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Links Between Bereavement Due to Sudden Death and Academic Functioning: Results From a Nationally Representative Sample of Adolescents

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Bereavement due to sudden loss may disrupt positive adjustment among youth, yet few studies have examined the age at which youth are most likely to first encounter sudden loss, the co-occurrence of sudden loss with other traumatic events, and the independent effects of sudden loss on academic functioning. Data were analyzed from the National Comorbidity Survey–Adolescent Supplement (N = 10,148, M_{age} = 15.18, 51.1% female). Youth reported on whether they had experienced sudden loss (along with 17 other traumatic events), the age at which they had first experienced sudden loss, and multiple indicators of academic functioning. Sudden loss was the most frequently occurring traumatic event among youth; approximately 30% of adolescents reported at least one sudden loss in their lifetime. Youth were most likely to have *first* experienced sudden loss during middle adolescence (15 to 16 years of age). Although sudden loss co-occurred with several other traumas, about 10% of youth reported experiencing *only* sudden loss. After accounting for demographic characteristics and other traumatic events, experiencing sudden loss was associated with lower academic achievement, lower ability to concentrate and learn, less enjoyment of school, lower school belongingness, and lower beliefs that teachers treat youth fairly. Sudden loss is common among adolescents and has important implications for school functioning. Schools may improve academic functioning by adopting routine screening for sudden loss and assessing potential need for bereavement-informed mental health services.

Impact and Implications

Findings from this study indicate that youth are most likely to first experience sudden loss during middle adolescence, that sudden loss often co-occurs with other traumatic events, and that sudden loss is independently associated with lower school functioning. These results underscore the value of risk screening for youth bereaved by sudden loss within schools, particularly during middle adolescence.

Keywords: bereavement, adolescence, academic performance, school-based mental health

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Adolescence is a developmental period marked by substantial neurological, social, and biological changes that offer unique opportunities, risks, and vulnerabilities. Increasing autonomy allows adolescents to acquire important social privileges (e.g., driver's

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license), expand their social networks, and pursue personal and academic goals. These opportunities for adolescent growth are accompanied by neurobiological immaturities in self-regulatory systems, which can contribute to impulsivity, risk-taking, and sensation-seeking (Steinberg, 2008). The convergence between increased autonomy and risk-taking makes adolescence a critical developmental period during which youth have a greater likelihood of experiencing potentially traumatic events, such as accidents or witnessing the injury or death of others (Layne, Kaplow, Oosterhoff, Hill, & Pynoos, 2018).

Experiencing the sudden or unexpected death of a loved one may be especially common among adolescents relative to younger ages. Adolescent sensation-seeking, risk-taking, and impulsivity are theorized to contribute to high rates of fatal accidents, suicide, and homicide seen among youth (Heron, 2015), which subsequently increase the likelihood that many youth will experience the sudden or unexpected death of a peer or close friend. Further, for some youth, the transition into adolescence may be accompanied by an increased risk that a parent or grandparent will die by heart attack or stroke (Lloyd-Jones et al., 2009). Indeed, sudden loss is one of the *most frequently* reported potentially traumatic events among youth (Briggs et al., 2013). However, very little is known about the implications of sudden loss for youth within school-related contexts. Of particular relevance are questions assessing when youth are *first* likely to encounter sudden loss, the degree to which sudden loss tends to co-occur with other traumas, and whether sudden loss is independently associated with lower academic functioning. Addressing these questions may inform public policy and provide educators with valuable insights into how and when to promote the health, wellness, and education of youth bereaved by sudden loss. Accordingly, the current study used a nationally representative sample of over 10,000 youth to examine the age at which youth first experience sudden loss, the extent to which sudden loss co-occurred with other traumas, and relations between sudden loss and various indicators of academic functioning.

Ecological Models of Sudden Loss

Research efforts to elucidate the effects of trauma on adolescent functioning have generally utilized ecological theories of development. Ecological theories (e.g., Overton, 2013) propose a dynamic process through which adolescents' experiences within multiple microsystems (e.g., family, school, community) interact with personal characteristics to promote or impede developmental functioning. Recent theoretical advances in childhood traumatic stress underscore the central role of youths' ecologies in increasing or decreasing risks for trauma exposure and highlight the ways in which traumas often co-occur and accumulate in number across development (Layne et al., 2014). Ecologically based theories explain the presence of co-occurring trauma and loss as products that emerge from the risk-laden and often resource-poor environments in which these youth live and develop (e.g., Abramovitz & Albrech, 2013).

A welcome outgrowth of ecological approaches to the study of childhood traumatic stress is a recent effort to "unpack" influential factors within youths' ecologies (e.g., Layne et al., 2014). To date, this research has identified bereavement—including *sudden loss*—as an important topic for further study. Bereavement due to the sudden death of a loved one may produce unique social (e.g., loss of social support) and emotional (e.g., grief) consequences that compromise adolescent well-being and functioning (Layne, et al., 2018). For instance, bereaved youth are more likely to experience elevated symptoms of depression, conduct problems, and substance use compared to nonbereaved youth (Kaplow, Saunders, Angold, & Costello, 2010) after accounting for other traumatic experiences. Adolescents bereaved by sudden loss are also more likely to meet criteria for posttraumatic stress disorder (PTSD) and panic disorder than adolescents without histories of sudden loss after accounting for other traumatic experiences (Keyes et al., 2014). These findings suggest that sudden loss may exert unique effects on adolescent behavioral health and psychological functioning that extend beyond the effects exerted by co-occurring trauma and other major life stressors.

Sudden Loss and Academic Functioning

The psychological and social consequences that follow sudden loss may impact adolescents' academic functioning through a variety of pathways. Bereavement by sudden loss may evoke both posttraumatic stress and grief reactions (Kaplow et al., 2010) which are linked to lower concentration, learning (Beers & De Bellis, 2002), and school engagement (Roberts, 2016; Voisin, Neilands, & Hunnicutt, 2011). Further, the loss of social support following the death of a loved one may deprive bereaved youth of valuable social provisions—including instrumental support, encouragement, guidance, and reassurance—that are key to academic success (Malecki & Demaray, 2006). Some evidence also suggests that parentally bereaved youth have lower academic achievement (Abdelnoor & Hollins, 2004) and lower academic aspirations (Brent, Melhem, Masten, Porta, & Payne, 2012) than non-parentally bereaved youth. However, little research has examined associations between sudden loss and multiple indicators of adolescent academic functioning, including performance, motivation, and beliefs about school, homework, and teachers. More broadly, basic questions remain regarding the presence and role of sudden loss in adolescents' academic lives, including the age of initial exposure to sudden loss, the degree to which sudden loss co-occurs with other traumatic experiences, and whether sudden loss is uniquely associated with academic functioning after accounting for other traumas. Addressing these fundamental questions can provide a more comprehensive understanding of whether, why, how, and when educators and policymakers should consider the ramifications of sudden loss for academic functioning.

Current Study

The current study tested three basic questions centered on the presence and role of sudden loss in adolescents' academic lives. These questions specifically focused on the age at which youth first experience sudden loss, its degree of co-occurrence with other traumas, and its unique associations with school functioning. Based on prior epidemiological findings (e.g., Abdelnoor & Hollins, 2004; Heron, 2015), ecological models (Layne et al., 2014), and evidence of associations between bereavement and decreased academic functioning (Abdelnoor & Hollins, 2004) we hypothesized the following:

Hypothesis 1: More youth would report experiencing their first sudden loss during adolescence (between the ages of 13 and 18) than during childhood (before 13).

Hypothesis 2: Youth bereaved by sudden loss would be more likely to report other co-occurring traumas than youth who did not report sudden loss.

Hypothesis 3: Sudden loss would be independently associated with lower performance across multiple indicators of academic functioning (including academic achievement, concentration and learning, academic aspirations, and beliefs about school, homework, and teachers) after accounting for the effects of other traumas.

Method

Data were drawn from the National Comorbidity Survey–Adolescent Supplement (NCS-A; Kessler, 2013). The NCS-A is a nationally representative epidemiological survey conducted in the United States between 2001 and 2004. The NCS-A surveyed over 10,000 adolescents between 13 and 18 years old to estimate the prevalence of *DSM–IV* disorders and potential correlates, including indictors of trauma, bereavement, and academic functioning. Additional details of the NCS-A are available elsewhere (Kessler, 2013). This study utilized the total sample of youth included in the NCS-A (N = 10,148). Adolescents (M_{age} = 15.18, SD = 1.51) were 51.1% female and self-identified as either White (55.7%), Black (19.3%), Hispanic (18.9%), or other (6.1%). Parents of adolescents varied in their highest achieved education level; 33.1% of youth had at least one parent who earned a college degree, 19.7% had at least one parent who completed some college, 30.5% had at least one parent who completed high school, and 16.7% had no parent who completed high school. The median household income was $75,500.

Measures

Sudden loss and potentially traumatic events. Trauma exposure was assessed using the PTSD section of the NCS-A. As part of the PTSD screening procedure, youth indicated whether they had experienced any of 18 potentially traumatic experiences within their lifetime (see the online supplemental materials). One item assessed whether youth had experienced sudden loss, defined as the unexpected death of a loved one (i.e., "Did someone very close to you ever die unexpectedly; for example, they were killed in an accident, murdered, committed suicide, or had a fatal heart attack at a young age?"). Youth reported whether they had (coded 1) or had not (coded 0) experienced each event within their lifetime. Youth also reported the age at which they *first* experienced each event, including sudden loss.

Academic functioning. Academic functioning was assessed using 12 items measuring a broad range of indicators, including academic achievement, school engagement, academic aspirations, teacher support, school belongingness, and school liking. Table 1 displays a complete list of items and response options. Each individual item was treated as a separate indicator of academic functioning, with higher values indicating greater functioning.

Demographics. Adolescents reported on their age, gender, and race/ethnicity. Parents reported on their household income and education level in number of school years completed. Family income was recoded as the ratio of income to the federal poverty line.

Analytic Technique

The first aim of this study was to examine the age at which youth first experience sudden loss. Youth in this study varied in age from 13 to 18 years and provided retrospective reports regarding when they first experienced sudden loss. Accordingly, older youth were able to report on sudden losses that may have happened

Table 1
Item Wording and Descriptive Statistics for Academic Functioning

Construct	Item	Scale	Overall		Sudden loss[b]		No sudden loss[c]	
			M	*SD*	*M*	*SD*	*M*	*SD*
Academic achievement	What kind of grades do you get?	1 (*a lot below average*) to 7 (*a lot above average*)	4.70	1.34	4.56	1.31	4.76	1.34
Ability to concentrate	How would you rate your ability to concentrate and learn technical things like how to operate a computer or how to repair things?	1 (*poor*) to 4 (*excellent*)	3.00	.81	2.94	.85	3.02	.81
Try hard at school	I try hard at school.	1 (*not at all true*) to 4 (*very true*)	3.48	.66	3.46	.68	3.49	.65
Homework not useful[a]	Homework is a waste of time.	1 (*not at all true*) to 4 (*very true*)	2.25	1.07	2.72	1.09	2.77	1.06
Importance of learning[a]	Most of the things I learn in school are unimportant.	1 (*not at all true*) to 4 (*very true*)	1.80	.94	3.17	.97	3.22	.93
Importance of grades	Getting good grades is important to me.	1 (*not at all true*) to 4 (*very true*)	3.64	.61	3.61	.66	3.64	.60
Academic aspirations	How far do you expect to go in school?	1 (*not graduate high school*) to 6 (*graduate/professional degree*)	4.78	1.14	4.72	1.18	4.83	1.11
Teachers are fair	Most of my teachers treat me fairly.	1 (*not at all true*) to 4 (*very true*)	3.55	.64	3.48	.68	3.57	.63
Like teachers	I like my teachers.	1 (*not at all true*) to 4 (*very true*)	3.19	.71	3.14	.75	3.20	.70
Care what teachers think	I care a lot about what my teachers think of me.	1 (*not at all true*) to 4 (*very true*)	3.09	.93	3.04	.97	3.10	.92
School belongingness[a]	I feel as if I don't belong at school.	1 (*not at all true*) to 4 (*very true*)	1.48	.80	3.43	.87	3.55	.77
Like school	I like school.	1 (*not at all true*) to 4 (*very true*)	2.98	.89	2.95	.92	2.98	.87

[a] Item was recoded in analyses, with higher values representing greater academic functioning. [b] n = 3,071. [c] n = 7,075.

in middle or late adolescence, thus providing a greater opportunity to experience sudden loss relative to younger youth. To account for this confound, estimates of sudden loss at each age were weighted by the proportion of youth eligible to have experienced sudden loss at a given age (see online supplemental materials).

To examine the co-occurrence of sudden loss with other traumatic events, chi-squared analyses were used to test whether a greater proportion of youth who experienced sudden loss also experienced other traumas compared to youth who did not experience sudden loss. We then used weighted regression models that accounted for the complex survey design (sampling weights, stratification, and clustering) to examine associations between sudden loss and academic functioning after controlling for demographic characteristics (age, gender, parents' education, income, and race/ethnicity) and having experienced each of the other 17 traumas (modeled separately). Given that separate models were estimated for each indicator of academic functioning, false discovery rate adjustments were used to correct for multiple testing (Benjamini & Hochberg, 1995). Analyses were conducted using M*plus* 7.0 using maximum likelihood estimation with robust standard errors.

Results

Prevalence and Age of First Occurrence of Sudden Loss

Figure 1 displays the lifetime prevalence rates for all traumas among youth ages 13 to 18 years old. Consistent with prior studies that used NCS-A data (McChesney, Adamson, & Shevlin, 2015), bereavement through the sudden loss of a loved one was the most prevalent trauma that youth reported experiencing in their lifetime. Approximately 30% of youth reported experiencing at least one sudden loss—a rate higher than the second (witnessing the injury or death—13%) and third (experiencing a natural disaster—12%) most frequently reported traumatic experiences combined. Figure 2 displays the likelihood of *first* experiencing sudden loss by adolescent age (see supplemental material for exact values). Consistent with Hypothesis 1, approximately 28% of youth experienced their first sudden loss during adolescence (between ages 13 and 18), whereas approximately 13% experienced their first sudden loss prior to 13. Further, a quadratic age-related trend appeared, in which risk for first experiencing sudden loss steadily increased across childhood and early adolescence, peaked between 15 and 16 years old, then slowly declined thereafter. After adjusting for these age-related trends in the overall prevalence rates, approximately 40% of youth had experienced the sudden loss of a loved one by age 18 (see online supplemental materials).

Co-Occurrence of Sudden Loss With Other Traumatic Experiences

We tested Hypothesis 2 using chi-squared tests to examine the degree of co-occurrence of sudden loss with other traumatic experiences. Chi-square values for these tests ranged from 5.92 to 282.26 (all $ps < .02$; see online supplemental materials). Consistent with Hypothesis 2, we found significant rates of co-occurrence between sudden loss and other types of trauma, in that youth who experienced at least one sudden loss were also more likely to report at least one additional traumatic experience compared to youth who had not experienced sudden loss. Whereas 37.8% of youth who experienced sudden loss reported no other traumatic experiences, 62.2% of youth who experienced sudden loss reported at least one additional traumatic experience. Additionally, only 36% of youth experienced some type of trauma in the absence of sudden loss. For youth who experienced sudden loss, the most common additional trauma was witnessing injury or death (19.3%), followed by having a loved one who experienced a very stressful or life-threatening experience (16.1%), and being in a disaster (16.0%). Witnessing domestic violence (12.5%), being mugged (12.3%), and being involved in an accident (car: 11.9%; other type of accident: 10.8%) were also common experiences among youth who experienced sudden loss. Experiencing various forms of physical and sexual assault, as well as illness, less frequently co-occurred with sudden loss (ranges from 1.6% to 8.1%). Together, these findings indicate that youth who experience sudden loss also frequently experience other types of trauma.

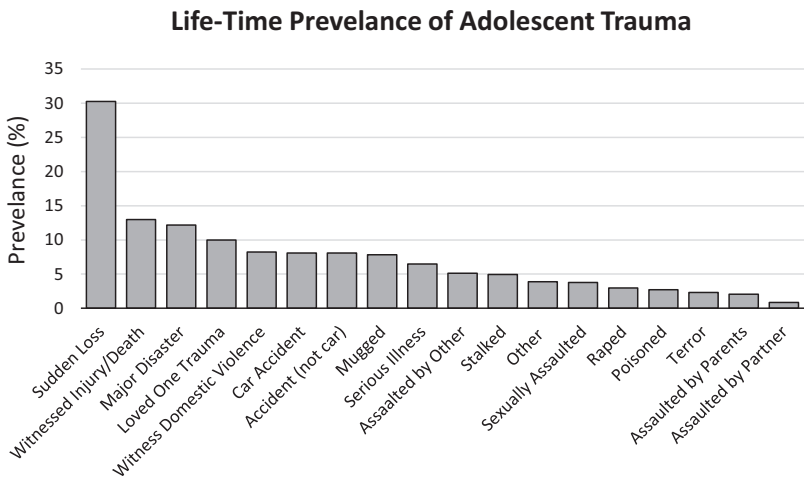

Figure 1. The percentage of youth who have experienced each type of trauma in their life time.

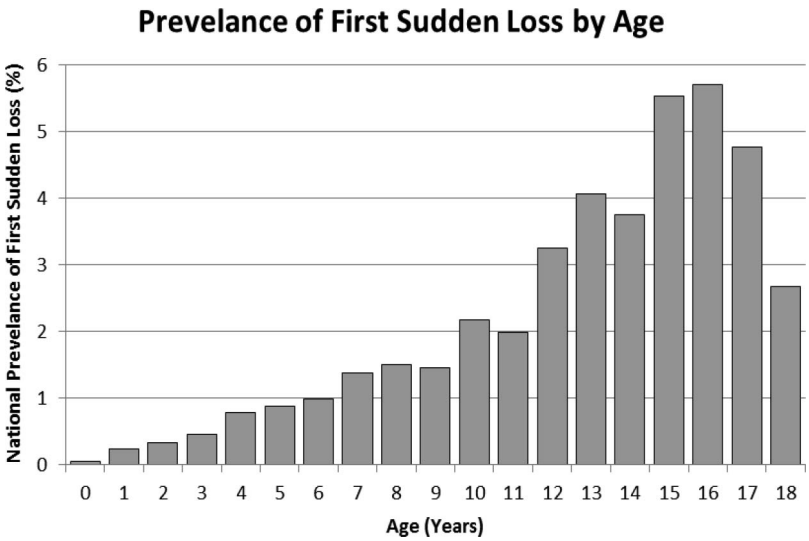

Figure 2. The prevalence of first sudden loss by age. Estimates are weighted for ages 14-18 to reflect the proportion of youth in the dataset at each age. Raw and adjusted values are available in the Supplemental Material.

Independent Effect of Sudden Loss on Academic Functioning

In testing Hypothesis 3, we used weighted regression models to examine whether experiencing sudden loss was independently associated with academic functioning after accounting for demographic characteristics and experiences with other traumatic events. Table 1 displays the means for each indicator of academic functioning for youth who have and have not experienced sudden loss. Table 2 and Table 3 display unstandardized coefficients, standard errors, and effect sizes for these models. After accounting for demographics and other traumatic experiences, and adjusting for multiple testing via false discovery rate, sudden loss was significantly associated with lower academic achievement,[1] lower self-rated concentration and learning ability, lower beliefs that teachers are fair, less school belongingness, and less liking of school relative to youth without a history of sudden loss. Specifically, when holding demographic variables and other traumas constant, experiencing sudden loss was associated with a .17 decrease in academic achievement (on a 7-point scale), a .13 decrease in the ability to concentrate, a .22 decrease in beliefs that teachers are fair, a .17 decrease in school belongingness, and a .17 decrease in liking school (all on a 4-point scale), compared to youth who did not experience sudden loss. In contrast, we did not find significant associations between sudden loss and the extent to which youth care what teachers think, like their teachers, view grades and learning as important, view homework as a waste of time, try hard at school, or form academic aspirations.

Overall, these findings indicate that bereavement due to sudden loss is significantly but modestly associated with lower school functioning. Given the critical importance of academic achievement as a key developmental task and the extremely high prevalence of sudden loss relative to other major life adversities in adolescence, these links between school performance and sudden loss have clinically meaningful implications.

Discussion

The primary aim of this study was to examine the role of sudden loss in the lives of American youth by examining the age of first occurrence of sudden loss, the co-occurrence of sudden loss and other traumas, and the implications of sudden loss for academic functioning. Underscoring the widespread prevalence and potentially pervasive influence of sudden loss among youth, findings provided support for each of the three study hypotheses. Consistent with prior research and supporting Hypothesis 1, sudden loss was the most common traumatic event experienced by youth, and youth were most likely to first experience sudden loss during mid-adolescence. Supporting Hypothesis 2, youth bereaved by sudden loss were more likely to report additional traumas compared to youth without histories of sudden loss. Providing partial support for Hypothesis 3, sudden loss was independently associated with lower academic functioning across multiple indices after accounting for demographic variables and other co-occurring traumas.

Prevalence and Age of First Occurrence of Sudden Loss

Consistent with prior research (Briggs et al., 2013), sudden loss was the most frequently reported trauma among youth aged 13–18 years old, and youth were most likely to report first experiencing sudden loss between ages 15 and 16. For American youth, this peak in sudden loss corresponds with the age at which many adolescents begin driving. The leading cause of death among adolescents in the United States is automobile accidents (Heron, 2015). Potentially, this increased risk for mortality by accident

[1] Follow-up analyses tested whether the effect of sudden loss on academic achievement was moderated by parents' education, household income, and/or race/ethnicity. Overall, we did not find evidence of moderation by any of these demographic characteristics ($ps > .44$).

Table 2
Unstandardized Estimates and Standard Errors for Models Testing Associations Among Sudden Loss and Academic Performance, Engagement, and Aspirations

	Academic performance, engagement, and aspirations													
	Achievement		Ability to concentrate		Grades important		Homework not useful		Learning important		Try hard at school		Aspirations	
Predictors	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Covariates														
Age	−.01	.02	−.02	.02	−.16*	.03	.09*	.02	.13*	.02	−.18*	.02	−.02	.03
Gender	.29*	.06	−.70*	.05	.49*	.06	−.36*	.06	−.19*	.05	.49*	.09	.47*	.07
Income	.01*	.00	.00	.00	.00	.00	.00	.00	.01*	.00	.01	.00	.01*	.00
Parents' education	.18*	.01	.04*	.01	.03*	.01	.01	.01	.00	.01	.01	.01	.19*	.02
Race	.54*	.07	−.04	.06	−.66*	.09	.59*	.06	.47*	.07	−.38*	.07	.00	.07
Other trauma														
Terror	−.16	.28	−.24	.16	.14	.28	−.09	.21	.02	.19	.12	.26	−.14	.26
Poisoned	−.01	.20	.53*	.14	−.09	.22	.14	.17	.11	.24	−.09	.19	.07	.23
Car accident	−.13	.11	.23	.16	−.11	.09	−.14	.10	−.06	.10	−.07	.10	.23	.15
Other accident	.00	.11	.02	.09	−.07	.13	.14	.11	−.01	.10	.01	.12	−.19	.15
Disaster	.05	.10	.21*	.09	.02	.09	.11	.10	.12	.08	−.05	.09	.10	.10
Illness	.14	.11	−.05	.12	−.12	.14	.20	.15	.11	.16	.13	.12	−.08	.12
Assault by parent	.03	.28	.54*	.22	.23	.22	.18	.28	.16	.28	.11	.30	−.49*	.20
Assault by partner	−.05	.99	−.79	.41	−.45	.35	.43	.36	.51	.33	−.87	.51	.90	.60
Beaten	−.67*	.23	−.32	.16	−.46*	.14	.26	.15	.45*	.16	−.49*	.20	−.21	.17
Mugged	−.24	.13	.01	.12	−.39*	.16	.32*	.12	.30*	.13	−.34*	.13	−.49*	.17
Raped	−.46	.25	−.24	.16	−.06	.18	.17	.15	.04	.21	−.11	.17	−.42*	.19
Sex assault	.13	.18	−.02	.16	−.36	.17	−.15	.15	−.10	.15	−.01	.17	.05	.23
Stalked	.04	.25	.06	.19	.10	.20	.17	.12	.30*	.12	−.15	.20	.12	.16
Loved one trauma	.01	.11	.02	.11	−.21*	.09	.04	.10	.19*	.09	−.15	.10	.10	.11
Witness domestic violence	−.19	.10	−.20	.11	−.18	.16	.11	.16	.00	.13	−.34*	.11	−.20	.11
Witness death	−.21*	.13	−.04	.11	−.19*	.10	.11	.11	.04	.08	−.24*	.10	−.05	.12
Other	−.03	.19	.05	.21	.12	.12	−.01	.11	.19	.10	.07	.13	.25	.15
Sudden loss	−.17*	.07	−.13*	.05	−.08	.08	.04	.07	−.02	.06	−.03	.07	−.11	.06
R^2	.14		.05		.10		.06		.05		.08		.13	

Note. Race coded 1 = not White, 2 = White. Gender coded 1 = male, 2 = female.
* $p < .05$.

intersects with youths' expanding social networks, which results in an increased likelihood that adolescents will be traumatically bereaved by sudden loss—including the sudden death of close friends in automobile accidents. Age-related trends in sudden loss make it especially difficult to gain unbiased estimates of the overall prevalence of sudden loss among youth because such estimates likely depend on the age of youth included in the sample. After adjusting these estimates for age-related differences in experiencing sudden loss, we found that nearly 40% of youth experience sudden loss by age 18. Taken together, these findings indicate that sudden loss is highly prevalent among adolescents across the United States, and that youth are most likely to first experience sudden loss in mid-adolescence.

Co-Occurrence of Sudden Loss With Other Potentially Traumatic Events

Prior research and theory also propose that youth who experience sudden loss often experience other traumatic experiences. Consistent with these propositions, youth bereaved by sudden loss reported a variety of other traumas, including witnessing an injury or death, having a loved one who underwent a very stressful or life-threatening experience, being in a disaster, and experiencing an accident. Approximately 63% of youth bereaved by sudden loss also experienced at least one other trauma, which equates to about 19% of the general adolescent population. These co-occurring traumas can be conceptualized as reflecting risk-laden ecologies in which many youths live (Abramovitz & Albrech, 2013). An alternative explanation is that some of the traumas studied may be constituent components of the same event in which the sudden death occurred (e.g., youth was involved in the same accident in which they witnessed the injury and/or death of others). Additionally, our findings also underscore the importance of sudden loss per se as a marker of risk. Indeed, approximately 37% of youth who reported sudden loss (10% of the population) had *only* experienced sudden loss, which highlights the importance of considering sudden loss as an independent and prevalent potentially traumatic experience. Nevertheless, it is important to consider that even with the high incidents of sudden loss and co-occurring exposure to other traumatic events, a majority of children will experience only a brief period of posttraumatic stress with a relatively smaller percentage of children later developing posttraumatic stress disorder (Costello, Erkanli, Fairbank, & Angold, 2002).

Independent Effect of Sudden Loss on Academic Functioning

Sudden loss is theorized to disrupt key developmental tasks and impede the achievement of developmental milestones (Layne et

Table 3
Unstandardized Estimates and Standard Errors for Models Testing Associations Among Sudden Loss and Academic Support, Belongingness, and School Liking

	Academic support, belongingness, and school liking									
	Teachers are fair		Care what teachers think		Like teachers		Belongingness		Like school	
Predictors	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*	*B*	*SE*
Covariates										
Age	.03	.02	−.03	.02	.02	.02	−.03	.02	−.08*	.02
Gender	.36*	.09	.28*	.06	.13*	.06	.26*	.06	.19*	.08
Income	−.01*	.00	.00	.00	−.01	.01	−.01	.01	.00	.00
Parents' education	.01	.01	.00	.01	.00	.01	.02	.01	.02*	.01
Race	.26*	.07	.11*	.05	.07	.08	−.39*	.05	−.22*	.06
Other trauma										
Terror	−.09	.22	.24	.23	−.12	.23	.26	.19	−.40	.30
Poisoned	.10	.22	−.36	.20	−.05	.15	.20	.20	.16	.18
Car accident	−.03	.12	−.07	.16	.11	.08	.07	.12	−.02	.11
Other accident	−.20	.13	−.17	.13	−.16	.11	−.26*	.11	−.14	.12
Disaster	.04	.10	.07	.08	−.06	.11	−.03	.08	−.19	.10
Illness	−.11	.17	−.06	.12	−.14	.13	−.01	.14	.16	.12
Assault by parent	−.05	.31	.06	.22	.22	.16	−.01	.24	−.45	.28
Assault by partner	−.44	.29	.13	.34	.10	.39	−.16	.37	−.94*	.38
Beaten	−.44*	.13	−.45*	.13	−.21	.12	−.41*	.15	−.64*	.14
Mugged	−.32*	.13	−.39*	.13	−.28*	.10	−.10	.14	−.26	.14
Raped	−.32	.25	−.02	.18	−.06	.15	−.20	.18	−.52*	.19
Sex assault	−.06	.17	−.38*	.18	−.09	.18	−.19	.15	−.18	.19
Stalked	−.47*	.12	−.14	.12	.07	.12	.38*	.15	−.16	.12
Loved one trauma	−.31*	.10	−.30*	.08	−.15	.08	−.19*	.08	−.10	.12
Witness domestic violence	−.29*	.10	−.11	.12	−.19	.11	−.10	.11	−.24	.17
Witness death	−.18*	.07	−.09	.12	−.18*	.08	−.13	.10	−.13	.13
Other	.29	.17	−.14	.17	−.07	.12	.16	.15	−.19	.17
Sudden loss	−.22*	.08	.00	.07	−.11	.08	−.17*	.07	−.17*	.07
R^2	.05		.03		.01		.03		.06	

Note. Race coded 1 = not White, 2 = White. Gender coded 1 = male, 2 = female.
* $p < .05$.

al., 2014). Consistent with Hypothesis 3, sudden loss was independently associated with lower academic functioning across multiple indicators. Specifically, sudden loss was significantly associated with lower academic achievement, lower self-reported ability to concentrate and learn, lower beliefs that teachers treat youth fairly, lower school belongingness, and lower school liking compared to youth without histories of sudden loss. Thus, sudden loss may evoke negative psychological reactions to the death—including grief and posttraumatic stress—that may interfere with school performance and reduce school engagement (Beers & De Bellis, 2002). In addition, social support has been characterized as an important developmental asset that helps bolster social and academic functioning throughout the teenage years (Malecki & Demaray, 2006). Losing a loved one may thus result in the loss of social and instrumental support necessary for academic functioning.

In contrast, we did not find significant associations between sudden loss and academic aspirations, whether youth care what teachers think, whether youth like their teachers, youths' effort toward schoolwork, or beliefs concerning the importance of grades, homework, or learning. A plausible explanation for these findings is that sudden loss and youths' accompanying distress reactions do not diminish the *value* youth place on the benefits of education or their *motivation* to try hard, do well in school, and connect with their teachers; but do interfere with youths' capacity to concentrate and learn, perform effectively, perceive their teachers as fair, enjoy school, and feel like they belong. It is possible that bereavement due to sudden loss and the accompanying psychological reactions to the death may disrupt cognitive academic abilities (e.g., concentration), as well as feelings of connectedness to others, but have less of an effect on youths' recognition of the benefits of education and intention to continue their academic training. From a policy perspective, this suggests that outreach is not needed to persuade bereaved youth regarding the value of school achievement to their future; rather, outreach should take the form of providing practical school-based mental health and related services (e.g., risk screening, therapeutic services, academic tutoring, teacher training) to help bereaved youth to succeed.

Limitations

Findings should be interpreted in light of certain limitations. Data were cross-sectional and causal inferences cannot be made. Although youth reported on their lifetime history of sudden loss and current academic functioning, third variables could also account for these findings. Additionally, only adolescent-reported indicators of academic functioning were available, which may be subject to social desirability biases. The rigor of future studies can be enhanced by examining the intersection between sudden loss and indicators of academic functioning obtained from school ar-

chives (e.g., grade point average). Youth provided retrospective reports of when they first experienced sudden loss, which may be subject to recall bias. The NCS-A did not gather key bereavement-related details, including time elapsed since the death, relationship to the deceased, or the circumstance of sudden loss (e.g., homicide, suicide, sudden natural death). These limitations prevented exploring whether academic functioning varies as a function of such contextual characteristics. For instance, more recent deaths may exert stronger effects on academic functioning, and the effects of sudden loss may be stronger for youth bereaved by parental death or by bereavement due to stigmatized deaths (e.g., suicide, drug overdose).

Implications for Theory, Practice, and Policy

Results from this study have important implications for theory-building. The incremental effect of sudden loss on academic functioning contributes to a growing body of evidence suggesting that childhood bereavement has distinct consequences that extend beyond the effects of other commonly experienced traumas (Kaplow et al., 2010; Keyes et al., 2014). Although empirical work linking bereavement to adolescent academic functioning is an important early step in building a developmental life span theory of bereavement-related risk and resilience (Kaplow & Layne, 2014), further work is needed to identify candidate causal mechanisms that may account for these links, and the pathways through which they exert their influences. For example, future research may benefit from exploring the ways in which grief and posttraumatic stress reactions (and their interplay) can adversely affect cognitive and behavioral skills essential for academic success (Layne et al., 2018). Multidimensional grief theory (Kaplow, Layne, Saltzman, Cozza, & Pynoos, 2013) shows particular promise for guiding this endeavor given its capacity to describe a wide range of grief reactions that may arise under different death circumstances, intersect with posttraumatic stress symptoms, and impede developmental tasks.

Our findings also underscore the value of risk screening for identifying bereaved youth whose histories of sudden loss place them at significant risk for poor academic achievement. Such work will be profitably guided by principles of evidence-based assessment and practice (Layne, Kaplow, & Youngstrom, 2017). Our finding that youth were most likely to report experiencing their *first* sudden loss during middle to late adolescence emphasizes the importance of screening for, assessing, and therapeutically targeting the effects of sudden loss in this at-risk and vulnerable age group. More broadly, our findings highlight the value of providing schools with risk screening instruments, referral-related tools and resources, and assessment-driven mental health interventions designed to buffer the adverse effects of sudden loss on academic functioning. Interventions that flexibly target the effects of trauma, bereavement, and traumatic bereavement (e.g., Saltzman et al., 2018) may be especially beneficial given the high prevalence of sudden loss relative to other traumas and its high co-occurrence with other traumas in this nationally representative sample.

Last, results of this study can inform public policy aimed at improving educational achievement among youth at risk for poor academic functioning. Offering risk screening, referral, and—where appropriate—school-based mental health services for youth bereaved by sudden loss has considerable potential for positive social impact given the high prevalence of sudden loss during adolescence. Because sudden loss frequently co-occurs with other traumas, assessment-driven, tailored interventions that address the psychological and behavioral effects of sudden loss, and other trauma types during this highly consequential developmental period may be especially helpful.

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