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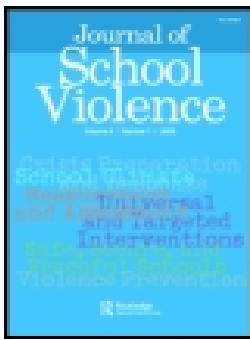
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The influence of different longitudinal patterns of peer victimization on psychosocial adjustment

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ABSTRACT

Identifying patterns of victimization continuity and discontinuity over time can inform school-based efforts to prevent and intervene with peer victimization. We conducted a four-wave longitudinal study of students through their transition from middle to high school. Participants were 135 diverse students from Grade 8 to Grade 11 who completed self-report surveys each year on peer victimization, life satisfaction, mental health, and substance use. Latent profile analysis identified four patterns of victimization: continuously high victimization (19%), inconsistent victimization (14%), revictimization (14%), and continuously low victimization (53%). In grade 11, the continuously high victimization group (19%) was more likely to report alcohol use, elevated psychological distress, diminished life satisfaction, and seriously contemplate suicide than any other group. Follow-up analysis reveals sexual harassment appears to be common as youth transition into their high school years. Results have implications for school screening and intervention efforts.

The concurrent negative effects of peer victimization on mental and physical health outcomes have been well-documented, and long-term follow-ups demonstrated that negative outcomes can persist (Swearer & Hymel, 2015; Ttofi, Farrington, Lösel, & Loeber, 2011). Although empirical evidence and conceptual models suggested great fluidity in roles in the peer victimization process over time (Swearer & Hymel, 2015), longitudinal research has shown that peer victimization in childhood was associated with increased risk for peer victimization during adolescence (Sourander, Helstelä, Helenius, & Piha, 2000). Thus, better understanding patterns of victimization continuity and discontinuity over time, and the cumulative impact of different patterns on psychosocial adjustment, can inform efforts to prevent and intervene with students affected by peer victimization. In this four-wave longitudinal study, we used latent profile analysis to explore patterns of continuity and discontinuity in peer victimization over the course of middle to high school (Grades 8–11), across a range of peer victimization experiences. Guided by the social-ecological diathesis-stress model, we assessed how different victimization patterns were associated with life satisfaction, alcohol use, suicidal thoughts, and behavioral and emotional problems at Grade 11.

The social-ecological diathesis-stress model

A social-ecological diathesis-stress framework was proposed to understand the complex dynamics of peer victimization and its consequences (Swearer & Hymel, 2015). The social-ecological framework

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recognized that peer victimization was not simply an individual phenomena; rather, victimization happens within dynamic peer, family, and school contexts that can maintain, promote, or diminish future involvement. Swearer and Hymel (2015) noted that roles (e.g., victim, aggressor, bystander) were relatively fluid over time. This model suggested that changing peer and school contexts, such as when students transition to high school, can alter previous peer victimization patterns. The diathesis-stress component of the framework acknowledged that individual and biological vulnerabilities interact with the stressful experience of peer victimization to increase the odds of poor psychosocial adjustment (Swearer & Hymel, 2015). Thoughts about negative life events, such as peer victimization, influenced risk for internalizing and externalizing symptoms and problems with social relationships (Swearer & Hymel, 2015). These psychosocial consequences, in turn, increased risk for subsequent victimization and aggression, and for continued negative psychosocial outcomes. Supporting this theory, a research study examining the longitudinal relations between peer victimization and negative outcomes found that levels of involvement at the beginning of middle school predicted problem behaviors two years later (Lester, Cross, & Shaw, 2012). In sum, this theory suggested that youth may experience different patterns of peer victimization over their school careers depending on shifts in their ecological context and the degree to which individual vulnerabilities interact with the stress of victimization.

Understanding longitudinal patterns in peer victimization

Traditionally, researchers have classified students into groups based on their frequency of peer victimization using statistically based (e.g., 1 SD over or under the mean) or frequency-based methods (2–3 times a month or more; Solberg & Olweus, 2003). The relation of these groups of students to concurrent or longitudinal outcomes is then determined. Using frequency cut-score criteria among middle school youth, Baly, Cornell, and Lovegrove (2014) found that the most stable group was the nonvictimized group, as measured by self- or peer-report. However, 51% of youth reported being victimized in at least one of the three time periods assessed. Some of the initially victimized students moved into stable nonvictimized groups in subsequent years. Results indicated that youth who were victimized fared worse than nonvictims in terms of psychosocial outcomes.

With two age cohorts, using cross-lagged panel analysis across three waves of data, Sentse, Kretschmer, and Salmivalli (2015) explored the longitudinal associations between aggression, victimization, and social status. Results highlighted the complexity in understanding the factors associated with continuity and discontinuity in victimization, aggression, and social status. After considering construct stability and concurrent associations, for younger boys, aggression at Time 2 was significantly associated with less peer acceptance at Time 3. However, for older youth, there was no association. The Sentse et al. study found less support for prior victimization and aggression predicting subsequent peer rejection than it did for peer rejection predicting peer victimization and aggression, within certain contextual factors. Overall, the authors reported that the associations between victimization, aggression, and different measures of social status were complex, with associations varying by age as well. Additional longitudinal research will help clarify how patterns of victimization may change with age, particularly when employing statistical methods such as latent class analysis (LCA), that consider intra-individual differences in reported victimization.

In a study of middle school students, Bettencourt and Farrell (2013), used LCA to identify four classes of students involved in peer aggression and victimization: nonvictimized aggressors, aggressive victims, predominantly victimized youth, and well-adjusted youth. These four groups resembled those found using the traditional classification methods (Solberg & Olweus, 2003). There were no gender differences in class membership, but there were differences in aggression-related constructs that supported these classes. For instance, youth who aggressed towards others had stronger beliefs supporting aggression than the predominantly victimized and well-adjusted classes. In another study

using the same sample, Bettencourt, Farrell, Liu, and Sullivan (2013) examined the stability of the LCA classes over two time points, and factors associated with changes in victimization patterns. Using latent transition analysis, they found that membership in the well-adjusted class was the most stable, whereas membership in the predominantly victimized class was the least stable. The non-victimized aggressors were most likely to be in the same class or in the aggressive-victim class at follow-up. The aggressive victims were the least likely to transition into the well-adjusted class at follow up and were the most likely to have emotion dysregulation and anxiety. Increased under-standing of how victimization groups vary over longer time periods may help scholars and school professionals interrupt patterns of peer victimization.

A longitudinal study using LCA with elementary school children also identified four groups: aggressor, victim, aggressor-victim, and uninvolved (Williford, Brisson, Bender, Jenson, & Forrest-Bank, 2011). There was a substantial change in class membership over the three time points assessed and change was more common than stability—the uninvolved students showed the most stability. These findings supported the hypothesis that changing school contexts helped some but not all students. Given the equivocal findings of LCA victimization studies, it is important to further examine patterns of victimization continuity and discontinuity over the school transitions, and their long-term impact on psychosocial adjustment. It is also important to examine many forms of peer victimization, including sexual harassment, which this study did not assess. This is because types of peer victimization experienced vary by sex of the target (Felix & Green, 2010). By having a more comprehensive view of the different peer victimization experiences, we can better understand their relation to long term psychosocial adjustment.

Current study

The growing body of research examining continuity and discontinuity in peer victimization was promising; however, there are several gaps in knowledge that the current study addresses. First, we use latent profile analysis (LPA), which allows us to group participants based on observed response patterns across multiple time points (Collins & Lanza, 2003). These profiles are empirically created versus logically derived groups based on arbitrary author-defined cut scores. LPA offers an empirical method of examining patterns of victimization continuity and discontinuity that can extend research that has relied on classification methods that use cut scores (e.g., Baly et al., 2014). Given a social-ecological diathesis-stress framework for understanding peer victimization, the identification of patterns of continuity and discontinuity over the course of middle to high school could inform prevention and intervention efforts to address victimization and its psychosocial consequences. Many schoolwide prevention programs end at middle school (e.g., Second Step); thus, informing efforts to intervene is especially important for high school. Second, research suggests that patterns of peer victimization and aggression and their relation to outcomes varied by age cohorts (Sentse et al., 2015). Participants in the present study were older than previous samples, thus extending the body of knowledge to adolescence and the transition to high school. Per social-ecological theory, the change in school contexts may influence involvement in victimization. Third, when determining victimiza-tion groups, prior research has not included relational victimization (Bettencourt & Farrell, 2013; Bettencourt et al., 2013) or sexual harassment (Baly et al., 2014; Williford et al., 2011). These are particularly salient victimization types to include for older youth, because physical aggression tended to decrease, but sexual harassment and relational victimization increased with age (Felix & Green, 2010; Murray-Close, Nelson, Ostrov, Cases, & Crick, 2016). Fourth, these forms of victimization have a gendered component and tend to show sex differences in rates (Felix & Green, 2010) that make it necessary to explore the roles of sex in patterns of continuity and discontinuity. Our specific research questions/hypotheses are:

RQ1: Given the social-ecological component of our guiding framework, what are the patterns of continuity and discontinuity in peer victimization during middle and high school? We expect a relatively low victimization group, a group who experience a reduction in victimization, and a group who experience high levels of victimization.

RQ2: Is sex a covariate for patterns of victimization?

RQ3: Given the diathesis-stress component of our guiding framework, how do patterns of continuity and discontinuity relate to psychosocial adjustment (life satisfaction, alcohol use, suicide attempt, and behavioral/emotional problems) at Grade 11?

In their review, Swearer and Hymel (2015) connect a variety of quality of life indicators to the experience of peer victimization. We examined these indicators of adjustment individually, and collectively in terms of proportion of students showing risk for none or all negative outcomes. We expect students who experienced high levels of victimization to have worse outcomes that those students who were less victimized, or whose victimization stopped/reduced by Grade 11.

Method

Participants

All eighth-grade students (approximately 302 students) from one junior high school in central California were invited to participate. Of the students invited to participate, 52% returned active parental consent forms, provided youth assent, and participated in the research study (*N* = 157). Students completed self-report surveys annually during Grades 8–11. The average age of students at study entry (Grade 8) was 13.3 years (*SD* = 0.5). The participating school reported 36.7% of their students receive free or reduced lunch. Of the 157 participating students at Grade 8, 113 students, representing 72% of the original sample, remained involved throughout the study. Students with data on at least two time points (*N* = 135) were included in the final sample. The final sample was 53% female; 47% Latinx, 44% White, 9% African American, 6% Asian, 6% Native American, 2% Native Hawaiian or Pacific Islander, and 18% other (mixed). The demographics were similar to the school's demographic characteristics.

Measures

The California Healthy Kids Survey (CHKS; http://chks.wested.org/about) items were used to assess peer victimization, alcohol use, and suicidal thoughts. The CHKS is a surveillance instrument to establish prevalence in populations, and items have been frequently used in research (Esser, Clayton, Demissie, Kanny, & Brewer, 2017; Felix, Furlong, & Austin, 2009; Felix & You, 2011; Price & Khubchandani, 2017). Prior research supported the utility of the survey items (e.g., Hanson & Kim, 2007).

Victimization

Students responded to four items on the frequency of their experiences with physical, verbal, relational, and sexual victimization. Students were asked how often, over the past 12 months, they have: "been pushed, shoved, slapped, hit or kicked by someone who wasn't just kidding around at school" (physical); "been made fun of because of your looks or the way you talk at school" (verbal); "had mean rumors or lies spread about you at school" (relational); and "had sexual jokes, comments, or gestures made to you at school" (sexual). Response options were: *never, 1 time, 2–3 times*, or *4 or more times*. For each type of victimization, responses were dichotomized to *never* (0) or *1 or more times* (1). A sum score was created to represent the number of types of victimization in the past year at each grade. Specifically, 0 = *no victimization*; 1 = *reported one type (e.g., physical only)*; 2 = *reported two types*; 3 = *reported three types*; and 4 = *reported all four types of victimization*.

Alcohol use
Students responded to "During the past 30 days, on how many days did you use at least one drink of alcohol?" Item responses were coded to create an overall sum score: 0 = *0 days*, 1 = *1 day*, 2 = *2 days*, 3 = *3–9 days*, 4 = *10–19 days*, 5 = *20–30 days*.

Suicide
One dichotomous item (i.e., yes/no) assessed suicidal ideation, "During the past 12 months, did you seriously consider attempting suicide?"

Life satisfaction
Items from Huebner's (1991a, 1995) Student Life Satisfaction Scale (SLSS) were used to assess global psychological well-being. The SLSS has shown good psychometric properties (Huebner, 1995), including significant positive correlations to self-esteem and internal locus of control and negative correlations to anxiety (Huebner, 1991b). Sample items include: "My life is going well" and "I wish I had a different kind of life." Response options ranged from 1 (*strongly disagree*) to 6 (*strongly agree*). After reverse scoring relevant items, a sum score was created to represent life satisfaction. For the current sample, Cronbach's alpha was .84, consistent with prior research (Proctor, Linley, & Maltby, 2009).

Behavioral and emotional functioning
Students completed the *Behavior Assessment System for Children-2 Behavioral and Emotional Screening System Student* (BESS Student; Kamphaus & Reynolds, 2007), a 30-item self-report behavior rating scale. Participants rate in general their inattention/hyperactivity (e.g., difficulty sitting still), internalizing problems (e.g., depression, anxiety), school problems (e.g., attitude to school and teachers), and personal adjustment (e.g., social stress). The combination of these four dimensions comprise the Behavioral and Emotional Risk Index (BERI) score. Items use a 4-point response scale (*never* to *almost always*) and the sum raw score is transformed to a total T score ($M = 50$, $SD = 10$), higher scores indicate more problems. The BESS Student has good split-half (.90–.93) and test–retest (.80) reliability estimates, and correlates with other measures of behavioral and emotional problems (e.g., ASEBA Youth Self Report Total Problems .81; Kamphaus & Reynolds, 2007). For this study's sample, the BESS Student BERI had $\alpha = .74$ and good long-term stability (Dowdy, Nylund-Gibson, Felix, Morovati, & Dever, 2014).

Degree of psychosocial problems
Adolescents rarely experience psychosocial problems in isolation. Instead, problems such as alcohol use, lack of life satisfaction, and behavioral and emotional symptoms tend to cluster together (e.g., Jessor & Jessor, 1977). To assess the number of psychosocial problems students experienced, a variable was created that identified the degree to which students experienced multiple psychosocial problems. Binary categorical variables were created for alcohol use, life satisfaction, and behavioral and emotional risk, indicating risk or no risk. Students who indicated alcohol use for at least one day in the last 30 days (25.7%), who scored in the at-risk range on the BESS Student BERI (T score of 60 +), and with life satisfaction sum scores that fell one SD below the mean were considered as at-risk, because these cutoffs represent the minority of students who may be at risk on the given variable. These binary variables were summed (range 0–3).

Procedure

The data for this longitudinal study were collected as part of the local evaluation of a Safe Schools/ Healthy Students project. Participating students were administered self-report surveys during the fall of four consecutive academic years, starting in Grade 8 in 2009. Students were excused from class

during the regular school day to participate. Surveys were linked over time using unique identification numbers instead of names.

As the students were in Grade 8 at study entry, they were tracked into their respective high schools for follow-up surveys. Students who did not enroll in one of four district public high schools (e.g., attended a private school, $n = 24$) were unavailable for inclusion in the study in subsequent years, which represented the largest reason for attrition. Some students were unavailable to complete surveys in any given year as they were enrolled in nontraditional education programs, including independent study ($n = 7$), alternative/continuation high school ($n = 4$), or home-hospital instruction ($n = 2$). The research team made multiple attempts to locate each student during each data collection window. Students who left the study had significantly higher self-reported levels of behavioral and emotional risk in Grade 8 than those who remained for all four years, $t(153) = -3.52$, $p < .05$.

Compliance with ethical standards

University Institutional Review Board approval was obtained for the study procedures. Active parental consent was obtained at study enrollment, with annual letters to parents reminding of their child's participation, and to inform the school contact or research team if they no longer wanted their child to participate. At each survey administration, university personnel informed students that their participation was voluntary and that their responses were confidential.

Data analysis plan

A series of LPAs were conducted using M*plus* 7.4 (Muthén & Muthén, 1998–2016) to empirically identify patterns of longitudinal victimization experiences among youth. A one-profile model was run first, followed by subsequent models containing one additional profile, until adding profiles achieved little improvement in fit. All models were run using Full Information Maximum Likelihood estimation, which includes participants that have data on at least one observed variable. Several fit indices were used, as no single criterion identifies the best fitting model (Nylund, Asparouhov, & Muthén, 2007). The fit statistics included the Bayesian Information Criterion (BIC), the sample size Adjusted BIC (ABIC), the bootstrap likelihood ratio test (BLRT) and the Lo-Mendell-Rubin (LMR) test. A nonsignificant p-value indicated adding an additional profile did not significantly improve the model. Entropy values range between zero and one; higher values indicate better classification and profiles that are more clearly delineated from one another (Nylund, Bellmore, Nishina, & Graham, 2007). Once the best fitting unconditional model was identified, item mean plots were interpreted to give names to the profiles based on response patterns.

Sex was included in the model as a covariate using the three-step method (Nylund-Gibson, Grimm, Quirk, & Furlong, 2014) to evaluate if sex predicts latent profile membership.

Distal outcomes (psychosocial adjustment) were added using the Bolck, Croon, and Hagenaars (BCH, 2004) approach to examine whether the means were significantly different by profile. Chi-square tests of independence were conducted to examine the relation between profile membership and the categorical variables of (a) seriously considering suicide in the last year, and (b) degree of psychosocial problems.

Results

Table 1 displays descriptive statistics. Overall, the number of types of victimization decreased from Grades 8 to 11. In Grade 11, approximately 74.3% of students reported no alcohol use in the past 30 days, and 12.5% of students endorsed seriously considering suicide in the past 12 months. Behavioral and emotional risk scores were on average in the no risk range.

Table 1. Descriptive statistics for the victimization and psychosocial adjustment.

Variables	M	SD
Number of victimization items endorsed		
Grade 8	2.08	1.50
Grade 9	1.41	1.36
Grade 10	1.41	1.38
Grade 11	1.09	1.33
Psychosocial adjustment		
Life satisfaction (range 4–24)	16.58	4.84
Alcohol use (range 0–5, 1 = 1 day; 5 = 20–30 days)	0.62	1.21
Behavioral and emotional risk index score (T score)	50.32	11.19
Number of psychosocial problems (0–3)	0.62	0.90

Assessing patterns of continuity and discontinuity

A total of six LPA models were run consisting of one through six profiles. Fit information is presented in Table 2. Most fit indices supported a four-profile model. The BIC reached a minimum value at four profiles while the ABIC did not reach a minimum value. The first nonsignificant p-value of the LMR and BLRT was found beginning with the five-profile model, which also provided evidence for a four-profile model. Thus, the four-profile model was chosen. The entropy for the four-profile model is .78, suggesting the profiles are clearly delineated and that participants were well grouped into these profiles. The four profiles are labeled: *continuously high victimization, inconsistent victimization, revictimization*, and *continuously low victimization*.

Item-mean plots provide the profile-specific mean victimization scores at each time point and are used to describe the profiles (see Figure 1). The continuously high victimization profile (19%) had several types of victimization across all four years (approximately three types of victimization in Grades 8–11). Youth in the inconsistent victimization profile (14%) indicated experiencing several types of victimization in Grades 8–10 (varying year to year), and very few types of victimization in Grade 11 (close to zero types). Youth in the revictimization profile (14%) endorsed multiple types of victimization in middle school (Grade 8), followed by few types of victimization in Grades 9 and 10, but re-experienced several types in Grade 11. Youth in the continuously low victimization profile (53%) reported the fewest types of victimization across all four years.

Table 3 further examines these profiles by identifying the percentage of students that experienced at least one type of victimization within each latent profile, by grade and type of victimization. The percentage of students in the continuously high victimization profile that experienced any of the forms of victimization, between Grades 8 and 11, was high relative to the other groups. Verbal and relational victimization increased to 85.7% and sexual harassment increased to 95.0%. However, the percentage of students that experience physical victimization decreased to 57.1%. Regarding the inconsistent victimization profile, after a Grade 10 rebound to very high levels across all victimization experiences, all types of victimization declined to the degree that only 6.7% of students endorsed verbal, physical, relational, and sexual harassment victimization by Grade 11. For the revictimization profile, the types of victimization decreased each year from Grades 8–10. However, in Grade 11 youth in this profile increased in types of victimization,

Table 2. Fit Information for the LPA models.

Number of classes	Log likelihood	BIC	ABIC	*p*-value of BLRT	*p*-value of LMRT
1	−840.74	1720.73	1695.42		
2	−769.21	1602.19	1561.06	< .01	< .01
3	−749.76	1587.81	1530.87	< .01	< .05
4	−726.69	**1566.21**	1493.45	**< .01**	**< .01**
5	−718.19	1573.72	1485.15	.05	.81
6	−707.66	1577.20	1472.81	.01	.51

Note. BIC = Bayesian information criterion; ABIC = adjusted Bayesian information criterion; BLRT = bootstrapped likelihood ratio test; LMRT = Vuong-Lo-Mendell-Rubin Test. Boldface indicates the preferred model by fit index.
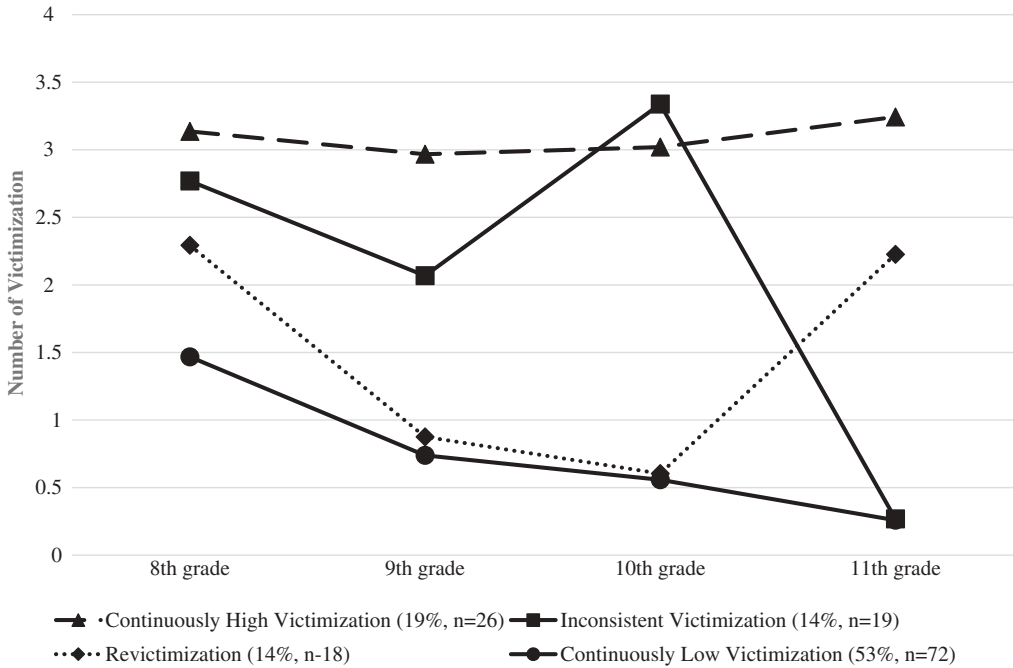
Figure 1. Item mean plot for the LPA using the longitudinal victimization items.

Table 3. Percentage of students experiencing at least one type of victimization within each latent profile, by grade and type of victimization.

Victimization type	Victimization profile	Grade			
		8	9	10	11
Physical	Continuously high[a]	67.9	59.3	37.0	57.1
	Inconsistent[b]	70.6	37.5	86.7	6.7
	Revictimization[c]	66.7	14.3	6.7	40.0
	Continuously low[d]	39.2	14.9	7.6	1.6
Verbal	Continuously high[a]	75.0	81.5	85.2	85.7
	Inconsistent[b]	70.6	56.3	78.6	6.7
	Revictimization[c]	53.3	14.3	26.7	40.0
	Continuously low[d]	32.9	18.2	18.2	8.1
Relational	Continuously high[a]	81.5	74.1	96.0	85.7
	Inconsistent[b]	76.5	50.0	93.3	6.7
	Revictimization[c]	42.9	28.6	6.7	60.0
	Continuously low[d]	37.8	21.5	12.3	3.2
Sexual	Continuously high[a]	85.7	85.2	88.0	95.2
	Inconsistent[b]	76.5	56.3	86.7	6.7
	Revictimization[c]	53.3	30.8	14.3	86.7
	Continuously low[d]	39.2	19.7	21.2	14.8

[a]$n = 26$. [b]$n = 19$. [c]$n = 18$. [d]$n = 72$.

across all types of victimization, but with the greatest increase in sexual harassment (86.7%). Across all years, the continuously low victimization group reported the lowest level of victimization across all types. The year they experienced the most victimization (comparatively) occurred in Grade 8. Only 1.6% endorsed physical victimization and only 3.2% reported relational victimization in Grade 11.

Sex was included in the model as a covariate via multinomial logistic regression using the three-step method (Nylund-Gibson et al., 2014) to evaluate if sex predicts latent profile membership. No major shift in response patterns or profile proportions occurred after adding sex to the LPA. Each profile was rotated as the reference group. Female students were significantly more likely to be in the

continuously high victimization profile compared to the revictimization (logit = 2.40, p < .05; OR = 11.01), continuously low victimization (logit = 1.49, p < .05; OR = 4.45), and inconsistent victimization profiles (logit = 1.83, p < .05; OR = 6.20).

The relation to psychosocial adjustment

Three indicators of psychosocial adjustment (assessed in Grade 11) were added into the final model (see Figure 2) as distal outcomes using the Bolck, Croon, and Hagenaars (BCH, 2004) to examine the predictive validity of the profiles. For global life satisfaction, the continuously high victimization profile had a significantly lower score than the revictimization, continuously low victimization, and inconsistent victimization profiles. The continuously high victimization profile reported significantly more alcohol use compared to the inconsistent victimization profile. For behavioral and emotional risk, the continuously high victimization profile had a significantly higher score (in the elevated risk range) compared to the revictimization and the continuously low victimization profiles. Overall, the continuously high victimization profile had poorer outcomes in relation to life satisfaction, alcohol use, and behavioral and emotional risk.

As suicide risk was dichotomous, we explored the association of the profiles to this outcome using chi-squares. The proportion of students in each profile that seriously considered suicide in the last year was significantly different, χ^2 = 12.56, df = 3, p < .01. Overall, youth in the continuously high victimization profile had a greater percentage of students that seriously considered suicide. Specifically, 33.3% (n = 7) of the students in the continuously high victimization profile indicated considering suicide. This compares with none of the students in the revictimization or inconsistent victimization profile did. Furthermore and 11.3% (n = 7) of the students in the continuously low victimization profile reported considering suicide.

The proportion of students who experienced one, two, or all three types of psychosocial problems was significantly different by profile, χ^2 = 23.01, df = 9, p < .01. Overall, a higher percentage of students in the continuously high victimization (28.6%, n = 6) profile were in the at-risk range for all three types of psychosocial problems (alcohol use, behavioral and emotional risk, and life satisfaction), compared to none of the students in the inconsistent victimization profile. Only 1.6% (n = 1) of the students in the continuously low victimization profile and 6.7% (n = 1) in the revictimization profile were in the at-risk range for all three types of psychosocial problems. Consistent with this pattern, most of the students who were not in the at-risk range for any of the psychosocial problems (i.e., 0 problems) were in the continuously low victimization profile 69.4% (n = 43). This compares with 66.7% (n = 10) of the students in the inconsistent victimization profile, 46.7% (n = 7) in the revictimization profile, and 33.3% (n = 7) of the students in the continuously high victimization profile.

Discussion

This study contributed to the growing empirical focus on longitudinal patterns of continuity and discontinuity in peer victimization, and extended it to the transition from middle to high school, where changing school contexts can change risk for peer victimization. We subsequently examined how the profiles related to sex and a variety of psychosocial outcomes in a longitudinal examination of how continuity and discontinuity in peer victimization experiences affect adolescents over time.

Patterns of continuity and discontinuity

We identified four profiles describing different patterns of peer victimization. Continuously low victimization (53%, n = 72) represented the majority of students in this sample, who experienced very few types of victimization throughout middle and high school. Continuously high victimization (19%, n = 26) represented students who reported experiencing several types of victimization consistently from Grade 8 through Grade 11. Inconsistent victimization (14%, n = 19) described
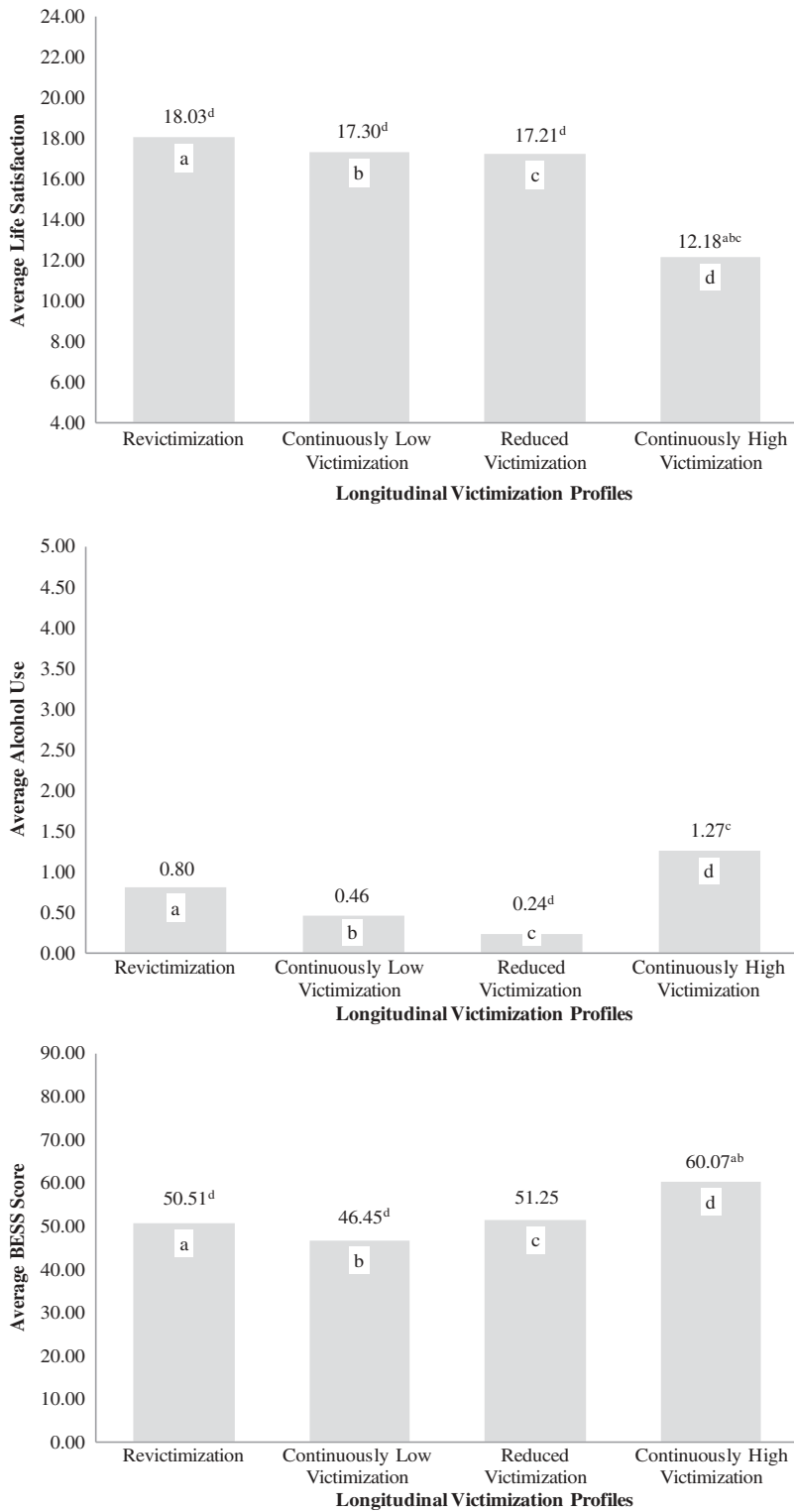
Figure 2. Average psychosocial adjustment outcome by victimization profile.

Note. Letters denote group, and subscripts indicate groups that significantly differ from one another.

students who indicated they experienced multiple types of victimization in Grades 8 through 10, and subsequently experienced very few kinds of victimization in Grade 11. Students in the revictimization (14%, $n = 18$) profile endorsed multiple kinds of victimization in Grade 8, followed by few types as they transitioned into high school, but then re-experienced several victimization types in Grade 11. These results are consistent with the social-ecological diathesis-stress model (Swearer & Hymel, 2015), which proposed that changing ecological contexts can alter victimization patterns over time for better or worse. These results also add nuance to established findings that peer victimization leads to future psychosocial difficulties (e.g., Ttofi et al., 2011); the group who report they consistently experienced many types of victimization annually had the worst outcomes. Thus, it is important to distinguish between continuous and discontinuous victimization over time rather than to rely on a single report of victimization at a particular time. Avoiding one or more types of victimization at one or more periods of time appeared to protect students from cumulative negative psychosocial outcomes associated with continuous victimization.

The victimization profiles were further understood by identifying the percentage of students who experienced each type of victimization within each latent profile at each grade. Data suggested that in Grade 11, within each profile, sexual harassment victimization received one of the highest levels of endorsement, compared to verbal, physical, and relational victimization. This is consistent with prior research demonstrating that sexual harassment is of increasing concern for many students as they transition into middle and high school (Felix et al., 2009; Felix & McMahon, 2007). Even 14.8% of students in the continuously low group report experiencing sexual harassment victimization in Grade 11 (compared to 1.6% of this group reporting the experience of physical victimization). This finding is critical because most research on peer victimization patterns has documented a decline in victimization after the middle school years; however, most studies did not include measures of relational victimization and sexual harassment (e.g., Bettencourt & Farrell, 2013). In our study, we demonstrate that while physical victimization was less prevalent by Grade 11, relational and sexual harassment were still pervasive, particularly for the continuously high and revictimization groups of students, who together make up 33% of the sample. This suggests the need for continued prevention and intervention efforts targeting these victimization experiences in high school.

Female students were significantly more likely to be in the continuously high victimization profile compared to the other three profiles. This result may be related to our conceptualization of peer victimization as including relational and sexual harassment victimization, which not only increases with age (Doty, Gower, Rudi, McMorris, & Borowsky, 2017), but may be more common among females than males (Felix & Green, 2010). Espelage, Basile, De La Rue, and Hamburger (2015) argue that sexual harassment reflects a specific cross-gender power dynamic that reifies male aggression and traditional gender roles. Thus, it is possible that females are particularly vulnerable to continuously high victimization due to gendered power dynamics.

A cluster analysis study (Felix et al., 2009) on victimization types in a sample of 70,600 high school students found a class that predominantly experienced sexual harassment victimization and was composed mainly of females (70.9%). In this sample, females were more likely than males to believe they were harassed or victimized because of their gender. Together with our longitudinal study findings, it appears that sexual harassment victimization increases over time and predominately impacts females, whereas physical victimization, decrease over time. Addressing the dynamics that support sexual harassment appears to be important in reducing peer victimization, particularly for those who experience continuously high victimization.

The relation of profiles to psychosocial adjustment

In terms of psychosocial adjustment, the continuously high victimization profile stands out from all other groups. They have the lowest life satisfaction, the highest mean scores on alcohol use and behavioral and emotional risk, and were at greater risk for seriously considering suicide. A higher percentage of these students were in the at-risk range for experiencing all three types of

psychosocial problems, and a lower percentage of those students experienced zero types of psychosocial problems.

Using the social-ecological diathesis-stress framework, these results indicated that the continuously high victimization group needs attention and support at the individual and peer- or school-levels to disrupt the dynamics that are contributing to repeated victimization and psychosocial difficulties. Efforts should be made to protect students from continuous victimization and to improve psychosocial adjustment. Although many students experienced some types of victimization from middle to high school, many coped with these aggressive intrusions and did not report substantial negative psychosocial effects. However, for the continuously high victimization group, the well-documented effects of peer victimization on psychosocial well-being were replicated in the sample. These students may have gaps in their social ecology that could be addressed to disrupt this harmful pattern of peer victimization. In the present sample, this included nearly one in five students, which attests to the substantial need for both prevention efforts and support programs.

Strengths and limitations

This study addressed significant gaps in the literature. In particular, longitudinal data regarding victimization experiences and various psychosocial outcomes is rare, but necessary, in order to better understand victimization patterns and their effect on psychosocial adjustment. Research has identified that level of involvement in peer victimization was fluid (Swearer & Hymel, 2015); but for some students, victimization was a continuous experience, leading to poor psychosocial adjustment. Moreover, we applied latent profile analysis instead of relying on simple cut points to identify meaningful profiles and connect them to psychosocial outcomes. We also asked about sexual harassment and relational victimization, which many prior studies of peer victimization have not included. There is growing recognition of the prevalence of sexual harassment and sexual assault at school (Tillyer, Gialopsos, & Wilcox, 2016).

Despite these strengths, there are limitations that can inform future research. The sample size was small and primarily made up of students with White and Latinx backgrounds, limiting the generalizability of results. Moreover, considering attrition, the perspectives of youths with more significant behavioral and emotional risk were missing. Other studies struggle with retaining the most at-risk youth in longitudinal research (e.g., Wang, Ryoo, Swearer, Turner, & Goldberg, 2017). All participants were recruited from the same school in Grade 8, and results may be affected by school-specific factors not measured in this study. Data were collected from students in a school district that received a Safe Schools/Health Students grant that offered programming to support students. This could have affected rates of victimization. Finally, we measured peer victimization only, and not peer aggression, which co-occur for some youth (Williford et al., 2011). We also did not include a measure of cybervictimization.

Implications for research

This study has implications for understanding the nature and course of peer victimization throughout middle and high school. First, we need more research on the peer victimization experiences of high school youth, and the cumulative toll these experiences may take on mental health and academic outcomes. Second, researchers need to understand the individual and social-ecological factors that may prompt revictimization, after a period of no or low victimization experiences. In this sample, we would like to know what happened in Grade 11 that led to revictimization for a substantial minority of students, who had not experienced victimization since Grade 8. Finally, what are the individual and social-ecological factors that allow the majority of students to avoid peer victimization (our continuously low group)? This can help provide the evidence-base for secondary intervention efforts.

Implications for policy and practice

Many schools conduct anonymous schoolwide screenings to identify and track numbers of students involved in peer victimization and determine factors for intervention, such as the most common locations of victimization on campus. This study suggests that schools need to identify specific students who are experiencing chronic victimization, in order to build their psychosocial skills and environmental supports to interrupt the victimization patterns that can lead to poor outcomes. Schools may want to consider making their surveys an outreach method as well, by proactively prompting students to answer yes or no to an item asking if they want to be contacted by a school mental wellness staff to talk about their experiences (see Sharkey, Reed, & Felix, 2017; for an example). This moves beyond just providing contact information at the end of the survey and hoping students call if needed.

Results suggest that chronicity and longitudinal patterns are important factors to consider for any individual student. The goal is not just to reduce the rate of victimization, but to help individual students with chronic, complex victimization patterns over time—cross-sectional, anonymous surveys cannot provide the information needed for true prevention. Schools may consider confidential surveys tracked over time instead, so that they can follow-up with students at higher risk. To date, there are very few evidence-based targeted interventions for the students for whom prevention efforts did not end their victimization (Felix, Greif-Green, & Sharkey, 2014). Many schoolwide prevention programs end at middle school ages; thus, it is important to consider how to intervene for high school students, and to focus on prevention of sexual harassment.

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