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RESEARCH ARTICLE

Relationship between Bullying and Suicidal Behaviour in Youth presenting to the Emergency Department

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Abstract

Objective: Increasing numbers of adolescents are visiting emergency departments with suicidal ideation. This study examines the relationship between bullying and suicidal ideation in emergency department settings. **Method:** A chart review was conducted for all patients under 18 years of age presenting with a mental health complaint to the emergency departments at Kingston General or Hotel Dieu Hospitals in Kingston, Canada, between January 2011 and January 2015. Factors such as age, gender, history of abuse, history of bullying, type and time of bullying, and diagnoses were documented. **Results:** 77% of the adolescents had experienced bullying, while 68.9% had suicide ideation at presentation. While controlling for age, gender, grade, psychiatric diagnosis, and abuse, a history of bullying was the most significant predictor of suicidal ideation. Individuals in this study who reported cyber bullying were 11.5 times more likely to have suicidal ideation documented on presentation, while individuals reporting verbal bullying were 8.4 times more likely. **Conclusions:** The prevalence of bullying in adolescent patients presenting to emergency departments is high. The relationship found between suicidal ideation and bullying demonstrates that clinicians should ask questions about bullying as a risk factor for suicide ideation during the assessment of children and adolescents.

Key Words: *bullying, suicide, cyber bullying, adolescent*

Résumé

Objectif: Un nombre croissant d'adolescents se rend aux services d'urgence avec une idéation suicidaire. Cette étude examine la relation entre l'intimidation et l'idéation suicidaire dans le contexte des services d'urgence. **Méthode:** Un examen des dossiers a été mené pour tous les patients de moins de 18 ans qui se sont présentés avec une plainte de santé mentale aux services d'urgence du Kingston General ou de l'Hôtel Dieu de Kingston, Canada, entre janvier 2011 et janvier 2015. Les facteurs comme l'âge, le sexe, les antécédents d'abus, les antécédents d'intimidation, le type et le moment de l'intimidation, et les diagnostics ont été documentés. **Résultats:** Soixante-dix-sept pour cent des adolescents avaient connu l'intimidation, tandis que 68,9 % avaient une idéation de suicide en se présentant. En contrôlant pour l'âge, le sexe, l'année de scolarité, le diagnostic psychiatrique et l'abus, des antécédents d'intimidation étaient le prédicteur le plus significatif de l'idéation suicidaire. Les sujets de cette étude qui ont déclaré une cyberintimidation étaient 11,5 fois plus susceptibles d'avoir une idéation suicidaire documentée lorsqu'ils se présentent, alors que les sujets déclarant une intimidation verbale en étaient 8,4 fois plus susceptibles. **Conclusions:** La prévalence de l'intimidation chez les patients adolescents qui se présentent aux services d'urgence est élevée. La relation observée entre l'idéation suicidaire et l'intimidation démontre que les cliniciens devraient poser des questions sur l'intimidation comme facteur de risque de l'idéation suicidaire durant l'évaluation des enfants et des adolescents.

Mots clés: *intimidation, suicide, cyberintimidation, adolescent*

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Introduction

Bullying is an act of aggression towards others that leads to a notion of power imbalance between the victim and the perpetrator. This act does not only include physical violence, but also other types of aggression such as verbal harassment, social exclusion, and cyber targeting. Bullying is most prevalent within the youth population, especially in educational settings (Carney, 2000). Bullying has become an increasingly worrisome health concern, especially involving youth, as bullying may have lasting negative effects such as psychological distress that can lead to suicidal ideation (Alavi, Roberts, Sutton, Axas, Repetti, 2015).

Suicidal behaviour is becoming more common among adolescents. U.S. national data from 2001 indicates that 19% of high school students had serious suicidal ideation, 15% made a specific plan to attempt suicide, 8.8% reported suicidal attempts, and 2.6% made a suicide attempt in a one year period. The rate of deaths by suicide among adolescents between 11 and 19 years of age was reported to be 15.5 per 100,000, making suicide the third leading cause of death in this age group (Grunbaum et al., 2002; Prinstein, Boergers, Spirito, Little, Grapentine, 2000; Kim, Leventhal, 2008).

Experts and published studies in this area do not always agree on definitions. Many terms and definitions exist: suicidal thoughts, intentions, ideation, gestures, attempts, completions, equivalents. Communication about a suicidal state can be through suicidal ideation, suicide threats, or suicidal behaviours. Although ideations and intents are both cognitions, ideations are purely cognitive while intents assume an emotional component and a higher degree of mental engagement to the cognitive process. When describing threats, different terms can be used: imminent versus long-term, direct versus indirect, and acute versus chronic, because expression of a suicide threat might result in a future suicide act, whereas a direct threat can carry a high likelihood of action in the very near future (Silverman et al., 2007).

The relationship between bullying and suicidal ideation is complex and often mediated by a build-up of various factors such as depression, abuse, low self-esteem, isolation, poor school performance, and anxiety (Elgin, 2014). Hence, evidence suggests that there is a higher possibility of suicidal ideation when there are co-existing risk factors (Elgin, 2014). Behavioural and emotional trauma experienced at a young age, including bullying, can persist into adulthood due to chronic exposure to negativity. Therefore, exposure to bullying at a young age can have long lasting consequences (Skapinakis et al., 2011). Deciding who is at higher risk of suicidal ideation in relation to bullying behaviour – the victim of bullying, the perpetrator of bullying, or the individual who is involved with both (Skapinakis et al., 2011) – is an ongoing debate. Children and adolescents who are victims of bullying, and those who bully others, experience a higher risk for suicidal ideation and behaviour (Skapinakis et al., 2011). Whether a direct or indirect cause of suicidal ideation, bullying is becoming an increasing threat to the mental health and overall well-being of minors (Elgin, 2014; Skapinakis et al., 2011).

Out of 35 countries, research shows that Canada has the 9th highest rate of bullying ("Canadian Bullying Statistics", 2012). At least one in three adolescents ages 12 to 18 in Canada indicate they have been bullied, while many children under the age of 12 have experienced bullying on a regular basis ("Canadian Bullying Statistics", 2012). In terms of gender differences, 15% of girls and 18% of boys have reported being bullied at least twice in their lives. ("Facts and Myths (From www.prevnet.ca)", 2015). Overall, among the Canadian adult population, 38% of males and 30% females have reported being bullied in their school age years ("Canadian Bullying Statistics", 2012). Bullying has also been observed to be on the rise, with rates of bullying increasing from 6.3% in 2009 to 7.8% in 2011, and one in ten school children reporting incidents of bullying per week (Kann, 2012; "11 Facts About Cyber Bullying", n.d.).

Cyber bullying may be an even greater risk factor for suicidal ideation in adolescents than more traditional types of bullying (Hinduja & Patchin, 2010). Research shows that cyber bullying victims were 1.9 times more likely to attempt suicide or die by suicide compared to those who have never been bullied, with 41 suicides over four countries (USA, Canada, Australia, and the UK) in eight years taking place as a direct result of cyber bullying (Hinduja & Patchin, 2010; "Cyberbullying-linked suicides rising", 2012).

A study based in New York assessed the relation between bullying, suicidal ideation, and suicide attempts among 2342 adolescents from grade nine to grade 12. Investigators examined the relationship between being the victim of bullying or being a bully with depression, suicidal ideation, and suicide attempts (Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2007). Six New York State high schools were evaluated during the years of 2002 through 2006. Results demonstrated that approximately 9% of the sample students were repeatedly victimized and 13% reported bullying others repeatedly. Students that were victims of frequent bullying or who bullied others had higher risks of depression, suicidal ideation, and suicide attempts compared to peers who were not involved in bullying. Even occasional associations with bullying behaviour were linked to an increased risk of depression and suicidal ideation, specifically among female students. Bullying behaviour occurring both on and off of school grounds was also correlated with higher risk of mental distress. The authors concluded that both victims of bullying and the bullies themselves are at a high risk of psychological distress and are exposed to a potential risk of adolescent depression and suicidality.

With the increasing number of adolescents being admitted to emergency departments with mental health complaints, psychiatrists may be encountering more patients who have experienced recent bullying. Many psychiatrists have seen the association between bullying behaviour and suicidal ideation in adolescent patients. The aim of this study is to explore the relationship between bullying behaviour and suicidal ideation, specifically in patients under the age of 18 who visited the emergency department and sought psychiatric assistance.

Method

This is a retrospective chart review. Medical charts of all patients under the age of 18 presenting with a mental health complaint and seen by the psychiatry team at the emergency departments (ED) at Kingston General Hospital (KGH) or Hotel Dieu Hospital (HDH), Kingston, Canada between January 2011 and January 2015 were reviewed.

Chart Audit

Two research assistants reviewed the electronic patient charts, the ED assessment sheets and, if necessary to find missing information, the urgent clinic or outpatient clinic records. The following information was extracted and entered it into an electronic spreadsheet developed for this study: age, gender, school grade, if they had ever been bullied (currently, past, both), the form of bullying (cyber, physical, verbal), if they had ever been abused (physical, sexual, emotional), symptoms they were feeling (depression, suicidal, etc), any formal mental health diagnoses, and consultation outcomes (urgent clinic referral, admission to hospital, or discharge home).

Analysis

Univariate descriptive statistics (means, standard deviation (SD), frequency counts, percentages) were used to report age, gender, psychiatric symptoms, diagnoses, and types and times of bullying within our subject population. Mann Whitney U tests were performed to identify differences between individuals who had been bullied and those who had not, and differences between individuals presenting to the ED with suicidal ideation and those without. To explore the relationship between suicidal ideation and bullying, correlations were performed using Spearmans rho. Logistic regression analysis was performed to identify those variables associated with suicidal ideation while controlling for age, gender, and other factors. Data were analyzed using SPSS v. 23, and statistical significance was considered to be $p<0.05$.

Results

Two hundred seventy patients were included in this study, 104 males and 166 females, aged 8-17, with a mean age of 14.4 years (SD 1.8) (see Table 1 for demographic information). Of the 270 patients, 208 (77%) had reported experiencing bullying during their lifetime, and 186 presented with thoughts of suicide (68.9%). Table 1 also reveals statistically significant differences between individuals who stated they had been bullied and those who had not. Mann-Whitney U analysis identified significant differences in the age (older) and grade (higher) of those reporting being bullied. Individuals reporting bullying were also significantly more likely to report suicidal ideation, and less likely to report feeling anxious or have a diagnosis of an anxiety disorder.

Table 2 compares individuals who presented with suicidal ideation and those who did not. Mann-Whitney U analysis identified significant differences in the age, grade, and gender of individuals presenting with suicidal ideation. Individuals with suicidal ideation were significantly more likely to report bullying, both past, and past and current, as well as all types of bullying (cyber, physical, verbal, and a combination of types) than individuals without suicidal ideation. Individuals presenting with suicidal ideation were also more likely to be female and report having been emotionally abused, but less likely to report feeling anxious or have a diagnosis of an anxiety disorder.

The following variables were statistically significantly correlated (Spearman's rho) with suicidal ideation: history of bullying (rho=0.565), current and past bullying (rho=0.257), past bullying only (rho=0.238), verbal bullying (rho=0.434), cyber bullying (rho=0.260), physical bullying (rho=0.182), age (rho=0.200), gender (rho=0.175), grade (rho=0.251), emotional abuse (rho=0.167), feelings of anxiety (rho=-0.220), and a diagnosis of an anxiety disorder (rho=-0.129).

Table 3 shows the results of forward stepwise logistic regression analysis. While controlling for age, gender, grade, psychiatric diagnosis, and abuse, a history of bullying was the most significant predictor of suicidal ideation. Individuals in this study who reported bullying were 19 times more likely to present to the ED with documented suicidal ideation.

Logistic regression analysis was repeated removing a history of bullying with the four 'types' of bullying. Table 4 shows the results of forward stepwise logistic regression analysis. While controlling for age, gender, grade, psychiatric diagnosis, and abuse, individuals in this study who reported cyber bullying were 11.5 times more likely to present to the ED with documented suicidal ideation, and individuals reporting verbal bullying were 8.4 times more likely to present with documented suicidal ideation.

Discussion

The results emphasize that bullying is a common problem in children and adolescents presenting to the emergency department with a mental health complaint, as approximately 77% of our sample population had indicated they had

Table 1. Demographic information of participants who experienced bullying, those who didn't, and the entire group

	Bullied (yes) n=208	Bullied (no) n=62	Total (n=270)
Age, years (mean, SD)	14.6 (1.7)	13.8 (2.1)**	14.4 (1.8)
Grade (mean, SD)	9.5 (1.6)	8.6 (2.1)**	9.3 (1.9)
Gender (n, %)			
Male	76 (36.5)	28 (45.2)	104 (38.5)
Female	132 (63.5)	34 (54.8)	166 (61.5)
Bullying (n,%)		N/A	
Currently	40 (19.2)		40 (14.8)
Past	90 (43.3)		90 (33.3)
Both current and past	71 (34.1)		71 (26.3)
Type of Bullying, (n,%)		N/A	
Cyber	51 (24.5)		51 (18.9)
Physical	56 (26.9)		56 (20.7)
Verbal	188 (90.4)		188 (69.6)
Multiple	70 (33.7)		70 (25.9)
History of abuse (yes), (n,%)	62 (29.8)	20 (32.3)	82 (30.4)
Physical abuse	27 (13.0)	9 (14.5)	36 (13.3)
Sexual abuse	26 (12.5)	8 (12.9)	34 (12.6)
Emotional abuse	30 (14.4)	6 (9.7)	36 (13.3)
Multiple abuse	18 (8.7)	5 (8.1)	23 (8.5)
Emotional state			
Suicidal	173 (83.2)	13 (21.0)**	186 (68.9)
Depressed	67 (32.2)	15 (24.2)	82 (30.4)
Anxious	31 (14.9)	21 (33.9)**	52 (19.3)
Psychiatric diagnosis			
Depressive disorder	26 (12.5)	4 (6.5)	30 (11.1)
Anxiety disorder	17 (8.2)	12 (19.4)*	29 (10.7)
Adjustment disorder	53 (25.5)	13 (21.0)	66 (24.4)
Developmental disability	24 (11.5)	6 (9.7)	30 (11.1)
ADHD	101 (48.6)	25 (40.3)	126 (46.7)
Other diagnosis	60 (28.8)	19 (30.6)	79 (29.3)
Multiple disorders	73 (35.1)	18 (29.0)	91 (33.7)
Deposition			
Urgent clinic	100 (48.1)	30 (48.4)	130 (48.1)
Admitted to hospital	38 (18.3)	11 (17.7)	49 (18.1)
Discharged home	70 (33.7)	21 (33.9)	91 (33.7)

Statistically significant differences:
*P<0.05
**p<0.01

Table 2. Demographic characteristics of participants who felt suicidal versus those who did not

	Suicidal (yes) n=186	Suicidal (no) n=84	Total (n=270)
Age, years (mean, SD)	14.7 (1.6)	13.7 (2.2)**	14.4 (1.8)
Grade (mean, SD)	9.6 (1.6)	8.5 (2.2)**	9.3 (1.9)
Gender (n, %)			
Male	61 (32.8)	43 (51.2)	104 (38.5)
Female	125 (67.2)	41 (48.8)**	166 (61.5)
Bullied (yes) (n,%)	173 (93.0)	35 (41.7)**	208 (77.0)
Currently	30 (16.1)	10 (11.9)	40 (14.8)
Past	76 (40.9)	14 (16.7)**	90 (33.3)
Both current and past	63 (33.9)	8 (9.5)**	71 (26.3)
Type of bullying			
Cyber	48 (25.8)	3 (3.6)**	51 (18.9)
Physical	48 (25.8)	8 (9.5)**	56 (20.7)
Verbal	155 (83.3)	33 (39.3)**	188 (69.6)
Multiple	60 (32.3)	10 (11.9)**	70 (25.9)
History of abuse (yes)	58 (31.2)	24 (28.6)	82 (30.4)
Physical abuse	25 (13.4)	11 (13.1)	36 (13.3)
Sexual abuse	23 (12.4)	11 (13.1)	34 (12.6)
Emotional abuse	32 (17.2)	4 (4.8)**	36 (13.3)
Multiple abuse	19 (10.2)	4 (4.8)	23 (8.5)
Emotional state			
Suicidal	186 (100)		186 (68.9)
Depressed	57 (30.6)	25 (29.8)	82 (30.4)
Anxious	25 (13.4)	27 (32.1)**	52 (19.3)
Psychiatric diagnosis			
Depressive disorder	25 (13.4)	5 (6.0)	30 (11.1)
Anxiety disorder	15 (8.1)	14 (16.7)*	29 (10.7)
Adjustment disorder	45 (24.2)	21 (25.0)	66 (24.4)
Developmental disability	24 (12.9)	6 (7.1)	30 (11.1)
ADHD	93 (50.0)	33 (39.3)	126 (46.7)
Other diagnosis	60 (32.3)	19 (22.6)	79 (29.3)
Multiple disorders	59 (31.7)	32 (38.1)	91 (33.7)
Deposition			
Urgent clinic	88 (47.3)	42 (50.0)	130 (48.1)
Admitted to hospital	35 (18.8)	14 (16.7)	49 (18.1)
Discharged home	63 (33.9)	28 (33.3)	91 (33.7)

Statistically significant differences:
*P<0.05
**p<0.01

Table 3. Forward, stepwise logistic regression model with lifetime bullying. Model R^2 = 0.314

Variable	B	S.E.	Wald	df	Sig.	Exp (B)
School grade	0.265	0.089	8.854	1	0.003	1.303
Emotional abuse	1.667	0.679	6.019	1	0.014	5.295
Ever Bullied	2.939	0.39	56.86	1	0	18.903
Constant	-3.859	0.878	19.304	1	0	0.021

Table 4. Forward, stepwise logistic regression model with type of bullying. Model R^2 = 0.288

Variable	B	S.E.	Wald	df	Sig.	Exp (B)
School grade	0.262	0.085	9.485	1	0.002	1.299
Emotional abuse	1.411	0.639	4.877	1	0.027	4.101
Cyber bulling	2.444	0.655	13.938	1	0	11.519
Verbal bulling	2.126	0.346	37.805	1	0	8.382
Constant	-3.368	0.817	17.015	1	0	0.034

experienced being bullied at some point during their lives. This percentage is higher than average, as one study found that one in three Canadian adolescents (roughly 33%) have self-reported experiencing bullying during their lifetime ("Canadian Bullying Statistics", 2012). This may be due to the selective nature of our population. This is not a general population sample, but rather a study of individuals seeking emergency psychiatric assistance for severe psychological distress, the majority of whom (n=251 or 93%) had one or more prior psychiatric diagnosis.

Of the 270 patients, 208 (77%) reported experiencing bullying during their lifetimes and 186 (68.9%) presented with thoughts of suicide. There was a significant difference between individuals who stated they had been bullied and those who had not: while controlling for age, gender, grade, history of abuse, psychiatric diagnoses, and type of bullying, our data suggest that children and adolescents who were victims of any type of bullying were 19 times more likely to have documented suicidal ideation than those who had no history of bullying. Individuals who had specifically experienced cyberbullying were 11.5 times more likely to have documented suicidal ideation, while individuals reporting verbal bullying were 8.4 times more likely to present with documented suicidal ideation.

All types of bullying, both traditional such as physical and verbal, and modern such as cyber bullying, were linked with suicidal ideation. Of the 208 individuals in our study who reported experiencing bullying, 71 of them (34.1%) reported experiencing more than one type of bullying, with verbal bullying being the most common. Again, this is supported by other research that found that traditional forms of bullying such as verbal and physical bullying are more prevalent than cyber bullying (Modecki, Minchin, Harbaugh, Guerra, & Runions, 2014). However, in our population, logistic regression revealed that, of the types of bullying, cyber bullying and verbal bullying were significantly associated with suicidal ideation. And, while over 90% (n=188) of bullied individuals reported verbal bullying, the 24.5% reporting cyber bullying were much more likely to report suicidal ideation (11.5 and 8.4 times respectively). This is an interesting and potentially worrying finding due to the pervasiveness of social media and the related opportunities for cyber bullying.

Students who are cyber bullied might seek help less and not report that they have been bullied compared to teens who are bullied by more traditional means. This decreases their levels of support and puts them at a higher risk for suicidal ideation (Alavi, Roberts, Sutton, Axas, Repetti, 2015).

Unlike verbal and physical forms of bullying, cyber bullying has characteristics that make it much more destructive than traditional bullying. In cyber bullying, the victim may continue to receive emails, Facebook or Twitter messages, or text messages regardless of time and place. In addition, cyber bullies can be anonymous and feel protected because of the sense of "invisibility". Therefore, there may be fewer consequences for the bully (Alavi, Roberts, Sutton, Axas, Repetti, 2015).

Awareness of the risks associated with increased access to the Internet and other technologies is important for health care professionals. Emergency department staff would be

well advised to ask whether youths are being threatened or demeaned on Facebook, through emails or texting, or through other social media (Alavi, Roberts, Sutton, Axas, Repetti, 2015).

Previous research has shown a strong relationship between the frequency of bullying episodes and suicidal ideation and attempts, but has not compared the link between current and past bullying behaviour with suicidal ideation (Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2007). Our study shows that individuals with suicidal ideation were significantly more likely to report bullying, both past, and past and current.

Approximately 68.9% (186/270) of our study population had documented suicidal ideation when presenting to the emergency department. Previous research has found the prevalence of suicidal ideation among adolescents who have reported being bullied in school settings to be 30%, compared to the 13.8% who did not report being bullied (Bhatta, Shakya, & Jefferis, 2014). The higher number of youth with suicidal ideation and bullying in our population compared to general adolescent population may again be indicative of the nature of our population. We have examined admissions to the ED, and the individuals who present to the ED appear to have a higher prevalence of both suicidal ideation and bullying than in studies of the general adolescent population.

This relationship between suicidal ideation and bullying is supported by previous research that linked traditional forms of bullying (verbal, physical) to psychological distress such as suicidal ideation, higher levels of anxiety, and depression (van der Wal, de Wit, & Hirasing, 2003; Juvonen, Graham, & Schuster, 2003; Fekkes, Pijpers, & Verloove-Vanhorick, 2004). However, these studies focus primary on large samples of children in schools instead of a specialized population presenting to the emergency department with a psychological complaint. What remains unclear is whether other factors linked to bullying in adolescents such as missing school, poorer health, self-reported loneliness, and poorer school achievement act as potential mediators for the relationship between bullying and suicidal ideation, especially with young patients presenting to the emergency department (Kochenderfer, & Ladd, 1997; Fekkes, Pijpers, Fredriks, Vogels, & Verloove-Vanhorick, 2006; Olenik-Shemesh, Heiman, & Eden, 2012; Nakamoto, & Schwartz, 2010).

Limitations

This study had several limitations. The study population consisted of individuals who presented to the ED, and our study shows that the prevalence of suicidal ideation and bullying appears to be higher in this group than in studies of the general population, thus the results should not be generalized to outside of the ED setting. The research was conducted using patient chart reviews; therefore, clinicians may have initially asked patients specific questions about bullying but not documented their responses. Also, only a history of bullying was assessed, as no distinction was made between patients who were victims of bullying, the perpetrators of bullying, or both.

Our study does not precisely define bullying. Allowing the patient to decide if it had occurred is useful. However, it is possible that our study found more cases of bullying present than if a precise or narrow definition had been used. Also, some charts documented the presence of bullying but included no further information or details. In some cases it was possible to find out more from a subsequent outpatient or urgent consult visit. Thus, cases simply documented as having bullying present were included in the analysis but with the subtype unknown. Because no objective measures of bullying were used in this study, characteristics such as severity and duration of bullying were not measured.

Conclusion

This study adds to the growing literature on the relationship between bullying and suicidal ideation in adolescents and children; however, our research focused specifically on those who were in severe states of psychological distress and were seeking help in the emergency department. The prevalence of youth with suicidal ideation was found to be the most common symptom in the emergency department assessments for mental health complaints. This shows that suicidal ideation in children and adolescents is a prevalent problem that physicians will encounter. The relationship found between suicidal ideation and bullying demonstrates that clinicians should ask questions about incidents of bullying as a potential risk factor for suicidal ideation during the assessment of children and adolescents. This is important as the assessment of children and adolescents with suicidal ideation/behaviour may be difficult as youth may not want to discuss suicidal thoughts that they are experiencing. Also, the relationship between bullying and suicidal ideation in youth demonstrates the need for more bullying prevention programs in educational settings due to the significant effects of bullying on children. Future studies are needed to see if other factors may act as a mediator between bullying and suicidal ideation in emergency department populations.

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