


Patterns of Elementary School Students' Bullying Victimization: Roles of Family and Individual Factors

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Abstract

Physical, verbal, and relational bullying victimization are common forms of bullying victimization. Some victims may suffer only one form of victimization and some may suffer multiple forms of victimization at the same time. Bullying victimization groups are heterogeneous and different forms of victimization may have different combination patterns. Previous studies assessed patterns of bullying victimization among junior and senior high school students. However, limited studies explored patterns among elementary students and explored possible factors in shaping these patterns from the integrated perspective of family and individual. We expanded and deepened research in this area using questionnaires to collect self-report data for 866 parent/child pairs. Latent profile analysis was used to explore patterns of elementary students. Multinomial logistic regression was used to examine relations between patterns and family and individual factors. We found three bullying victimization groups: severe (5.4%), verbal (13.6%), and non-bullying victimization (81%). In family factors, the time parents spent with children was a protective factor for bullying victimization, and negative interactions with

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children was a risk factor. Individual-level protective factors for bullying victimization were coming from a single child household, positive coping style, and perceived peer support, whereas a negative coping style was a risk factor. These results indicate that different forms of bullying victimization co-occur among elementary school students. Some family and individual factors are associated with bullying victimization patterns. It is important to consider the heterogeneity among the bullying victimization groups of elementary students and influencing factors to develop targeted prevention interventions for different bullying victimization groups.

Keywords

bullying victimization, latent profile analysis, influencing factors, elementary students

Introduction

School bullying refers to aggressive and repeated behaviors that are intended to cause harm to the victims (Olweus, 1993). Victims of bullying may experience physical, verbal, relational bullying (traditional bullying forms), or cyberbullying (Crick & Grotpeter, 1995; Slonje & Smith, 2008), and develop psychological and behavioral problems such as depression, anxiety, insomnia, truancy, and even suicide (Arseneault et al., 2010). Hence, as a serious public health problem, school bullying causes widespread concern worldwide. Research suggests that bullying is showing a tendency of younger age, which begins to appear in elementary school (Hong & Espelage, 2012; Veenstra et al., 2005), with a high frequency of verbal bullying victimization, followed by physical bullying victimization (Olweus, 1993; Zhang et al., 2001). The findings highlight the importance of early intervention for verbal and physical bullying victimization.

However, it is noteworthy that interventions are individualized, especially because students often experience different forms of bullying victimization rather than a specific form (Wang et al., 2010; Xie et al., 2019). For example, some victims reported a high level of verbal bullying and low levels of physical and relational bullying, whereas others experienced a high level of all three forms of bullying at the same time (Lee et al., 2021). This suggests there is heterogeneity in bullying victimization groups, which means that even within a victim group, there are individual differences in the forms and characteristics of bullying victimization. However, these studies focused on junior and senior high school students, and few have paid attention to the heterogeneity of bullying victimization among elementary school students. Studies that investigated bullying victimization among elementary students

mainly considered participants as a homogeneous group, such that the findings reflected an overall situation of such groups (Carter et al., 2020; Sakellariou et al., 2012) and ignored individual differences. Therefore, it is important to consider individual differences within victim groups and explore the combination and distribution of different bullying victimization forms in elementary students.

Besides, clarifying factors that influence patterns of bullying victimization can help us to understand where to start to protect students with different patterns. Research shows that both individual factors (e.g., gender, age, and coping style) (Arseneault et al., 2010; Hong & Espelage, 2012) and family factors (e.g., family poverty, parents' marital status, parental violence, and parenting style) can predict bullying victimization (Ding et al., 2020; Zhu et al., 2018). Based on a review of the literature, we found that individual and family factors related to junior and senior high school students who had been the victims of bullying were commonly studied (Ding et al., 2020; Seo et al., 2017; Shaheen et al., 2019; Zhu et al., 2018), but elementary students were less frequently the target of such research. Given that bullying is common in elementary school (Huang et al., 2013; Veenstra et al., 2005), and there may be different patterns of bullying victimization in this age group, it is important to explore factors influencing these patterns to inform bullying interventions in elementary schools. Therefore, this study examined the roles of family and individual factors in elementary students' victimization patterns to promote understanding of individual differences and inform targeted interventions for bullying problem of elementary students.

Patterns of Bullying Victimization

A few studies have explored combined forms of bullying victimization and confirmed that the distribution of bullying victimization in specific groups is indeed heterogeneous. For example, Wang et al. (2010) identified three heterogeneous victimization classes among adolescents: all-types victims, verbal/relational victims, and non-victims. Xie et al. (2019) identified four patterns of bullying victimization among Chinese adolescents: an all-type (traditional and cyber) bullying victimization, traditional victimization, mild traditional victimization, and non-victimization. However, most current research on bullying victimization patterns focusing on junior and senior high school students, and such patterns among elementary students are still unclear. In fact, bullying exists commonly in elementary schools (Huang et al., 2013; Veenstra et al., 2005). Elementary students' physical and mental development is immature and they have not yet acquired social skills. This means they are more likely to be bullied by older children and cannot effectively deal with bullying incidents (Smith et al., 1999). In addition, a lack of empathy (Ladd et al., 2017) means children may be unaware of the negative effects of their

bullying behaviors on their victims (Smith et al., 1999). This may contribute to the relatively high frequency of bullying and victimization among elementary school students. Moreover, elementary school students who experienced bullying were likely to be at high-risk for psychiatric problems in later life (Arseneault et al., 2010). Therefore, the present study will explore specific combined forms of bullying victimization in the early learning stage to build understanding of the individual differences in bullying victimization, and enhance targeted interventions for different subgroups.

In addition, age restrictions on social media, less sophisticated phone and Internet skills, and parental monitoring of online behavior make a relatively low incidence of cyberbullying among elementary students (Carter et al., 2020; Sakellariou et al., 2012). Therefore, this study focused on physical, verbal, and relational bullying, and did not include cyberbullying in the exploration of bullying victimization patterns among elementary students.

Family Factors and Bullying Victimization

Family systems theory (Minuchin, 1985) suggests that family is the most important place for children's personality growth and social behavior acquisition (Cross & Barnes, 2014). Therefore, family factors including family demographic variables (e.g., parents' marital status, education level, and income level) and parent-child interaction variables may impact how elementary students behave and react in school social life. Zhang et al. (2020) found that youth from poor families had an increased risk for bullying victimization. Students who came from low income families were left out of their peer groups as they were unable to afford, possess, or enjoy some resources that required payment, which made them more vulnerable to bullying victimization (Tippett & Wolke, 2014). In addition, parents' education level was a significant predictor of bullying victimization (Shaheen et al., 2019). Parents' education can be considered a strong indicator of positive child-rearing practices (Roubinov & Boyce, 2017), and children from families with positive parenting reported less bullying victimization (Lereya et al., 2013). In terms of parents' marital status, Zhang et al. (2020) found that youth living in two-parent families had a reduced risk for peer victimization compared with those from single parent families.

Parent-child interaction factors, such as parents' accompaniment (i.e., time spent with the child) and involvement, helped to reduce the probability of a child being bullied (Lereya et al., 2013). Factors such as parents' neglect and violence were positively associated with students' bullying victimization (Nocentini et al., 2018; Zhu et al., 2018). Attachment theory (Bowlby, 1988) suggests that warm care and positive responses from parents help children develop a safe attachment style with which they can better adapt to new environments and reduce the risk for being bullied in school (Murphy et al.,

2017; Walden & Beran, 2010). In addition, the developmental victimology framework (Finkelhor et al., 2007) posits that experiencing some forms of victimization may elicit individuals' vulnerability to other forms of victimization. Children who experienced victimization at home may "learn" this behavior and signal internalized weakness as a personal trait to others (Wilczenski et al., 1997). Therefore, exposure to parental violence and scolding may increase children's sense of weakness and inferiority, leading to a high possibility of being bullied at school (Cluver et al., 2010; Zhu et al., 2018).

Individual Factors and Bullying Victimization

Evocative effects (Scarr & McCartney, 1983) mean that children's own characteristics and behavioral performance influence how other people treat them. Therefore, children's bullying victimization may also be associated with individual factors. Previous studies identified individual demographic factors that were closely related to bullying victimization, including gender, age, and coming from single child households (Arseneault et al., 2010; Seo et al., 2017; Wang et al., 2010). For example, male adolescents were more likely to experience physical bullying than females, whereas female adolescents were more likely to experience relational victimization than males (Bradshaw et al., 2015; Crick & Grotpeter, 1995). Many studies showed younger students usually reported significantly higher levels of bullying victimization than older students (Ladd et al., 2017; Wang et al., 2010). Children from single child households were also more likely to be targets for bullying (Huang et al., 2013).

Moreover, coping styles and perceived social support from others affect bullying victimization (Hansen et al., 2012; Holt & Espelage, 2007). Individuals that adopt negative coping styles (e.g., avoidance and denial) have a higher risk for being bullied than those with positive coping styles (Hansen et al., 2012; Wilton et al., 2000). This kind of negative performance violates the age-appropriate expectations of sociability, and results in exclusion of these children. In addition, after being bullied, these children seldom seek help or learn negotiation skills, which contributes to continued victimization (Wilton et al., 2000). Perceived social support is a protective factor for victims (Cluver et al., 2010). Specifically, social support provides a safe environment that allows individuals to disclose their experience of bullying victimization, which helps them to cope with such experiences (Vannucci et al., 2021).

Present Study

Through reviewing relevant literature, we identified some limitations in existing research. First, some studies on patterns of bullying victimization had

a combined focus on junior and senior high school students, but seldom considered elementary school students. Second, when considering individual differences among elementary school students, it remains unclear what roles multiple family and individual factors play in influencing different bullying victimization patterns. Therefore, we aimed to address these two areas. First, this study explored patterns of bullying victimization present among Chinese elementary school students. Second, this study examined the potential roles of family factors (e.g., parents' marital status, family income, parents' education level, and parent-child interaction) and individual factors (e.g., gender, age, coping style, and perceived social support) in shaping patterns of bullying victimization.

Method

Participants and Procedures

In total, 1596 students from three elementary schools in Zhejiang, China and 1550 parents participated in this survey. As elementary students are relatively young, their knowledge of some family issues, such as their parents' age and education level, family income, and specific interactions with their parents may not be particularly accurate; therefore, we obtained family information by surveying parents to increase the credibility of research results.

We linked the databases for students and parents using the name of each student. After linking the two databases, effective paired data were obtained for 866 child-parent pairs. Participating students' mean age was 10.55 (standard deviation [SD] = 0.93) years, with a range of 9–13 years (10 participants did not report their age). Of the 866 students, 478 (55.2%) were boys and 388 (44.8%) were girls. In total, 392 (45.3%) children were from single child households. As the reading and comprehension skills of children in the lower grades were insufficient, we recruited students from grades 4 to 6 who attended school on the investigation day.

Before the formal investigation, research assistants explained the purpose of the study and the voluntary nature of participation, and highlighted that participants were free to withdraw from the survey at any time. Written informed consent was obtained from the school principals, classroom teachers, and students. Participants completed the questionnaire packages in the classroom setting. It took about 30 minutes for participants to complete the demographic information and questionnaires.

Parents (free choice of father or mother) were asked to complete questionnaire on the WeChat. The mean age of parents was 37.89 (SD = 4.71) years, with a range of 28–52 years. Most parent participants were mothers (76.8%). Analysis of parents' educational level showed that 644 (74.4%) had a middle school education or below, 219 (25.3%) had a university degree, and

three (0.3%) had a postgraduate degree. Most ($n = 789$, 91.1%) reported their marital status as married, 50 (5.8%) were divorced (not remarried), 22 (2.5%) were divorced (remarried), five (0.6%) were widowed (not remarried), and none reported being widowed but remarried.

Measures

Bullying victimization. Bullying victimization was measured with the Delaware Bullying Victimization Scale-Student Chinese Revision (Xie et al., 2018). The scale has a four-factor structure with 17 items covering verbal bullying victimization (e.g., “Someone made hurtful jokes on me”), physical bullying victimization (e.g., “I was deliberately pushed by others”), relational bullying victimization (e.g., “Some students told or egged others not to be friends with me”), and cyberbullying victimization (e.g., “Someone posted bad or hurtful information about me through social networking sites, such as WeChat, QQ, and Weibo”). Because participants were elementary students, the cyberbullying victimization items were not used in this study. Participants responded to the items using a 6-point Likert scale from 0 (never) to 5 (every day). A higher score indicated a higher level of bullying victimization. Participants that scored any item as ≥ 2 (i.e., “once or twice a month” or more) were considered to have been bullied on the dimension that item measured (Xie et al., 2018). In the present study, the scale had good internal reliability ($\alpha = 0.95$) and construct validity: chi-square values ($\chi^2 [46] = 335.98$, comparative fit index (CFI) = 0.97, Tucker-Lewis index (TLI) = 0.95, root mean square error of approximation (RMSEA) (90% confidence interval [CI]) = 0.085 (0.077–0.094), and standardized root-mean-square residual (SRMR) = 0.028.

Family factors. Parents reported on family demographic information questionnaire (marital status, family income, parents’ education level) and parent-child interaction questionnaires (e.g., accompaniment time, frequency of parents relieving children’s stress and emotions, hitting the child, and treating the child in an embarrassing way). Accompaniment time was assessed with the item: “In the past year, how much time did you spend with children on average every day?” Participants responded on a 6-point Likert scale from 1 (less than 1 hour) to 6 (more than 5 hours). Items used to assess the frequency of parents relieving their child’s stress and emotion or hitting their child were evaluated on a 5-point Likert scale from 1 (never) to 5 (always). Responses to the item “I often treat a child in an embarrassing way” were on a 4-point Likert scale from 1 (never) to 4 (always).

Individual factors. Students reported individual demographic information (gender, age, grade, whether they came from a single child household) and

completed coping style and perceived social support scales. **Coping style** was measured with the Coping Style Inventory, which was revised based on Hsiao (2001). This scale has a four-factor structure with 17 items covering positive cognition (e.g., “I tend to see things optimistically”), avoidance (e.g., “I tend to try to forget this matter”), negative venting (e.g., “I tend to lose my temper with others”), and help seeking (e.g., “I tend to talk to my friends about my feelings”). Avoidance and negative venting are considered negative coping styles, and help seeking and positive cognition are positive coping styles. Participants responded to these items on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The higher the individual’s score on each subscale, the more that coping style was adopted. In the present study, the scale had good internal reliability ($\alpha = 0.94$) and construct validity: $\chi^2(113) = 671.252$, CFI = 0.94, TLI = 0.92, RMSEA (90% CI) = 0.076 (0.070–0.081), and SRMR = 0.046. Perceived social support was measured with the Multidimensional Scale of **Perceived Social Support** (Zimet et al., 1988). This scale has a three-factor structure with 12 items covering family support (e.g., “When needed, I can get emotional help and support from the family”), peer support (e.g., “I can rely on my friends in case of difficulties”), and other support (e.g., “When I have difficulties, teachers or relatives will take the initiative to comfort me”). Participants responded to these items on a 7-point Likert scale from 1 (completely disagree) to 7 (completely agree). Higher scores indicate greater perceived social support. In the present study, the scale had good internal reliability ($\alpha = 0.94$) and construct validity: $\chi^2(49) = 298.985$, CFI = 0.96, TLI = 0.95, RMSEA (90% CI) = 0.077 (0.069–0.086), and SRMR = 0.03.

Data Analysis

The data analyses comprised two main parts. First, we conducted latent profile analysis (LPA) using Mplus 7.0 to examine patterns of bullying victimization among elementary students. LPA is a mixed modeling strategy that can group individuals into homogeneous profiles based on observed responses to a set of indicators. Researchers can determine the best model fit based on a set of statistical criteria and empirical indicators. A good model is indicated by lower Akaike information criterion (AIC), Bayesian information criterion (BIC), and adjusted BIC (aBIC), higher entropy, and significant Lo–Mendell–Rubin likelihood ratio test (ALMRLRT) and bootstrapped likelihood ratio test (BLRT).

We first established a one group model based on the elementary school students’ scores on physical, verbal, and relational bullying victimization. This means we grouped all individuals into one profile. According to the statistical criteria for LPA and empirical indicators, one profile was not a good model. Therefore, we established two to five group models to find an optimal

model. After the optimal model was identified, multivariate analysis of variance (MANOVA) was performed to examine the differences in forms of bullying victimization among different groups. Second, we used the most likely class membership variable as the outcome variable outside of the model to assess the relations of family and individual factors to the latent classes in a multinomial logistic regression analysis by using SPSS 19.0.

Results

The fit indices for the five LPA model solutions are shown in Table 1. The ALMRLRT value for the 3-class solution was marginally significant ($p = 0.064$) but non-significant for the 4- and 5-class solutions; the entropy values were high for all solutions and there was a greater increase in the 3-class solution; the 3-class solution had lower AIC, BIC, and aBIC values compared with the 2-class solution; the mean probability of children belonging to each class ranged from 97.8% to 99.7%. Therefore, after careful consideration, the 3-class solution was selected as the optimal solution in this study.

Table 2 shows the mean probability for the three groups, proportion of participants in the three groups, mean scores for verbal, physical, and relational bullying victimization, and the MANOVA and post-hoc test results. Participants in Group 1 (5.4%) were characterized by high verbal, physical, and relational bullying victimization; therefore, we named this group the severe bullying victimization group. Those in Group 2 (13.6%) had relatively high verbal bullying victimization, but low physical and relational bullying victimization; we named Group 2 the verbal bullying victimization group. Participants in Group 3 (81%) were characterized by the lowest levels of verbal, physical, and relational bullying victimization; they had not reached the level of bullying victimization (Xie et al., 2019), and were named the non-bullying victimization group.

Table 1. Goodness of Fit indices for different models in latent profile analysis.

	AIC	BIC	aBIC	Entropy	ALMRLRT	BLRT
1-Class	35,069.89	35,184.22	35,108.00	—	—	—
2-Class	28,640.29	28,816.55	28,699.04	0.99	6383.01***	6445.60***
3-Class	27,016.54	27,254.73	27,095.96	0.99	1631.19†	1649.74***
4-Class	26,212.87	26,512.99	26,312.92	0.97	820.34	829.67***
5-Class	25,537.04	25,899.10	25,657.74	0.97	693.93	701.82***

Note. AIC = Akaike information criteria, aBIC = Adjusted Bayesian information criterion, ALMRLRT = Lo–Mendell–Rubin adjusted likelihood ratio test, BLRT = Bootstrap likelihood ratio test.

*** $p < 0.001$, † $p < 0.07$.

Table 2. Group means for a 3-class model.

	Verbal		Physical		Relational		Mean Probability	Participants (%)
	M	SD	M	SD	M	SD		
Group1	3.97	1.03	3.86	0.88	3.98	0.94	0.985	47 (5.4%)
Group2	2.49	1.00	1.82	0.77	1.93	0.91	0.978	118 (13.6%)
Group3	0.34	0.47	0.23	0.38	0.20	0.36	0.997	701 (81%)
F	1225.38***		1547.41***		1570.24***			
η_p^2	0.75		0.79		0.79			-
Post-hoc tests	G1 > G2 > G3		G1 > G2 > G3		G1 > G2 > G3			

Note. Verbal = Verbal bullying victimization, Physical = Physical bullying victimization, Relational = Relational bullying victimization. Group1 = Severe bullying victimization group, Group2 = Verbal bullying victimization group, Group3 = Non-bullying victimization group.

*** $p < 0.001$.

Table 2 shows that participants fit well into the three groups. There were significant differences in verbal, physical, and relational bullying victimization among the three groups, as well as reflecting characteristics of the three groups. These results ensured that the three groups were distinct from each other. To demonstrate this more clearly, we drew a figure showing the different patterns of bullying victimization using the value for 12 items (re-ordered by dimension) in the 3-class model (see Figure 1).

The results of the multinomial logistic regression that assessed the roles of family and individual factors in differentiating the three patterns of bullying victimization are shown in Tables 3 and 4. There were no significant differences in the patterns of bullying victimization by parents' marital status, family income, or parents' education level. In terms of parent-child interaction, compared with the non-bullying victimization group (Group 3), the more time that parents spent with their children, the less likely the children were to experience verbal bullying victimization; parents more frequently relieving children's emotions and stress was associated with a lower probability of the child experiencing severe bullying victimization. Compared with the verbal bullying victimization severe group (Group 2), parents more frequently relieving a child's emotion and stress also protected the child from severe bullying victimization. In addition, compared with the non-bullying group (Group 3), parents that treated children in an embarrassing way or hit their children may expose children to the risk for severe bullying victimization.

There were no gender- or age-based differences in bullying victimization patterns. Compared with the non-bullying group (Group 3), children from

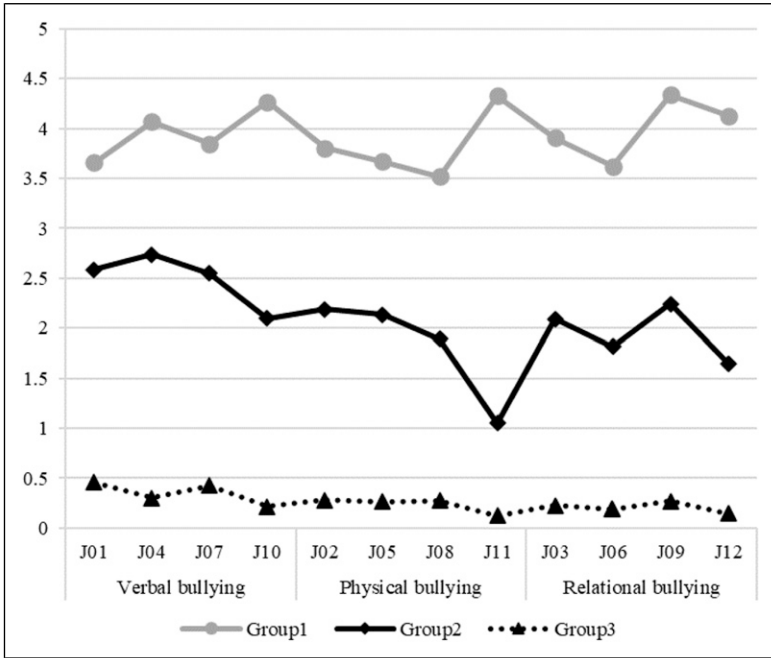


Figure 1. Conditional mean for the 3-class latent profile model. Group1 = Severe bullying victimization group, Group2 = Verbal bullying victimization group, Group3 = Non-bullying victimization group, J01-J12 are the 12 items of the Bullying Victimization Scale.

single child households appeared to be less likely to experience severe bullying victimization; individuals with negative coping are more likely to experience severe bullying and verbal bullying victimization; students that perceived more support from friends were less likely to experience verbal bullying.

Discussion

The present study explored patterns of bullying victimization among elementary school students and examined family and individual influencing factors. Based on three forms of bullying victimization (physical, verbal, and relational), we found three distinct patterns of bullying victimization in these children: severe (5.4%), verbal (13.6%), and non-bullying victimization (81%). This finding confirmed the co-occurrence of different forms of bullying victimization and indicated that bullying victimization had a heterogeneous distribution in elementary school students. In addition, different

Table 3. The influence of family factors on bullying victimization patterns.

Independent Variables	Ref: Non-bullying Group				Ref: Verbal Bullying Victimization Group	
	Verbal Bullying Victimization Group		Severe Bullying Victimization Group		Severe Bullying Victimization Group	
	OR	95% CI	OR	95% CI	OR	95% CI
Marital status						
Married	1.18	0.58~2.40	1.17	0.39~3.47	0.99	0.29~3.42
Divorced or widowed (reference)	1.00					
Family income	1.01	0.88~1.16	0.93	0.73~1.18	0.92	0.70~1.20
Education level	0.86	0.70~1.07	0.79	0.56~1.10	0.91	0.63~1.33
Parent-child interaction						
Companionship time	0.90*	0.80~1.00	0.93	0.79~1.11	1.04	0.86~1.26
Relieving children's stress and emotion	0.98	0.81~1.18	0.72*	0.55~0.95	0.74 [†]	0.54~1.01
Treating children in an embarrassing way	0.99	0.61~1.60	1.61 [†]	0.92~2.83	1.63	0.82~3.23
Hitting children	1.21	0.90~1.64	1.55*	1.02~2.37	1.28	0.79~2.08

Note. * $p < 0.05$, [†] $p < 0.1$. Ref = Reference.

patterns of victimization among elementary students is related to some family factors and individual factors.

Patterns of Bullying Victimization

The present study explored patterns of bullying victimization among elementary school students. Consistent with previous studies among adolescents (Ding et al., 2020; Wang et al., 2010; Xie et al., 2019), the non-bullying victimization group in this study (81%) accounted for a large proportion of participants. Children in the severe bullying victimization group accounted for a small part (5.4%). Differently, we identified a verbal bullying victimization group (13.6%) among elementary students, but did not find a verbal/relational victimization class (Wang et al., 2010) or a relational victimization group (Bradshaw et al., 2015) as previous studies did among adolescents. Relational bullying is an indirect form of bullying that involves offensive behavior against others with the help of a third party (Crick & Grotpeter, 1995). This

Table 4. The influence of individual factors on bullying victimization patterns.

Independent Variables	Ref: Non-bullying Group				Ref: Verbal Bullying Victimization Group	
	Verbal Bullying Victimization Group		Severe Bullying Victimization Group		Severe Bullying Victimization Group	
	OR	95% CI	OR	95% CI	OR	95% CI
Age	1.10	0.84~1.43	1.13	0.76~1.68	1.03	0.66~1.60
Gender						
Male	1.23	1.71~2.04	1.34	0.62~2.88	1.09	0.47~2.55
Female (reference)	1.00					
Coming from single child households or not						
Yes	0.67	0.40~1.12	0.51 [†]	0.23~1.12	0.77	0.31~1.82
No(reference)	1.00					
Coping style						
Positive coping	0.94	0.70~1.25	0.90	0.55~1.48	0.97	0.56~1.66
Negative coping	1.63 ^{**}	1.22~2.18	2.57 ^{***}	1.60~4.14	1.58 [†]	0.94~2.66
Perceived social support						
Family support	1.01	0.77~1.34	0.78	0.53~1.16	0.77	0.49~1.20
Peer support	0.77 [*]	0.63~0.95	0.82	0.60~1.12	1.07	0.76~1.50
Other support	0.88	0.67~1.15	0.85	0.56~1.29	0.97	0.61~1.54

Note. ^{*}p < 0.05, ^{**}p < 0.01, ^{***}p < 0.001, [†]p < 0.1. Ref = Reference.

objectively requires students to have a higher level of psychological maturity as well as strong interpersonal skills (Zhang et al., 2001). Elementary school children’s development in the above aspects is immature; therefore, it is difficult for them to effectively carry out this form of bullying and the level of relational bullying victimization is relatively low among these students.

Family Factors and Bullying Victimization Patterns

We examined the roles of family factors reported by parents in distinct patterns of bullying victimization. Family demographic factors (parents’ marital status, family income, and parents’ education level) had no significant predictive effects on distinguishing group membership. This differed from previous research that showed family background played an important role in students’ experiences of bullying victimization (Huang et al., 2013; Seo et al., 2017; Zhang et al., 2020). A possible reason for this discrepancy may be sample

differences. Participants in this study were elementary students who may not know much about their classmates' family backgrounds, meaning they are rarely bullied by others because of these factors. In addition, this result also showed that with the development of modern society, the difference of students' family background may narrow. Students were less likely to bully others because of their family background. In the future, these factors may need to be further explored.

We found some parent-child interaction factors had significant effects in distinguishing patterns of bullying victimization. Specifically, the time parents spent with their children and emotional accompaniment are protective factors to reduce children's bullying victimization, supporting the family systems theory (Minuchin, 1985) and attachment theory (Bowlby, 1988), which suggest good parent-child communication, parental care, and active involvement reduce the probability of children being bullied. Parents' accompaniment and involvement gives children practical help and support, and also gives children the courage and confidence to deal with difficulties in peer relationships (Arseneault et al., 2010; Cluver et al., 2010). Moreover, a positive family environment and parent-child interaction can shape children's characters and interpersonal abilities, which are helpful for their peer relationships (Walden & Beran, 2010).

We identified some risk factors for children's bullying victimization. The more often parents treated their children in an embarrassing way or hit their children, the greater the likelihood of that child being severely bullied. This was consistent with the developmental victimology framework (Finkelhor et al., 2007) and previous studies that reported negative parenting styles from parents and family violence increased the possibility of children being bullied at school (Lereya et al., 2013; Zhu et al., 2018). Negative parenting styles and parental violence may lead to vulnerable characteristics among children, such as anxiety, fear, and insecurity (Cluver et al., 2010). Children with these characteristics may lack strategies to regulate and solve problems they face (Schwartz, 2000). Children may become accustomed to family victimization and generalize such characteristics and behaviors to extra familial interactions (Cluver et al., 2010; Wilczenski et al., 1997), which will lead to their vulnerability to bullying victimization.

Individual Factors and Bullying Victimization Patterns

The results showed that some individual demographic factors had, and some others did not have significant predictive effects on bullying victimization patterns. Specifically, compared with the non-bullying victimization group, students from single child households were less likely to be severely bullied. A possible explanation for this finding is that these children may receive more attention and support from their family than children from multiple child

households. However, some studies showed that children from single child households were more likely to be bullied, because lack of sibling interaction can develop personality traits such as selfishness, aggressiveness, and incompatibility, which may make him/her more likely to be involved in peer conflict (Huang et al., 2013). This finding remains controversial and requires further exploration.

Age and gender did not significantly predict victimization patterns, which was inconsistent with some previous studies (Bradshaw et al., 2015; Ladd et al., 2017). This may be due to the small age range of the sample in this study (grades 4–6). Bullying decreased with age usually involved participants with a wider age span (e.g., from elementary to senior high school). Besides, previous studies suggested gender differences in relational and physical bullying (Zhang et al., 2001), but the prominent bullying victimization form in this study was verbal bullying victimization, so we did not find gender differences.

Moreover, we found coping style and perceived social support predicted children's bullying victimization patterns. Compared with the non-bullying victimization group, children with negative coping styles were more likely to be in the verbal or severe bullying victimization groups, which confirmed the presence of evocative effects (Scarr & McCartney, 1983) and was consistent with previous studies (Hansen et al., 2012; Wilton et al., 2000). Negative coping styles include negative venting and avoidance. Children who adopt these two coping styles often lose their temper with others, criticize themselves, or avoid and ignore disliked events and people. Evocative effects (Scarr & McCartney, 1983) suggest that children showing these negative characteristics and behaviors may influence people around them to treat them negatively, such as being bullied by their peers (Sugimura et al., 2017). Research suggests that children who are characterized by irritability and interact with others in antagonistic ways may elicit hostile responses from others and therefore be bullied by their peers (Schwartz et al., 2001). In addition, avoidance or withdrawal when interacting with others may be considered unsociable behaviors, thereby strengthening negative evaluations from peers, which may result in being bullied by peers (Rudolph et al., 2014). Finally, children that adopt these coping styles after being bullied may be unable to cope with the victimization of bullying well, and may also condone the continued harm of the bullies (Wilton et al., 2000), which exacerbates the incidence of bullying victimization.

Furthermore, perceived social support was a protective factor against bullying victimization. Compared with the non-bullying victimization group, children who perceived less peer support were more likely to be in the verbal bullying victimization group. A perception of social support means that individuals feel they are supported and accepted, and have resources available to manage challenging situations (Cluver et al., 2010; Hansen et al., 2012). However, perceived peer support did not distinguish between the severe bullying

victimization group and non-bullying victimization group. This may be because children in the severe bullying victimization group were likely to engage in bullying behavior and become bullies (Haltigan & Vaillancourt, 2014), and may also receive peer support and obtain higher social status and influence, like many bullies (Pouwels et al., 2016). Therefore, there was no significant difference in peer support between the bullying victimization and non-bullying victimization groups. Family and other sources of support had no significant effect on elementary school students' patterns of bullying victimization in this study. This may be because families had no direct and immediate knowledge of their children. Moreover, many children may be unwilling or afraid to tell their families about being bullied, which makes family support ineffective (Kerr & Stattin, 2000).

Limitations and Implications of this Study

Some limitations of this study should be addressed. First, the present study was based on cross-sectional data. Therefore, we cannot draw any causal conclusions from our findings. Further studies are needed to examine longitudinal associations between family/individual factors and patterns of bullying victimization. Second, this study only investigated family and individual factors; we did not consider school, community, and cultural factors. Therefore, further studies could expand the scope of the present study by examining these factors. Third, we only examined latent profiles of victimization. We did not explore whether there were groups of individuals (latent profiles) that differentially participated in particular forms of both bullying perpetration and victimization. Further studies are needed to examine the co-occurrence of different forms of bullying perpetration and victimization.

Despite these limitations, this study used LPA to examine the patterns of bullying victimization among Chinese elementary school students and the findings different from previous studies just reflect the unique development characteristics of elementary school children, which expands and deepens research in relevant area. Further, we simultaneously explored the roles of many family factors (reported by parents) and individual factors (reported by students) in shaping victimization patterns, which inform targeted interventions based on these specific factors. For example, parents should accompany and communicate with their children more, and relieve their children's emotions and stress in a timely manner. In addition, parents should avoid adopting negative and violent parenting styles, which may lead to children's bullying victimization at school. Children are encouraged not to adopt negative coping styles and to use positive coping styles to deal with stress and victimization. In addition, perceiving surrounding social support can also help a child to cope with bullying. This highlights the importance of external support and help for victims of bullying. Finally, questionnaires of family

factors in this study were reported by parents, which increases the accuracy of family-related information and improves the reliability of our findings.

Conclusion

The current study investigated individual differences in elementary students' bullying victimization, and found three distinct victimization patterns, namely a severe bullying victimization group, a verbal bullying victimization group, and a non-bullying victimization group. In addition, by examining the roles of family and individual factors, we obtained a better understanding of these factors in shaping different victimization patterns. In the future interventions, it is important to consider the heterogeneity among the bullying victimization groups and it is necessary not only to relieve the negative emotions of the bullying victims from a short-term perspective, but also to help them improve their positive coping and peer communication skills and improve the quality of parent-child companionship and interaction from a long-term perspective, thereby reducing the risk of bullying victimization at school.

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