

## Article

# The Mediating Effect of Loneliness on the Relationship between Bullying Victimization and Suicidal Behavior among Adolescents in Ghana

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**Abstract:** Research from Western countries, Asia, and some parts of Africa has documented that bullying victimization has ramifications for adolescents, including suicidal tendencies. Some studies have also reported that loneliness among teenagers is strongly linked to suicidal behavior. However, little is known about whether loneliness mediates bullying victimization and suicidal behavior. The present study aims to apply the general strain theory to explore the relationship between being bullied and suicidal behavior among juveniles in Ghana. The study also examines the effect of bullying victimization on loneliness. Additionally, the research evaluates the impact of loneliness on suicidal behavior. Lastly, the study explores the mediation role of loneliness on the association between peer victimization and suicidal behavior among juveniles in Ghana. Data from the 2012 Global School-based Student Health Survey (GSHS) and a sample size of 2626 were used in this research. The results revealed that bullying victimization positively predicted loneliness, and bullying victimization and loneliness significantly predicted suicidal behavior. Finally, loneliness partially mediated the association between bullying experience and suicidal behavior. This study not only provides new evidence to support the general strain theory (GST) but also discusses the theoretical and political implications of the findings.

**Keywords:** bullying; victimization; suicidal behavior; loneliness; general strain theory



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## 1. Introduction

Bullying is an undesirable repeated act of aggression by one person or group toward another person or group, encompassing perceived unequal power relations [1]. It manifests in various forms, including physical, verbal, social, and cyberbullying. Physical bullying includes actions such as shoving, fighting, kicking, punching, and hitting. Verbal bullying involves name-calling, teasing, threats, and racist or homophobic remarks [2,3]. Social or relational bullying encompasses actions aimed at destroying relationships and social connections, such as excluding individuals from social activities, gossiping, spreading rumors, and lying about someone [4]. Cyberbullying involves using electronic devices such as phones, laptops, and the internet to send hateful, harmful, and false content to someone [5].

Global statistics indicate that bullying is pervasive. For example, the United Nations Educational, Scientific and Cultural Organization (UNESCO) [6] reported that globally, one-third of teenagers have recently experienced bullying. The rate of bullying victimization is highest in Mediterranean regions, ranging from 45.1% to 46%. In Africa, the prevalence ranges from 43% to 44%. Europe has the lowest prevalence, which ranges from 8% to 9% [7]. In Ghana, Aboagye et al. [8] reported that the rate of bullying victimization is 41.3%.

Available research demonstrates that bullying can have severe consequences for victims. Studies indicate that bullying may lead to physical health conditions such as injuries, skin conditions, stomach aches, and heart problems [9,10]. The education of adolescents can also be affected, with victims of bullying more likely to engage in truancy, demonstrate low academic performance, and drop out of school [11,12]. Researchers have also

documented that bullying could lead to delinquent behaviors among adolescents [13–17]. The mental health of adolescents is also impacted by bullying, with victims often experiencing conditions including depression, anxiety, low self-esteem, eating disorders, and trauma [18–20].

Suicidal behavior is a significant public health challenge worldwide. Available statistics show that suicidal behavior is prevalent in Africa. For example, using data from the Global School-based Student Health Survey (GSHS), Uddin et al. [21] reported that suicidal ideation (20.4%) and suicide planning (23.7%) were highest in Africa. Similarly, Biswas et al. [7], using a sample from 82 countries, reported that the rate of suicidal ideation was 14%, with Africa having the highest rate of 21%. Further research indicates that suicidal behavior is more common among females than males [7,22].

Numerous scholars have endeavored to explore the relationship between bullying victimization and suicidal behaviors. A considerable body of research has determined that victims of bullying are more likely to engage in suicidal behaviors [23–28]. Conversely, some studies have reported no significant association between these two variables [29–31]. Peprah et al. [27] examined bullying victimization and suicidal behaviors across 28 countries and found that bullying victimization increases the risk of suicidal behavior. Similarly, Wang et al. [28] investigated the link between bullying victimization, suicidal ideation, and suicide attempts among students in China. They reported that suicidal ideation and attempts were higher among students who were bullied than those who were not bullied. On the contrary, Husky et al. [29] studied bullying and suicidal ideation in Europe, finding no significant relationship between bullying victimization and suicidal ideation. Similarly, van der Wal et al. [31] analyzed the relationship between bullying experience and psychosocial health in the Netherlands and concluded that bullying victimization had no significant effect on suicidal ideation in boys.

A subset of researchers has also concentrated on the correlation between specific types of bullying victimization and suicidal behaviors [28,32–34]. For example, Wang et al. [28] found that verbal, relational, property-related, physical, and cyberbullying positively predicted suicidal behavior. Likewise, Peng et al. [32] explored the relationship between various subtypes of bullying and suicidal behavior. They found that relational bullying, physical bullying, verbal bullying, and general victimization were identified as risk factors for both suicidal attempts and ideation.

An important variable in the association between bullying victimization and suicidal behavior is loneliness, defined as the feeling of isolation, lack of companionship, or deficiency in social interaction with others [35–37]. The prevalence of loneliness among adolescents appears to be increasing. For example, Surkalim et al. [38] found that loneliness prevalence ranged from 9.2% to 17.1% among juveniles in 113 countries. More recently, Igami et al. [39] reported a rate of loneliness of 11.7% among adolescents in a sample drawn from 70 countries.

Some researchers have reported that bullying victimization significantly predicts loneliness [40,41]. Other researchers have found that loneliness positively affects suicidal behavior [42–45]. Lastly, studies have documented that loneliness fully or partially mediates the relationship between bullying victimization and suicidal behavior [27,46,47].

### 1.1. The Current Study

Previous studies have demonstrated a positive link between bullying victimization and adolescent suicidal behavior [23–28]. However, in Ghana, only a few studies have been conducted on this topic [23,26]. For instance, Asante et al. [23] investigated the predictors of suicidal behaviors in Ghana, finding that bullying victimization is a strong predictor. In a recent study, Baiden et al. [26] examined the effect of bullying victimization on suicidal behavior in Ghana and reported that victims of bullying were at a higher risk of experiencing suicidal attempts and ideation.

Similarly, researchers have documented a positive association between bullying victimization and loneliness [40,41]. Nevertheless, no researcher has attempted an investigation

on the topic in Ghana. The lack of research on the issue is worrying because the available literature shows that bullying victimization and loneliness are prevalent in Ghana [48–50]. For example, Seidu [48] reported that the rate of loneliness in Ghana is 18%, while the rate of bullying victimization is 41.3% [8].

Furthermore, available investigations have shown that loneliness strongly predicts suicidal behavior [42–45]. Nonetheless, in Ghana, only one study has addressed the topic [23]. Asante et al. [23] examined the determinants of suicidal behavior in Ghana. They found that loneliness is a robust predictor of suicidal behavior. The scarcity of research on the relationship between the latter and former variables is troubling because studies have shown that loneliness and suicidal behaviors are high in Ghana [23,49–52].

Finally, a few studies have also reported that loneliness mediates bullying victimization and suicidal behavior association [27,46,47]. Regardless, to the best of my knowledge, no study has focused on the topic in Ghana. This lack of sufficient literature is problematic, as studies indicate that bullying victimization and loneliness are prevalent in Ghana. Therefore, this study aims to investigate the moderation effect of loneliness on the relationship between bullying victimization and suicidal behaviors in Ghana. The research will test the following hypotheses:

**Hypotheses 1 (H1).** *Bullying victimization significantly predicts loneliness.*

**Hypotheses 2 (H2).** *Loneliness positively predicts suicidal behavior.*

**Hypotheses 3 (H3).** *Bullying victimization positively predicts suicidal behavior.*

**Hypotheses 4 (H4).** *Loneliness mediates the relationship between bullying victimization and suicidal behavior.*

This research will contribute to the existing literature in three ways. First, it will add to the literature on the relationship between bullying victimization and suicidal behaviors. Currently, only two investigations have been conducted on this topic in Ghana [22,23]. In addition, no study in Ghana has focused on the association between bullying victimization and loneliness. This research will be the first to provide empirical evidence of this relationship. Furthermore, the study will enhance the literature concerning the connection between loneliness and suicidal behavior, a topic currently devoid of scholarly attention in Ghana. This lack of existing research underscores the potential for this study to serve as foundational literature within the country. Finally, this study will contribute to the empirical literature in terms of the mediation effect of loneliness on the association between being bullied and suicidal behavior.

### *1.2. General Strain Theory and Suicidal Behavior*

Robert Agnew's general strain theory (GST) will serve as the guiding framework for this research. This theory emerged in response to the identified shortcomings of traditional strain theories, which were criticized for several reasons. First, these theories predominantly focused on monetary goals, neglecting other important objectives. Second, they were unable to account for white-collar crimes. Third, they were often criticized for lacking empirical evidence. Agnew's formulation addressed these issues by identifying three main types of strains: (a) failure to achieve positively valued goals, (b) exposure to noxious stimuli, and (c) loss of positively valued stimuli [53].

Agnew [53] posited that individuals who encounter these strains may experience a range of negative emotions, including jealousy, loneliness, sadness, anger, hate, anxiety, and frustration. He argued that these negative emotions serve as mediators between strains and offending behaviors. Nonetheless, positive coping mechanisms, such as social support, intelligence, social control, high self-esteem, and creativity, could help individuals positively cope with the strains. Conversely, individuals without such coping mechanisms may be more prone to deviant behavior.

In the context of this research, bullying victimization represents a particular strain, as it constitutes a noxious stimulus frequently encountered by adolescents. Bullied adolescents often experience negative emotions, such as loneliness. The negative emotions could lead to suicidal behavior. On the other hand, coping mechanisms, including social support, may facilitate positive responses to bullying, thus reducing the likelihood of engaging in suicidal behaviors.

The GST has served as a theoretical framework to elucidate various deviant behaviors, including delinquency [13–15,54], substance abuse [55–57], domestic violence [58,59], and child abuse [60,61]. Other researchers have also used the theory to interpret suicidal behavior [62,63]. In relation to this research, a number of scholars have used the GST to explain the relationship between bullying victimization and suicidal behaviors [46,64]. For example, Kim et al. [64] examined bullying victimization and suicidal ideation in China using the GST framework. The results showed that negative emotions, such as loneliness, mediated the relationship between being bullied and suicidal ideation. Similarly, Cao et al. [46] examined the experience of bullying and suicidal thoughts in China, reporting that loneliness partially mediated the link between being bullied and suicidal risk.

## 2. Materials and Methods

### 2.1. Data

The 2012 Global School-Based Student Health Survey (GSHS) serves as the data source for this research. Although the data are somewhat dated, they remain relevant as they constitute the only available secondary data containing the necessary variables for this study. The GSHS is designed to evaluate student health behaviors and protective variables, aiding nations in the development of health programs for adolescents. Moreover, this survey identifies trends and allows global institutions to conduct cross-cultural comparisons [65]. The 2012 Ghana GSHS was a school-based survey of students in junior high school (JHS) Grades 1–3 and senior high school (SHS) Grades 1–4. The participants were between the ages of 13 and 17. A two-level cluster-sampling technique was employed to create a representative dataset for all students in JHS and SHS. In the initial stage, schools were selected in proportion to student enrollment, while the second phase involved randomly selecting classes to ensure that every student had an equal opportunity for selection [65]. The total sample size for this study was 2626.

### 2.2. Variables

Suicidal behavior is the dependent variable in this study and was measured using two items: During the past 12 months, did you ever seriously consider attempting suicide? During the past 12 months, did you make a plan about how you would attempt suicide? The responses were 1 (Yes) and 0 (No). A suicidal behavior index was created, ranging from 0 to 2, with a Cronbach's alpha coefficient of 0.63, which is an acceptable level.

The independent variable in this research is bullying victimization. It was measured by the question, "During the past 30 days, how many days have you been bullied?" The responses were categorized as follows: 1 (0 days), 2 (1 or 2 days), 3 (3 to 5 days), 4 (6 to 9 days), 5 (10 to 19 days), 6 (20 to 29 days), and 7 (all 30 days). Subsequently, the responses were recoded into a dummy variable, with "0 days" designated as 0 (never bullied) and "1 to 30 days" as 1 (always bullied).

Loneliness is the moderator variable used in this investigation. It was measured using the question, "How many times have you felt lonely in the past 12 months?" The responses ranged from 0 (never), 1 (rarely), 2 (sometimes), 3 (most of the time), and 4 (always).

Certain variables have been shown to be risk factors for suicidal behavior. For instance, studies have found that gender significantly predicts suicidal behavior, with females having an increased likelihood of engaging in suicidal attempts and ideation [66,67]. Age has also been strongly linked to suicidal attempts and plans [52,68]. School grade level has been found to be a significant predictor of suicidal behavior [69]. Scholars have also documented that sleeplessness is a risk factor for suicidal thoughts and plans [70,71]. Substance use has

been shown to significantly predict suicidal ideation [72,73]. Finally, social support has been found to reduce suicidal behaviors among adolescents [74–76].

Therefore, variables such as gender, age, school grade, sleeplessness, substance use, and social support were included in the study as control variables. Age was treated as a continuous variable, ranging from 11 to 18 years, and school grade level was categorized as JHS 1–3 and SHS 1–3. Sleeplessness was measured as follows: 0 (never), 1 (rarely), 2 (sometimes), 3 (most of the time), and 4 (always). Substance use (alcohol, tobacco, and marijuana) was also treated as a continuous variable, whereas gender was treated as a categorical variable (male, female). Substance use was measured with the item, “How many days have you smoked tobacco, marijuana, or drank alcohol in the past 30 days?” The responses ranged from 0 to 30 days.

Three items were used to measure social support: parental support, peer support, and school support. Parental support was determined using the following items: “During the past 30 days, how often did your parents or guardians check to see if your homework was done? During the past 30 days, how often did your parents or guardians understand your problems and worries?”

During the past 30 days, how often did your parents or guardians really know what you were doing with your free time? The responses included 0 (never), 1 (rarely), 2 (sometimes), 3 (most of the time), and 4 (always). A parental support scale was developed that ranged from 3 to 15, with a Cronbach’s alpha reliability coefficient of 0.7. Peer support was defined using the item, “How many close friends do you have?” The responses were 0, 1, 2, and 3 or more. School support was specified with the item: “During the past 30 days, how often were most of the students in your school kind and helpful?” The responses were 0 (never), 1 (rarely), 2 (sometimes), 3 (most of the time), and 4 (always).

### 2.3. Analytic Strategy

Both descriptive and inferential statistics were utilized to analyze the data. Descriptive statistics, including means, proportions, and standard deviations, were used to summarize the data. Path analysis was employed to examine the relationship between bullying victimization, loneliness, and suicidal behavior. Initially, loneliness was regressed on bullying victimization, controlling for other variables. Subsequently, suicidal ideation was regressed on bullying victimization and loneliness, controlling for other variables. Analyses were conducted using Stata, version 16.

## 3. Results

The sociodemographic characteristics of the participants in the study are presented in Table 1. The results indicate that most participants were male (54.79%), with a mean age of 16 years. The mean grade level of the respondents was Grade 10, equivalent to SHS 1. Substance use means were 0.09 (tobacco), 0.22 (alcohol), and 0.06 (marijuana), signifying that participants, on average, have never used these substances. Similarly, the average sleeplessness score was 1.4, suggesting that respondents rarely experienced difficulty sleeping.

Moreover, the mean scores for peer, school, and parental support were 1.8, 2.17, and 6.35, respectively, reflecting moderate levels of social support. Additionally, respondents rarely experienced loneliness ( $\bar{x} = 1.56$ ). On average, participants have never exhibited suicidal behavior. Finally, 48.06% of this research’s respondents have been bullying victims.

Table 2 presents the bivariate correlation among the dependent, independent, and mediator variables used in the study. The results indicate that bullying victimization was positively related to loneliness ( $r = 0.136$ ,  $p < 0.001$ ) and suicidal behavior ( $r = 0.134$ ,  $p < 0.001$ ). Loneliness was also positively correlated with suicidal behavior ( $r = 0.112$ ,  $p < 0.001$ ). The correlation coefficients among the variables were less than 0.5, indicating no multicollinearity.

**Table 1.** Descriptive statistics of the variables in the study.

Variables	Means/Proportions	Standard Deviations	Min	Max	n
Sociodemographics					
Gender			0	1	2626
Males	54.79				
Females	45.24				
Age	16.08	1.89	11	18	2626
Grade level	10	2	7	13	2626
Sleeplessness	1.4	1.16	0	4	2626
Substance use					
Tobacco	0.09	0.56	0	6	2626
Alcohol	0.22	0.76	0	6	2626
Marijuana	0.063	0.39	0	4	2626
Social support					
Peer support	1.8	1.03	0	3	2626
School support	2.17	1.25	0	4	2626
Parental support	6.35	3.55	0	12	2626
Mediator variable					
Loneliness	1.56	1.16	0	4	2626
Independent variable					
Bullying victimization			0	1	2626
Never bullied	51.94				
Always Bullied	48.06				
Dependent variable					
Suicidal behavior	0.36	0.66	0	2	2626

**Table 2.** Bivariate correlation among the dependent, independent, and mediating variables.

Variables	1	2	3	4	5	6
Bullying victimization	1.000					
Suicidal behavior	0.134	***	1.000			
Loneliness	0.136	***	0.113	***	1.000	
Gender	-0.026		-0.054	***	-0.064	***
Age	-0.160	***	0.044	***	0.141	***
Grade level	-0.212	***	0.001		0.167	***
Sleeplessness	0.128	***	0.194	***	0.295	***
Tobacco usage	0.118	***	0.120	***	0.014	
Alcohol usage	0.095	***	0.128	***	0.072	***
Marijuana usage	0.100	***	0.134	***	0.002	
Peer bond	0.018		-0.068	***	-0.054	**
School bond	-0.056	**	-0.062	**	-0.002	
Parental bond	0.002		-0.048	*	-0.013	
<b>Variables</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
Sleeplessness	1.000					
Tobacco use	0.020	1.000				
Alcohol use	0.099	***	0.369	***	1.000	
Marijuana use	0.055	**	0.398	***	0.349	***
Peer bond	-0.039	*	0.030		0.065	***
School bond	-0.005		-0.049	**	0.005	
				0.001	0.111	***
						1.000

**Table 2.** Cont.

Parental bond	−0.011	−0.055 **	−0.055 **	−0.024	0.041	*	0.287	***	1.000
	1. Bullying victimization	2. Suicidal behavior		3. Loneliness			4. Sex		
	5. Age	6. Grade level		7. Sleeplessness			8. Tobacco use		
	9. Alcohol use	10. Marijuana use		11. Peer bond			12. School bond		
	13. Parental bond								

\*\*\*  $p > 0.001$ , \*\*  $p > 0.01$ , \*  $p > 0.05$ .

Table 3 illustrates the predictive relationship between bullying victimization and loneliness among adolescents. The results indicate that an increase in bullying victimization is associated with a 0.315 increase in adolescent loneliness. The results imply that bullied adolescents are more likely to experience loneliness. Additionally, being male was associated with a 0.096 decrease in loneliness, whereas an increase in grade level and sleeplessness were linked to increases in loneliness by 0.084 and 0.247, respectively. Alcohol consumption was also found to increase loneliness by 0.083. All variables in the model accounted for 12.5% of variation in loneliness ( $R^2 = 0.125$ ).

**Table 3.** Bullying victimization predicting loneliness.

Variables	b		SE
Bullying victimization	0.315	***	0.044
Gender (male)	−0.096	*	0.044
Age	0.009		0.017
Grade level	0.084	***	0.017
Sleepless	0.247	***	0.019
Substance use			
Tobacco	−0.008		0.043
Alcohol	0.083	**	0.031
Marijuana	−0.100		0.061
Social support			
Peer support	−0.036		0.021
School support	0.003		0.018
Parental support	−0.006		0.006
Intercept	0.228		0.207
R-squared	0.125		

\*\*\*  $p > 0.001$ , \*\*  $p > 0.01$ , \*  $p > 0.05$ .

The effects of loneliness and bullying victimization on suicidal behavior are presented in Table 4. The results indicate that for every unit increase in loneliness, a 0.025-unit increase in suicidal behavior was predicted while holding all other variables constant. Similarly, for every increase in bullying victimization, suicidal behavior was predicted to increase by 0.114 units. These findings demonstrate that both bullying victimization and loneliness significantly increase suicidal behavior among adolescents in Ghana. The variables in this model were responsible for 8.1% of the variance in suicidal behavior ( $R^2 = 0.081$ ).

**Table 4.** Loneliness and bullying predicting suicidal behavior.

Variables	b		SE
Loneliness	0.025	*	0.011
Bullying victimization	0.114	***	0.026
Gender	−0.05	*	0.025
Age	0.023	*	0.010
Grade level	−0.017		0.010
Sleeplessness	0.09	***	0.011
Substance use			
Tobacco	0.062	*	0.025
Alcohol	0.05	**	0.018
Marijuana	0.13	***	0.035
Social support			
Peer support	−0.032	**	0.012
School support	−0.021	*	0.010
Parental support	−0.004		0.004
Intercept	0.083		0.120
R-squared	0.081		

\*\*\*  $p > 0.001$ , \*\*  $p > 0.01$ , \*  $p > 0.05$ .

Table 4 further reveals that the male gender was associated with a 0.05-times lower predicted suicidal behavior than females. Additionally, an increase in the age of a participant was associated with a 0.023-fold increase in suicidal behavior. Likewise, each additional day of tobacco, alcohol, and marijuana consumption was associated with an increase in suicidal behavior by 0.062, 0.05, and 0.13, respectively. Furthermore, a one-unit difference in sleeplessness would, on average, lead to a 0.09 increase in suicidal behavior. Finally, increases in peer and school support significantly reduced suicidal behavior by 0.032 and 0.021 times, respectively.

Table 5 presents the direct, indirect, and total effects. The results indicate that bullying victimization had a direct and total effect of 0.315 on loneliness. The direct effect of bullying victimization on suicidal behavior was 0.114. Again, bullying victimization had an indirect effect of 0.08 on suicidal behavior through the feeling of loneliness. The total effect of bullying victimization on suicidal behavior was 0.122. Finally, loneliness had a direct and total effect of 0.025 on suicidal behavior. The mediation effect was responsible for 6.5% of the total effect. In sum, loneliness partially mediated the relationship between bullying victimization and suicidal behavior.

**Table 5.** Direct, indirect, and total effects.

Model Pathways	b	Effect	SE
<u>Direct effects</u>			
Bullying victimization → loneliness	0.315	***	0.044
Bullying victimization → suicidal behavior	0.114	***	0.026
Loneliness → suicidal behavior	0.025	*	0.011
<u>Indirect effects</u>			
Bullying victimization → loneliness → suicidal behavior	0.008	*	0.004
<u>Total effects</u>			
Bullying victimization → suicidal behavior	0.122	***	0.026

\*\*\*  $p > 0.001$ , \*  $p > 0.05$ .

#### 4. Discussion

This research investigated the mediation effect of loneliness on the relationship between bullying victimization and suicidal behavior. The research used data from the 2012 GSHS, with a sample size of 2626 participants. Stata version 16 was used to analyze the data, and four significant findings emerged. First, bullying victimization significantly predicted

a feeling of loneliness. This finding confirms the results of the previous research [40,41], and supports the study's first hypothesis, which states that bullying victimization significantly predicts loneliness. Second, the study further revealed that the feeling of loneliness significantly predicted suicidal behavior. The finding, as mentioned earlier, supports the second hypothesis, which states that loneliness positively predicts suicidal behavior. The findings also confirm the outcomes of previous investigators [42–45]. Moreover, this research showed that bullying victimization significantly predicted suicidal behavior. The findings confirm the conclusion of previous scholars that victims of bullying are more at risk of suicidal behavior [21–24,27,28]. It also supports the third hypothesis, which states that bullying victimization positively predicts suicidal behavior. A possible explanation of the latter results could be inadequate social support. Although the available literature indicated that social support reduces suicidal behavior [75,76], the descriptive statistics from this study showed that participants lacked social support. Finally, the fourth hypothesis states that loneliness mediates the relationship between bullying victimization and suicidal behavior. The results of the study indicated that the feeling of loneliness partially mediated the association between being bullied and adolescent suicidal behavior. The findings also confirm the revelations from previous scholars [27,46,47].

The findings from this study have theoretical and social-policy implications. Theoretically, these findings contribute significantly to the literature on the effects of bullying victimization and loneliness on suicidal behavior. While previous studies have reported that victims of bullying and adolescents experiencing feelings of loneliness are vulnerable to suicidal behavior, this study enhances the literature by offering empirical evidence from Ghana. Additionally, it lends empirical support to the GST, which argues that negative emotions mediate the correlation between strain and deviant behavior. The feeling of loneliness has been found to partially or fully mediate the association between bullying victimization and suicidal thoughts in previous studies. This investigation builds upon that understanding by demonstrating that loneliness mediates the link between being bullied and suicidal behavior among youth in Ghana.

Concerning policy, this research is of significance to policymakers in the education ministry, Ghana education service, and Ghana youth authority. The discovery that bullying victimization positively predicts suicidal behavior necessitates stakeholders' concerted efforts in these areas to introduce bullying prevention programs. Such programs could help curb bullying in schools. Examples include the Olweus Bullying Prevention Program and the Confident Kids Program [77,78]. These programs have been effective in other countries; hence, implementing them in Ghana might be successful. Furthermore, as the study found that loneliness significantly predicts suicidal behavior and that loneliness mediated the link between being bullied and suicidal behavior, policymakers should aim to reduce loneliness among adolescents. Interventions that have succeeded in other countries could be considered, such as increasing social skills, mindfulness, improving social support, expanding opportunities for social contact, utilizing robotic pets, addressing maladjusted social cognition, and social facilitation software [79,80]. Finally, researchers have documented various intervention programs specifically targeted at helping adolescents cope with suicidal behavior. Those intervention programs include dialectical behavior therapy (DBT), cognitive-behavioral therapy (CBT), and mentalization-based therapy [81,82].

This study has several weaknesses that future researchers should address. First, the data used were cross-sectional, which makes it challenging to analyze the impact of bullying victimization and loneliness on suicidal behavior over time. Future researchers should endeavor to use longitudinal data. Second, suicidal behavior was measured using only two items. Subsequent studies should attempt to employ more items to measure suicidal behavior. Third, loneliness was measured using a single item. Future studies should make use of multiple items to measure the variable.

## 5. Conclusions

Despite these limitations, this study contributes significantly to the available literature on suicidal behavior. The research found that bullying victimization and loneliness positively predicted adolescent suicidal behavior. Additionally, bullied adolescents were more likely to experience loneliness. Lastly, the study discovered that the feeling of loneliness partially mediated the association between bullying victimization and suicidal behavior. These findings emphasize the need to implement prevention programs to reduce adolescent bullying. The study also underscores the importance of promoting programs encouraging social interaction to mitigate loneliness. The results require for further academic and professional attention to be paid to the role of loneliness in bullying and suicidal behavior.

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