Child Mental Health Problems as Risk Factors for Victimization

Heather A. Turner,[1] David Finkelhor,[1] and Richard Ormrod[1]

Abstract

The current study examines the effects of child internalizing and externalizing symptoms on increases in victimization over a 1-year period. Using longitudinal data from the Developmental Victimization Survey (DVS), analyses are based on a national probability sample of 1,467 children aged 2–17. Results indicate that children with high levels of co-occurring internalizing and externalizing symptoms were particularly likely to experience increased exposure to several forms of victimization, including peer victimization, maltreatment, and sexual victimization, controlling for earlier victimization and adversity. The relationship of symptoms to victimization exposure differed across developmental stage. Elementary school-age children with high levels of symptoms were especially vulnerable to victimization by peers, whereas distressed youth in early adolescence were particularly vulnerable to sexual victimization. Mental health problems in childhood and adolescence appear to represent important risk factors for increased victimization. Future interventions might consider targeting youth with co-occurring internalizing and externalizing symptoms during especially vulnerable developmental stages.

Keywords

child and adolescent development, child victims, risk assessment

Introduction

A great deal of research has focused on the negative consequences of child victimization. Much of this literature has sought to establish both the short- and long-term effects of specific forms of child victimization, such as sexual abuse, maltreatment, and peer bullying, on mental health. Less research, however, has considered how mental health problems of children may influence vulnerability to victimization.

Identifying factors that increase or reduce children's risk of victimization, whether they are social-, situational-, or individual-level predictors, remains a crucial objective. Although studies have investigated social and environmental determinants of child victimization, such as family stress, violent neighborhoods, and poor supervision (Lauritsen, 2003; Turner, Finkelhor, & Ormrod, 2007), child characteristics have often been ignored. Yet, victim-level factors are also likely to operate in victimization "instigation," "selection," and "protection" processes (Finkelhor, 2008). That is, child characteristics may influence instigation of victimization by offenders, their selection from a potential pool of victims, and their capacity to avoid, deter, or negotiate from dangerous situations. We argue that child mental health represents a crucial factor that operates in this instigation–selection–protection process, making symptomatic children particularly vulnerable to victimization.

Addressing the potential effects of symptoms on exposure to victimization may also alert researchers to the potential for mis-specifying relationships between victimization and mental health. If distressing symptoms, such as depression or anger, contribute to child victimization, then it is likely that some significant part of the victimization−symptoms associations typically found in literature reflect the influence of symptoms on exposure rather than the reverse. Indeed, much of the existing research on consequences of victimization is cross-sectional in design and unable to establish temporal order. Moreover, although several longitudinal studies have shown that victimization leads to increases in symptoms over time (Boney-McCoy & Finkelhor, 1996; Horowitz, Widom, McLaughlin, & White, 2001), they typically have not addressed the possibility that earlier or existing mental health problems also contributed to the victimization experienced.

Existing research, whether focusing on mental health problems as antecedents or as consequences of victimization, also has not considered how the association may differ across the child's life course. It seems quite plausible that individual-level factors, such as mental health symptoms, may be more

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influential for victimization exposure at some ages than others. That is, there may be age-related differences in how symptoms manifest in behavioral vulnerabilities and how others in the child's network interpret and react to children's symptoms. Understanding developmental variations in the effect of symptoms on victimization would be of both theoretical and practical significance because it would help provide insight into the social processes involved in victimization and allow for more tailored interventions for victimization prevention. Moreover, understanding how children's mental health problems may contribute to victimization exposure may help to uncover a critical component in a process of reciprocal causation between symptoms and victimization. By determining if and when symptoms increase risk of victimization, we may better understand the processes by which some children experience high levels of both mental health problems and cumulative victimization exposure over time.

The current study seeks to address whether children's internalizing and/or externalizing symptoms increase risk of different forms of victimization and how this potential vulnerability may differ across the developmental span of childhood and adolescence.

Child Mental Health and Exposure to Victimization

Emotional and behavioral symptoms may increase exposure to victimization not because they are inherently dangerous but because they relate or appeal to something in perpetrators. For example, some research on bullying supports the notion that children with emotional problems, such as depression and anxiety, are at greater risk of being victimized by peers (e.g., Finnegan, Hodges, & Perry, 1998). Victimized children often exhibit behaviors associated with "internalizing symptoms," including crying easily, manifesting anxiety, being socially withdrawn, and submitting to their attackers, that likely contribute to them being singled out by peers (Hodges, 1997; Perry, Williard, & Perry, 1990). Although many of these studies cannot determine whether child emotional problems are causes or consequences of peer victimization, some have demonstrated these types of symptoms and behaviors to be associated with increases in peer victimization over time (Hodges & Perry, 1999).

Distressed children may also be more likely to provoke conflict with peers, either intentionally or unintentionally, which increases their risk of victimization (Finkelhor, 2008). Researchers have observed that some peer-victimized children exhibit "externalizing problems" such as disruptiveness, aggression, and argumentativeness (Olweus, 1978; Perry, Perry, & Kennedy, 1992). Such symptomatology is believed to irritate and provoke perpetrators and therefore contribute to exposure to peer victimization.

Child symptomatology may also arouse anger or aggressive impulses of caregivers because it is often associated with undesirable behaviors such as being demanding, needy, or disobedient. Although, understandably, research on predictors of child maltreatment has focused primarily on parent attributes and situational context (Milner & Chilamkurti, 1991; Wolfe,

1999), it seems likely that certain child behaviors could trigger victimization episodes among children with maladjusted parents. For example, in a study of determinants of maltreatment, fatality cases were significantly more likely than other maltreatment cases to be associated with child behavior problems, "provoking behavior" in particular (Chance & Scannapieco, 2002). Sprang, Clark, and Bass (2005) found that, even when controlling for a variety of caregiver characteristics and relational factors, level of children's externalizing symptoms was the strongest predictor of severe maltreatment. The above studies focus on samples of maltreated children and more severe forms of abuse. It remains to be seen whether child mental health problems are related to subsequent maltreatment in a population-based sample and when considering less severe forms of maltreatment.

Distressed children and adolescents may also be at greater risk of sexual victimization. Finkelhor (2008) suggests that child emotional problems may lead to "dependent, sexualized, or indiscriminately affiliative behavior that leaves children open to victimization" (p. 53). Consistent with this notion, Foshee and colleagues (2004) in a longitudinal study of adolescents found that girls' depression significantly predicted onset of chronic sexual dating violence. Based on a national probability sample of adolescent girls, Raghaven and colleagues (2004) also found that level of depressive symptoms predicted subsequent sexual victimization, independent of a variety of other predictors, including victimization history and alcohol and substance use.

Although the above review suggests that risk of peer victimization, maltreatment, and sexual victimization may each be amplified among children with mental health problems, little or no research has compared the relative influence of different types of symptomatology on these different forms of victimization. It may be that internalizing symptoms place children at greatest risk of particular types of victimization, such as sexual victimization, while externalizing problems are mostly associated with exposure to other types, such as maltreatment. Moreover, children who experience both types of symptoms may be especially at risk. Co-occurring internalizing and externalizing disorders are quite prevalent in children and adolescents (McConaughy & Achenbach, 1994) and are often associated with more serious pathology (Newman, Moffit, Caspi, & Silva, 1998; Youngstrom, Findling, & Calabrese, 2003) and poorer developmental outcomes (Keiley, Lofthouse, Bates, Dodge, & Petit, 2003), relative to children with single-domain symptomatology. Because children with co-occurring internalizing and externalizing symptoms are particularly likely to experience social impairments and relational difficulties (Thomas & Guskin, 2001; Wright, Zakriski, & Drinkwater, 1999), they may be at elevated risk for several forms of victimization.

Developmental Issues in Vulnerability to Victimization

It is important to emphasize that consideration of the effects of mental health symptoms on victimization exposure does not negate research demonstrating the critical role of victimization

in creating mental health problems. Instead, acknowledging that the association is likely reciprocal and considering how mental health problems may "select" children into victimization situations can help us to understand the processes involved in cumulative disadvantage over time. Importantly, different stages of social and physiological development and/or age-related norms can influence the potency of individual characteristics (such as mental health) in selection processes (McLeod and Pavalko, 2008).

Applying this idea to mental health and victimization, we hypothesize that the salience of internalizing and externalizing problems in affecting victimization risk may differ for younger and older children. For example, it may be that mental health problems have a greater effect on the likelihood of being victimized at youngest ages because competing environmental and experiential forces have had less time and opportunity to exert their influence. Alternatively, mental health may be a more salient predictor of victimization at ages when new "opportunities" for victimization exposure arise. For example, determinants of peer victimization may be most visible during elementary school years when children first begin to have extensive contact with multiple peers. In contrast, we may find that symptomatology has the greatest influence on sexual victimization in adolescence, when social and physical development make children more vulnerable to this form of victimization. The likelihood of maltreatment may be most noticeable during the preschool years when the demands of caregiving are the most intense. In sum, just as the effects of victimization on mental health have been shown to differ by when they occur in the child's life (Kaplow & Widom, 2007; Manly, Kim, Rogosch, & Cicchetti, 2001), there may be important developmental variations in the potency of emotion and behavioral problems in affecting victimization exposure. An examination of the mental health-to-victimization process, and how it may vary by age and type of victimization, is essential to understanding the longer term progression toward chronic victimization exposure and mental disorder.

This research has two major objectives. The first is to examine the effects of internalizing, externalizing, and co-occurring symptomatology on subsequent exposure to three forms of victimization: peer victimization, child maltreatment, and sexual victimization. Because victimization has been found to increase mental health problems in children, and because earlier victimization is a very strong predictor of subsequent victimization (Arata, 2002; Finkelhor, Ormrod, & Turner, 2007; Hanson et al., 2006), it is crucial to control for victimization history when examining the effect of symptoms on victimization exposure. Therefore, the analyses will control for both recent prior victimization and lifetime victimization. Moreover, given that other forms of family adversity and stress could also contribute to both victimization and mental health problems, the analyses will also control for lifetime adversity. The second aim is to determine whether the effects of symptomatology on increased exposure to victimization differ by the age of the victim and whether such differences depend on the type of symptoms or the type of victimization considered.

Methods

Participants

This research is based on longitudinal data from the Developmental Victimization Survey (DVS), designed to obtain prevalence estimates of a comprehensive range of childhood victimizations across gender, race, and developmental stage. The first wave of the survey, conducted between December 2002 and February 2003 assessed the experiences of a nationally representative sample of 2,030 children aged 2–17, living in the contiguous United States. The sample selection procedures were based on a list-assisted random digit dial (RDD) telephone survey design.

A short interview was conducted with an adult caregiver (usually a parent) to obtain family demographic information. One child was randomly selected from all eligible children living in a household by selecting the child with the most recent birthday. If the selected child was 10–17 years old, the main telephone interview was conducted with the child. If the selected child was 2–9 years old, the interview was conducted with the caregiver who "is most familiar with the child's daily routine and experiences." Caregivers were interviewed as proxies for this age group because the ability of children under the age of 10 to be recruited and to participate in phone interviews of this nature has not been well established, yet such children are still at an age when parents tend to be well informed about their experiences both at and away from home. In 68% of these caretaker interviews, the caretaker was the biological mother, in 24% the biological father, and in 8% some other relative or caretaker.

Up to 13 callbacks were made to select and contact a respondent, and up to 25 callbacks were made to complete the interview. Parental consent was obtained prior to the interview and, in the case of a child interview (age 10–17), child assent was also obtained. Respondents were promised complete confidentiality and were paid US$10 for their participation. Children or parents who disclosed a situation of serious threat or ongoing victimization were recontacted by a clinical member of the research team, trained in telephone crisis counseling, whose responsibility was to stay in contact with the respondent until the situation was resolved or brought to the attention of appropriate authorities. All procedures were authorized by the Institutional Review Board of the University of New Hampshire.

The final sample consisted of 2,030 respondents: 1,000 children (age 10–17) and 1,030 caregivers of children aged 2–9. Interviews were completed with 79.5% of the eligible persons contacted. Because the sample somewhat underrepresents the national proportion of Blacks and Hispanics, using 2002 Census estimates (U.S. Bureau of the Census, 2000), we applied poststratification weights to adjust for race proportion differences between our sample and national statistics. We also applied weights to adjust for within household probability of selection due to variation in the number of eligible children across households.

Wave II of the survey was conducted between December 2003 and May 2004, approximately 1 year after the baseline

interview. The same careful interviewing procedures and human participants' protocol used in Wave I were implemented in this second wave of data collection. Respondents were again paid US$10 for their participation. A total of 1,467 respondents (76.8% of the baseline sample) were reinterviewed in Wave II. Attrition analyses show that respondents lost to follow-up were more likely to be Hispanic and lower in socioeconomic status (SES). However, there were no significant differences between Wave II respondents and those lost to follow-up on level of victimization reported at baseline.

Measurement

Victimization. Measures of victimization exposure are based on 33 items from the Juvenile Victimization Questionnaire (JVQ), a comprehensive inventory of childhood victimization. The caregiver version, designed for proxy interviews with younger children, uses wording very similar to the self-report questionnaire, allowing for direct comparability of items across the two versions. Therefore, unlike other victimization instruments, the JVQ allows direct comparisons of victimization experiences across the full range of childhood and adolescence.

The victimization types of particular focus in the current study are a set of 16 offenses against youth that cover three general domains of victimization: child maltreatment (physical abuse and neglect by caregivers; four items), sexual victimization (six items), and peer victimization (bullying, assault, and emotional abuse by peers; six items). Using the original JVQ format, we obtained information on events that occurred in the last year. Summary measures of each of the three domains were constructed, each representing a composite index of exposure to each category of victimization that occurred in the last year. To reduce the skew of the distributions, we truncated each measure at three or more victimizations. Thus, for each of the three measures, constructed for both Times 1 and 2 data points, values range from 0 to 3.

We also administered a separate series of questions, modified to ask whether the same type of events occurred in the child's lifetime (prior to the year before the survey). We then constructed a lifetime victimization measure that includes total lifetime victimization from all domains. From this measure, we constructed three lifetime measures: one that includes all victimization except last year's peer victimization, one that includes all victimizations except last year's child maltreatment, and one that includes all victimizations except last year's sexual victimization. Therefore, when examining predictors of a specific type of victimization (e.g., sexual victimization at Time 2), we separate recent past victimizations of that type (e.g., sexual victimization at Time 1) from all victimizations of any type (count of 33 different types from Time 1 or before).

Nonvictimization adversity. Adversity in childhood was assessed by a comprehensive measure that includes 14 nonviolent traumatic events and chronic stressors. If a specific stressor had occurred or was present at least once in the respondent's lifetime, they were given a code of 1 on that item. Items included

(a) nonvictimization traumas such as serious illnesses, accidents, parent imprisonment, and natural disasters and (b) more chronic adversities, such as substance abuse by family members and parental arguing. A summary count of total lifetime exposure to nonviolent traumas and adversities was constructed. Higher scores indicate greater exposure to different forms of adversity.

Child mental health. Depression, anger/aggression, and anxiety components of the Trauma Symptom Checklist for Children (TSCC) were administered to the 10- to 17-year-old respondents. These same components of the Trauma Symptom Checklist for Young Children (TSCYC) were administered to caregivers of the 2- to 9-year-old respondents. In the TSCC, children are presented with a list of thoughts, feelings, and behaviors and asked to indicate how often each of these things happened to him or her in the last month. In the case of the TSCYC, the caregiver indicates the frequency of symptoms displayed by their young child. In both versions, each item was rated on a 4-point scale ranging from 0 (*not at all*) to 3 (*very often*). The TSCC and TSCYC have shown good reliability and validity in both population-based and clinical samples (Briere, 1996; 2001).

Wave 1 responses for the symptom items were summed to create two aggregate symptom scores: externalizing (anger/aggression component of the TSCC and TSCYC) and internalizing symptoms (depression and anxiety components of the TSCC and TSCYC). Because the specific items used for each age group differed, a child score was created for the 2–9 year olds and a youth score for the 10–17 year olds.

Addressing the effect of one type of symptomatology (e.g., internalizing), while controlling for the other (e.g., externalizing) will miss the potentially important influence of experiencing both types of symptoms. Instead, we wished to identify children with high levels of single-domain symptoms as well as those who experience high levels of both internalizing and externalizing symptoms. To this end, four symptom groups were constructed from the two summary scores: (a) *high internalizing* comprised children who scored in the top quartile on internalizing symptoms (but not on externalizing symptoms); (b) *high externalizing* children scored in the top quartile on externalizing symptoms (but not on internalizing symptoms); (c) *high internalizing and high externalizing* children scored in the top quartile on both these measures; and (4) the *low symptom* group fell below the top quartile on both internalizing and externalizing dimensions. The low symptom group represents the contrast group in all multivariate analyses.

Sociodemographic factors. All demographic information was obtained in the initial parent interview, including the child's age (in years), race/ethnicity (coded into four groups: White, Black non-Hispanic, Hispanic any race, and other race), and current family structure (coded into three groups: child living with two biological or adoptive parents, child living with one biological parent and a stepparent or unmarried partner, and child living with a single parent). Analyses also included a

Table 1. The Effects of Time 1 Symptoms on Time 2 Peer Victimization

	Time 2 Peer Victimization		
	Model 1	Model 2	Model 3
Time 1 high internalizing only	.261*** (.056)	.153** (.054)	.132* (.054)
Time 1 high externalizing only	.119* (.054)	.041 (.052)	−.021 (.053)
Time 1 high internalizing + high externalizing	.299*** (.049)	.146** (.048)	.073 (.051)
Age	−.005 (.004)	−.008* (.004)	−.011** (.004)
Gender (*female* = 1)	−.056 (.034)	−.036 (.033)	−.030 (.032)
Black[a]	−.104 (.054)	−.135** (.051)	−.142** (.051)
Hispanic[a]	−.186*** (.050)	−.157*** (.048)	−.166*** (.048)
Other race[a]	−.012 (.085)	−.006 (.081)	−.012 (.080)
Socioeconomic status	−.013 (.018)	−.013 (.018)	−.013 (.017)
Single parent[b]	.052 (.049)	.063 (.047)	.059 (.047)
Stepfamily[b]	.104 (.058)	.084 (.056)	.055 (.056)
Time 1 peer victimization		.263*** (.022)	.234*** (.023)
Total lifetime victimization[c]			.041*** (.008)
Total lifetime nonvictimization adversity			−.017 (.011)
Adjusted R^2	.043***	.131***	.148***

NOTE: Unstandardized regression coefficients (*SE*).
[a] Comparison group = White non-Hispanic.
[b] Comparison group = two biological/adoptive parents.
[c] Excludes Time 1 peer victimization; *N* = 1,445.
* $p < .05$.
** $p < .01$.
*** $p < .001$ (two-tailed).

measure of SES, constructed as a composite of standardized income and standardized parental education scores, which was then restandardized. In cases where the data for one of the SES indices (most often income) are missing, the SES score is based on the standard score of the remaining index. In all regression analyses, gender is a dummy variable (*female* = 1), White is the comparison group for race/ethnicity, and living with two biological/adoptive parents is the comparison group for family structure.

Results

The first set of analyses focuses on the associations between symptoms reported at Time 1 and exposure to peer victimization at Time 2. In other words, we are examining the effect of distressing symptoms on victimization that occurred in the year that followed the symptoms' assessment. To this end, a series of regression analyses were performed. In the first model of Table 1, we considered whether children in the high-symptom groups at Time 1 experienced more peer victimization in the following year than children with lower symptoms, independent of sociodemographic characteristics. Results show significantly greater exposure to peer victimization in all the three high-symptom groups relative to children who were below the top quartile on both internalizing and externalizing symptoms. In addition, Hispanics reported significantly less peer victimization than did White respondents, with symptoms and other demographic factors controlled.

In Model 2, Time 1 peer victimization was added to the equation. As expected, Time 1 peer victimization is strongly related to experiencing the same form of victimization 1 year later. Importantly, however, the coefficients for high internalizing and high internalizing and externalizing are both still significant ($p < .01$), indicating that children in these two high-symptom groups experienced significantly greater *increases* in peer victimization over time relative to the lower symptom children. To create an even more stringent test of the effects of symptoms on peer-victimization exposure, we further controlled for lifetime victimization of all types and lifetime adversity (Model 3). Total lifetime victimization emerged as an additional factor related to increases in peer victimization at Time 2. However, internalizing symptoms remained a significant predictor of subsequent peer victimization, even with the respondent's entire history of victimization and adversity controlled ($p < .01$).

Next, we wished to determine whether the effect of symptoms on increases in peer victimization differed for respondents of different ages. In a final model (not shown), we added three interaction variables (Time 1 high internal × age, Time 1 high external × age, Time 1 high both internal and external × age). The age interaction for the externalizing and internalizing symptoms group was significant ($b = -.019$; $p < .05$). The negative coefficient indicates that the difference in peer victimization between this high symptom group and lower symptom children is greater among younger children.

Table 2 presents the same series of regression analyses predicting maltreatment. As seen in Model 1, all three of the high symptom groups experienced greater maltreatment than children with lower symptoms, controlling for sociodemographic factors. The association is especially strong for children who scored high on both internalizing and externalizing symptoms ($b = .267$; $p < .001$). Children in single-parent families and,

Table 2. The Effects of Time 1 Symptoms on Time 2 Maltreatment

	Time 2 Maltreatment		
	Model 1	Model 2	Model 3
Time 1 high internalizing only	.107[**] (.036)	.077[*] (.034)	.037 (.034)
Time 1 high externalizing only	.082[*] (.034)	.031 (.033)	−.020 (.033)
Time 1 high internalizing + high externalizing	.267[***] (.031)	.162[***] (.031)	.094[**] (.032)
Age	.003 (.002)	.000 (.002)	−.005[*] (.003)
Gender (*female* = 1)	.028 (.022)	.020 (.021)	.026 (.021)
Black[a]	−.069[*] (.034)	−.062 (.032)	−.076[*] (.032)
Hispanic[a]	−.035 (.032)	−.031 (.030)	−.039 (.030)
Other race[a]	.014 (.054)	.017 (.051)	.026 (.050)
Socioeconomic status	−.012 (.012)	−.007 (.011)	−.004 (.011)
Single parent[b]	.084[**] (.031)	.061[*] (.030)	.048 (.029)
Stepfamily[b]	.167[***] (.037)	.092[**] (.036)	.069 (.035)
Time 1 maltreatment		.295[***] (.023)	.239[***] (.024)
Total lifetime victimization[c]			.020[***] (.005)
Total lifetime nonvictimization adversity			.020[**] (.007)
Adjusted R^2	.074[***]	.168[***]	.191[***]

NOTE: Unstandardized regression coefficients (*SE*).
[a] Comparison group = White non-Hispanic.
[b] Comparison group = two biological/adoptive parents.
[c] Excludes Time 1 maltreatment; $N = 1,445$.
[*] $p < .05$.
[**] $p < .01$.
[***] $p < .001$ (two-tailed).

especially, stepfamilies were at elevated risk of maltreatment, relative to those in traditional two-parent families. Black children also reported less maltreatment than did White children, independent of symptoms and other demographic factors.

When Time 1 maltreatment was added to the equation (Model 2), children in the high internalizing group and, especially, those who experienced high levels of both internalizing and externalizing symptoms at Time 1 were still exposed to significantly more maltreatment at Time 2. In other words, symptoms were associated with increases in exposure to maltreatment over the following year. In Model 3, both lifetime victimization and lifetime adversity were added and both were significant predictors of Time 2 maltreatment. However, children with high internalizing and externalizing symptoms remained significantly higher on Time 2 maltreatment. Therefore, even with all past victimization and adversity accounted for, high symptomatology was associated with increased exposure to maltreatment in this sample.

Again, we wished to determine whether the effect of symptoms on increases in maltreatment differed for respondents of different ages. In a final model (not shown), we added the three age × symptom group interaction variables. None of these interactions were statistically significant. Thus, it appears that the most distressed children are at greater risk of maltreatment across the entire developmental spectrum.

Finally, Table 3 presents findings on the predictors of sexual victimization. As seen in Model 1, children with high externalizing symptoms and those who reported high levels of both internalizing and externalizing symptoms were more likely to experience subsequent sexual victimization, independent of demographic factors. Older children, females, Blacks, and those living in stepparent families were at greater risk of sexual victimization than were younger children, males, Whites, and those in traditional two-parent families, independent of symptom level. When Time 1 sexual victimization was added to the equation (Model 2), the two symptom categories remained significant, indicating that symptoms significantly predict increases in sexual victimization over time. In Model 3, lifetime victimization and adversity were added to the equation; lifetime victimization was significant, contributing to the variance explained in sexual victimization. However, children in the high internalizing and high externalizing group still experienced more subsequent sexual victimization with respondents' lifetime victimization and adversity history controlled ($p < .01$).

In a fourth model (not shown), we again tested for interactions between age and each of the high symptom categories. Results showed a significant and positive interaction between age and both the high internalizing ($b = .017$; $p < .05$) and the high internalizing and externalizing ($b = .013$; $p < .05$) categories, indicating that the effect these symptom constellations have on exposure to sexual victimization was greater for older children.

The above analyses clearly demonstrate the effects of symptoms on subsequent exposure to all three forms of victimization: peer victimization, maltreatment by caregivers, and sexual victimization. Although, with respect to maltreatment, the association appears relatively consistent across age, findings indicate developmental variations with respect to both peer and sexual victimization. Figures 1–3 show the 1-year

Table 3. The Effects of Time 1 Symptoms on Time 2 Sexual Victimization

	Time 2 Sexual Victimization		
	Model 1	Model 2	Model 3
Time 1 high internalizing only	.057 (.033)	.055 (.031)	.009 (.031)
Time 1 high externalizing only	.121*** (.032)	.081** (.030)	.025 (.031)
Time 1 high internalizing + high externalizing	.235*** (.029)	.159*** (.028)	.084** (.030)
Age	.014*** (.002)	.008*** (.002)	.005* (.002)
Gender (*female* = 1)	.062** (.020)	.042* (.019)	.055** (.019)
Black[a]	.070* (.032)	.075* (.030)	.060* (.030)
Hispanic[a]	−.037 (.030)	−.051 (.028)	−.051 (.028)
Other race[a]	.068 (.050)	.076 (.047)	.077 (.047)
Socioeconomic status	.002 (.011)	.004 (.010)	.006 (.010)
Single parent[b]	−.014 (.029)	−.025 (.027)	−.033 (.027)
Stepfamily[b]	.081* (.034)	.051 (.033)	.024 (.033)
Time 1 sexual victimization		.287*** (.024)	.225*** (.025)
Total lifetime victimization[c]			.028*** (.004)
Total lifetime nonvictimization adversity			.003 (.006)
Adjusted R^2	.085***	.169***	.198***

NOTE: Unstandardized regression coefficients (*SE*).
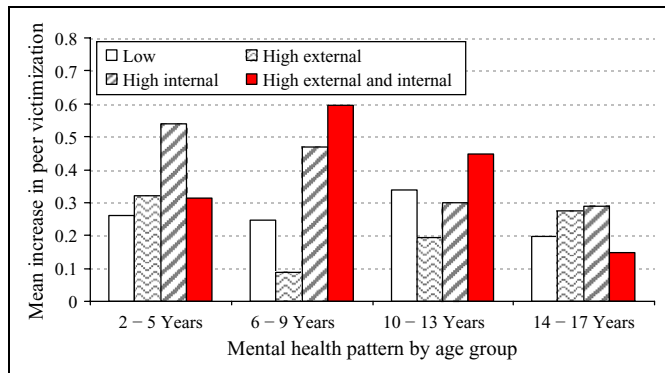[a] Comparison group = White non-Hispanic.
[b] Comparison group = two biological/adoptive parents.
[c] Excludes Time 1 sexual victimization; *N* = 1,445.
* *p* < .05.
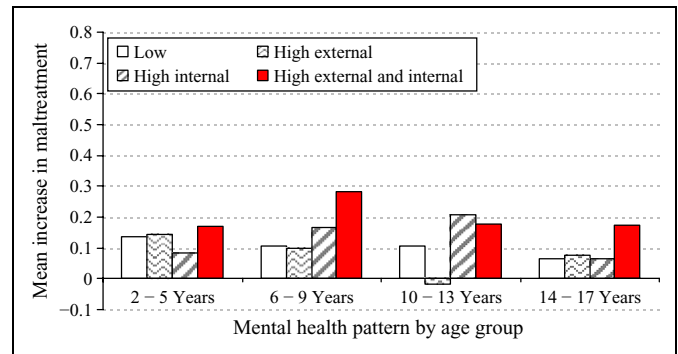** *p* < .01.
*** *p* < .001 (two-tailed).

Figure 1. Mental Health Patterns (Wave 1) Predicting Peer Victimization (Wave 2) by Child Age
Note: Model controlling for prior victimization, adversity, age, gender, race/ethnicity, socioeconomic status (SES), and family type.
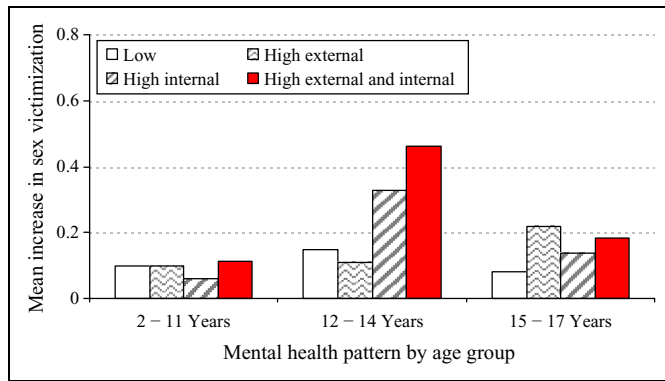

Figure 2. Mental Health Patterns (Wave 1) Predicting Maltreatment (Wave 2) by Child Age
Note: Model controlling for prior victimization, adversity, age, gender, race/ethnicity, socioeconomic status (SES), and family type.

increases in victimization for the four symptom groups across different age groups, holding all other variables constant.

Given the likely importance of school contexts for peer victimization, we divided the sample by age groups that roughly correspond to school transitions. Figure 1 presents symptom group differences in peer victimization in four different age categories: preschoolers (2–5 years), elementary school (6–9 years), middle school (10–13 years), and high school (14–17 years), controlling for all the other variables. It is evident that the greatest contrast between the high internalizing and externalizing group and children with lower symptom levels is found among elementary age children. The gap is somewhat smaller among middle school-age children and considerably

smaller for high school-age respondents. Because the effect of symptoms is also relatively small for preschool children, the negative interaction between age and high internalizing/externalizing found in the multivariate analyses previously described appears to reflect age differences in the impact of symptoms on peer victimization among school-age children only. Given the apparent nonlinear pattern across age groups, we ran additional regression analyses to test for significant age group contrasts in the effects of symptoms on increased peer victimization (not shown). Results indicate that the difference between the low symptom group and the highest symptom group is significantly greater among elementary school-age children than among both preschool (*p* < .01) and high school

Figure 3. Mental Health Patterns (Wave 1) Predicting Sex Victimization (Wave 2) by Child Age
Note: Model controlling for prior victimization, adversity, age, gender, race/ethnicity, socioeconomic status (SES), and family type.

groups ($p < .001$). None of the other group contrasts are significantly different.

Although the effect of high internalizing-only symptoms appears greatest among the youngest children (preschool), the contrast is evident in most age groups, reflecting the significant main effect for high internalizing symptoms on increased peer victimization.

Figure 2 depicts increases in child maltreatment by child's age over a year period for the four symptom groups, again controlling for entire lifetime history of victimization and adversity. As was evident in Table 2, the figure shows the greatest increases in maltreatment among children with both high internalizing and high externalizing symptoms, with similar patterns across the different age groups.

Figure 3 presents increases in sexual victimization for each symptoms group by age. Given the relatively low number of exposures to this type of victimization among children who are largely prepubescent (under 12) and the potential for variations between early and late adolescence, we divided the sample into different groups: 11 years and under, 12–14 years, and 15–17 years. It is evident from the graph that symptoms do not predict sexual victimization at all for children under the age of 12 years. However, among adolescents, groups with high internalizing-only and high levels of both internalizing and externalizing have elevated exposure to sexual victimization relative to the low symptom group. Interestingly, the figure clearly shows the greatest risk among younger adolescents. That is, for 12–14 year olds, the effect of having high internalizing-only or high levels of both internalizing and externalizing symptoms on increases in sexual victimization are substantial.

Given this apparent nonlinear pattern, we again conducted a series of additional regression analyses to test for significant age-group contrasts (not shown). Results indicate that the contrast between the low symptom group and the high internalizing and externalizing group is significantly greater among 12–14 year olds than among either the younger ($p < .001$) or older group ($p < .01$). With respect to the contrast between the low symptom and high internalizing-only respondents,

both adolescent groups are greater than the 2–11 year olds ($p < .05$) but do not significantly differ from one another.

Discussion

Findings from this study clearly demonstrate that children with emotional and behavioral problems are at higher risk of all three types of victimization considered in this study: peer victimization, maltreatment, and sexual victimization. In almost all cases, children with elevated internalizing, externalizing, or both types of symptoms experienced greater victimization in the following year, independent of sociodemographic characteristics (see Tables 1–3, Equation 1). Thus, having mental health problems is clearly a marker of elevated risk of experiencing several forms of child victimization.

We also found that, even with substantial controls for recent and lifetime victimization exposure as well as other forms of stress and adversity, children with high levels of symptoms remained at high risk of subsequent victimization. Thus, independent of past victimization levels, there was a pattern of escalating victimization among children with mental health problems. Although the specific risk varied by the type of victimization and the age of the child, we believe these analyses provide a rather stringent test of the influence of symptoms on children's exposure to victimization.

Important developmental patterns were also evident in this research. With respect to peer victimization, our findings indicate that having high levels of both internalizing and externalizing symptoms is a more salient predictor among elementary school-age children than among preschool children or adolescents. It appears that this symptom constellation, reflecting "disregulated" behavior and emotion, makes children especially vulnerable to victimization when they first enter school and are exposed to a wider range of peers and opportunities for interaction. For younger children, symptomatology may be less influential because peer interaction is typically more constrained and closely supervised prior to entering school. During adolescence, symptoms may lose their influence for other reasons. Once a pattern of peer victimizations is created, other social processes may be set in motion, which gain influence over time. In other words, peer victimization in elementary school may lead to a general social context that incorporates social stigma, the modeling of perpetration against the child, the continued recruitment of new peer perpetrators, and the disintegration of positive and protective affiliations. The original vulnerability created by emotional and behavioral problems may then become less salient as other social processes take hold.

It is worth noting that this high level of both internalizing and externalizing symptoms characterizes a group of children that some investigators have referred to as "bully-victims." Research has found that children who are both victimized and who bully other children often display the greatest mental health problems and poorest psychosocial functioning, including high levels of depression and conduct problems, low social competence, and poorer academic achievement (Haynie et al.,

2001; Juvonen, Graham, & Schuster, 2003; Kumpulainen & Rasanen, 2000). Although the current research does not directly address children's own bullying behavior, high levels of both internalizing and externalizing symptoms are consistent with involvement in both victimization and bullying.

Although high levels of both internalizing and externalizing symptoms appear to contribute to the onset of peer victimization in elementary school, results suggest that internalizing symptoms that occur in the absence of externalizing problems are also relevant for peer victimization, beginning very early in childhood. The particular importance of internalizing symptomatology for increased peer victimization is consistent with some earlier studies (Hodges & Perry, 1999; Perry et al., 1992). Internalizing symptoms, including displays of sadness, fearfulness, and being socially withdrawn, are likely to be interpreted as signs of vulnerability to aggressive children (Perry, Hodges, & Egan, 2001). Indeed, research on bullying suggests that bullies tend to seek out and value fearful and distressed responses from their victims and such responses serve to reinforce the aggressor's behavior (Perry et al., 1990; Schwartz, Dodge, & Coie, 1993).

Unlike peer victimization that reaches high levels in elementary school for both genders, sexual victimization is greater among older children and girls. Yet, child symptomatology is also a significant predictor of sexual victimization, even after controlling for sociodemographic characteristics and the child's entire history victimization and adversity. Again, it appears that the combination of internalizing symptoms, likely reflecting insecurity and low self-concept, together with externalizing symptoms that may include risk-taking behavior, are particularly likely to place youth at risk of sexual victimization.

Findings also show that mental health problems are most relevant for sexual victimization in adolescence, particularly _early_ adolescence. Youth in this age group are likely to have only recently experienced the onset of puberty and are just beginning to develop a sexual identity (O'Sullivan & Brooks-Gunn, 2005). The developmental tasks of establishing sexual attractiveness while also setting sexual boundaries may be especially difficult for youth with mental health problems. Moreover, developing sexual self-concept also occurs in a social context where sexual interest and experimentation among peers increase dramatically (O'Sullivan, 2005; O'Sullivan & Brooks-Gunn, 2005). Children at this stage of development also begin to move into social environments where they may be more readily exposed to sexually predatory individuals. Mental health problems are likely to impede youth's ability to establish healthy sexual identities, avoid sexual predators, and negotiate safe sexual interactions.

Sexual victimization is less common in children under the age of 12. When sexual victimization does occur to younger children, we could not discern an association with symptomatology. It seems likely that sexual victimization among prepubescent children is more tied to the psychological characteristics of perpetrators and the situational contexts that provide them access to victims, than to the attributes of child victims themselves.

The potential for maltreatment by parents and other caregivers also appears to be affected by children's emotional and behavioral problems. Findings indicated that the group of children who exhibit both high internalizing and externalizing symptoms experience increases in maltreatment and that this increased risk does not significantly differ across the child's age. It seems likely that this group of children poses substantial caregiving challenges. They may, for example, be more likely to display antisocial and delinquent types of behavior that parents find especially difficult to deal with. Emotionally and behaviorally disregulated children may be particularly difficult to communicate with and to control, and they may be least responsive to parent's efforts to correct problem behavior.

It is interesting to note that age differences in effect of mental health on both sexual and peer victimization appear to reflect increased vulnerability at points of transition—occurring soon after entry into new social and developmental contexts. Thus, it may be that individual characteristics that increase risk of victimization, such as mental health symptoms, become most salient in transitional circumstances requiring children to adapt to new social conditions. The finding that associations between symptomatology and maltreatment do not differ significantly across age is consistent with this notion. Although family environments can certainly change, the parent–child relationship more often than not persists without dramatic change across developmental stages and does not represent a novel context of exposure. If mental health is most influential after transitions to new social environments, then its effect on maltreatment is likely to be more uniform across age relative to extrafamilial sources of child victimization.

Limitations

A number of potential limitations should be acknowledged. One concerns the sources of information in the study. Victimization, adversity, and mental health measures came from the same sources, leading to a possibility of method covariance. Information from the same source tends to yield substantially higher correlations than information from different sources, for example, parents and children. It is also generally recognized that reports of victimization as well as symptoms can vary considerably depending on whether the data source is children, their caregivers, or a professional agency (McGee, Wolfe, Yuen, Wilson, & Carnachan, 1995; Sternberg, Lamb, & Dawud-Noursi, 1998). Thus, findings regarding age variations could potentially be influenced by differences in data source between younger children (2–9 years), for which information was obtained from parents, and older children (10–17 years) who provided self-reports.

Concern is also often expressed about the degree to which caregivers know about or are willing to disclose victimizations concerning their children, especially child maltreatment. However, comparison of the caregivers and youth reports in this study did not suggest a differential underreporting by caregivers (although both sources may underreport), even of child maltreatment (Finkelhor, Hamby, Ormrod, & Turner, 2005). Although this allays some of the concern about caregivers' reticence to disclose, the possibility that reporting of victimization

and/or mental health problems differ across data source remains a potential limitation.

It is possible that different ways of defining high symptom groups could yield different results. We chose to create groups based on the top quartile of symptoms to ensure that sufficient numbers of children were represented in all categories. However, definitions based on clinical criteria might be particularly useful for intervention purposes and could possibly lead to different conclusions. Finally, there may be additional variables not measured in the current study, such as parent's mental health, monitoring/supervision, and peer support that may serve to explain or refine the results.

Implications and Conclusions

In sum, although past research has clearly established the detrimental effects of child victimization on mental health, the current study demonstrates that existing mental health symptomatology in children also creates risk of victimization. Emotional and behavioral problems likely have implications for the "instigation-selection-protection" processes of child victimization (Finkelhor, 2008). With respect to "instigation," child symptoms may influence the perpetrator's motivation for offending, by creating agitation or by arousing particular desires in the perpetrator. Mental health issues may also affect "selection" processes, making the child a particularly suitable or accessible victim relative to other children. Importantly, emotional and behavioral problems likely influence "protection" processes by damaging the child's ability to avoid, deter, or escape victimization or by reducing positive network support. Future research would benefit from a more detailed examination of the mechanisms that link child mental health problems to victimization exposure and the specification of particular "instigation-selection-protection" processes among symptomatic children. Research must examine in greater detail how developmental processes influence associations between mental health and victimization and how reciprocal processes unfold over time to create long-term trajectories of both victimization and mental health problems.

The results of this study highlight the special risks facing children who experience high levels of co-occurring internalizing and externalizing symptoms. Because children who exhibit this constellation of emotional and behavior problems often experience multiple forms of victimization, including peer victimization, maltreatment by caregivers, and sexual victimization, they represent an important target group for intervention. Educators and counselors should identify children with mental health problems early in elementary school and make special effort to target safety interventions and peer-victimization education to this group of vulnerable children. Similarly, children in early adolescence with mental health symptoms should be targeted for counseling on issues of sexuality that includes education about negotiating safe sexual relationships and avoiding behavior and situations that may contribute to victimization.

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