	suicide	depression	anxiety
Mean	1.14	1.68	1.73	1.73
SD	0.41	0.32	0.60	0.63

3.2. Correlation Analysis of the Female and Male Sample

As shown in Table 2, in the correlation test of the female sample, maltreatment was positively related to suicidal tendencies. Maltreatment was also positively related to anxiety. Maltreatment was also significantly positively related to depression. The scores of suicidality were also positively related to anxiety. Suicidalities also had a positive correlation with anxiety. Anxieties also had a positive correlation with depression.

In the correlation test of the male sample, there was also a remarkable positive association between maltreatment and the score on the suicide tendency scale. There was a significant positive association between maltreatment and anxiety. There was a significant positive association between maltreatment and depression. There was a significant positive correlation between the scores of suicidality and anxiety. The scores of anxiety and depression were significantly positively correlated.

Table 2: Correlations between the main variables in this study.

	1	2	3	4
1 Maltreatment	-	.58***	.64***	.75***
2 Suicide	.24**	-	.45**	.52***
3 Anxiety	.26**	.45***	-	.90***
4 Depression	.38**	.56***	.80***	-

Note. Coefficients higher than the diagonal are correlations between female variables and coefficients lower than the diagonal are correlations between male variables. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

3.3. The Mediating Role of Depression and Anxiety

Next, the mediating effects of depression and anxiety in the connection between maltreatment and suicide were tested. The results showed that the effect of maltreatment on depression was significant ($\beta=0.65^{**}$). Furthermore, the effect of depression on suicidal intention was also significant ($\beta=0.28^{**}$). The direct effect of maltreatment on suicide was insignificant ($\beta=0.07$). A bootstrap 95% confidence interval (CI) showed that the indirect effect of maltreatment on suicide through depression was significant (95% CI: 0.101 - 0.362).

The effect of maltreatment on anxiety was significant ($\beta=0.55^{**}$). Furthermore, the effect of anxiety on suicidal intention was not significant ($\beta=0.01$). The direct effect of maltreatment on suicide was insignificant ($\beta=0.07$). A bootstrap 95% confidence interval (CI) showed that the indirect effect of maltreatment on suicide through anxiety was significant (95% CI: -0.059 - 0.071).

4. Discussion

The present study examined the effects of physical abuse on suicidal tendencies in a Chinese sample. Although this paper is not the first to explore the influence of abuse experience on suicide

tendency, the present study extends the previous studies by examining the mediating roles of depression and anxiety, which relatively few people have mentioned. The data suggest that physical abuse does have an effect on suicide attempts. The conclusion of this paper is consistent with previous research finding that physical abuse does make a person more likely to commit suicide. For example, physical and sexual abuse can be triggers for suicide attempts and lead people to make more than one attempt. In addition, depression plays a mediating role in this relationship. It is thought that the experience of being abused leads to depression, and then, leads to suicide. At the same time, this phenomenon may also be due to the decline in serotonin and epinephrine secreted by the brain when people suffer from depression. These two hormones can cause people to be sluggish and irritable, respectively, and even make people more likely to have suicidal thoughts [7].

According to the literature review, the conclusion of this paper is consistent with previous research finding that physical abuse does make a person more likely to commit suicide. Through questionnaire survey and data analysis, this paper finds that there is a significant correlation between them. For example, a paper published by Quyen Q. Tiet and colleagues shows that physical and sexual abuse can be triggers for suicide attempts and lead people to make more than one attempt [8].

Although this paper did not find a significant difference between men and women but found depression was a significant mediating effect. And we've found that physical abuse leads to depression. This discovery and the results of the SAMANTHA GLUCK study are consistent [9]. In this paper, two variables, depression and anxiety, were first used. Finally, after data analysis, it was found that only depression was a mediating effect, and it was a complete mediating effect. Because abuse is a traumatic experience, it can cause the brain to secrete some chemicals and may even change the structure of the brain. This change causes the brain to become sensitive, so this type of person's emotions can easily explode. At the same time, due to a large number of outbreaks of hormones, these hormones act and stimulate various parts of the body, eventually leading to depression [10].

However, there are some limitations. First, this study is a cross-sectional study, and the assessment of the four variables was measured simultaneously and does not indicate causality. In future research, to provide better data, longitudinal designs should be used. This would provide better data to understand the relationship between and to each individual's maltreatment experiences, suicide, depression, and anxiety. Second, measures of this study were according to the maltreatment of suicidal tendency self-reporting. However, this report may create self-report biases which mean that it may increase some of the relationships to each of the variables and influence the justifiability of the conclusions of this study.

Third, there may be other factors that this paper didn't examine, such as self-esteem. Self-esteem then there might be another factor that influences the effect of maltreatment on suicide.

There are some enlightenments obtained in our study. Based on the results that individuals who have been through maltreatment were more certain to have a high level of suicide, the key intervention target of this study can be the individuals who had experienced maltreatment before. By targeting this kind of population, the results of maltreatment on suicide might be more convincing. In addition, reducing an individual's depression and anxiety can also reduce suicidal intentions. For example, exercise can help an individual's body lower the level of tension, improve sleep patterns, maintain a stable mood, and thus reduce depression and anxiety symptoms.

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