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EMPIRICAL RESEARCH

Interpersonal and Personal Antecedents and Consequences of Peer Victimization Across Middle Childhood in Hong Kong

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Abstract Although much is known about peer victimization, the majority of the longitudinal research in this area has been restricted to Western settings. The main objective of this study was to examine the interpersonal (rejection) and personal (withdrawal, aggression) antecedents and consequences of victimization for Chinese children living in Hong Kong. A sample of 1,058 children (501 boys; *M* age = 9.5 years) in Hong Kong was followed longitudinally from the 3rd and 4th grades to the 7th and 8th grades. Consistent with a transactional framework, rejection and withdrawal contributed to, as well as resulted from, victimization. Although victimization predicted later aggression, aggression was unrelated to later victimization. These findings closely replicate past research conducted in North America and European settings, and suggest considerable correspondence in the links between maladaptive child characteristics and victimization across Western and Hong Kong schools.

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Introduction

Research has sought to identify different characteristics that might increase children's risk for peer abuse (Cook et al. 2010; Espelage and De La Rue 2012). Rejection or peer dislike has emerged as a core interpersonal or group-level risk factor for peer maltreatment (Ladd and Troop-Gordon 2003). Aggression and withdrawal have been found to be as some of the strongest personal or individual correlates of victimization (Reijntjes et al. 2010; Salmivalli 2001). While such problematic characteristics may put children at risk for victimization, being victimized may also influence children's social status and behavior over time. Indeed, longitudinal research has demonstrated that peer victimization is both a consequence of and an antecedent of maladaptive child characteristics like rejection and withdrawal (e.g., Boivin et al. 2010). Most of these studies, however, have been restricted to North American and European contexts.

Because the pathways to positive social outcomes may be influenced by values and social conventions inherent in a particular culture (Chen and French 2008), it is not clear if findings from Western settings will replicate in other contexts. Moreover, as previous researchers have noted, an exclusive concern with Western contexts could obscure critically important distinctions between culture-specific and culture-general forms of child maladjustment (see López and Guarnaccia 2012). Research conducted in other cultural contexts could also help demonstrate the relevance of existing findings for cultural subgroups within North

America and Europe (Chen and French 2008). In line with these views, we examined the interpersonal (rejection) and personal (aggression, withdrawal) correlates of victimization across middle childhood in Hong Kong.

Hong Kong is a unique setting for peer relations research given its complex history. While under British jurisdiction, Hong Kong had extensive contact with other Asian cultures, as well as Western cultures (Cheung-Blunden and Juang 2008). Despite the population's exposure to outside cultures, traditional Chinese values continue to serve as a predominant socializing factor for many of Hong Kong's children. Hong Kong's value system emphasizes the maintenance of group well-being over individual interests (Yau and Smetana 2003), and children are expected to obey adult caregivers and cooperate with others (Berndt et al. 1993). Indeed, Hong Kong has appeared as one of the most collectivistic and least individualistic countries in meta-analytic reviews of individualism- collectivism (see Oyserman et al. 2002, for a comprehensive review). By replicating existing reciprocal models of maladaptive child characteristics and peer maltreatment in this under-investigated context, findings from this study will contribute to a richer understanding of the mechanisms underlying peer victimization.

Research on the antecedents and consequences of peer group victimization has highlighted a number of specific mechanisms. In terms of interpersonal risk, disliking by peer is one critical factor to consider. Due to factors such as negative reputations (Bierman 2004) and a lack of social resources (e.g., friends; Hodges and Perry 1999), rejected children are often frequent targets of peer abuse (Perry et al. 1988). In particular, peers perceive and describe rejected children more negatively than non-rejected children (Waas and Honer 1990). Not only do peers treat rejected children more aversively than they treat their non-rejected peers, they also justify the abuse and mistreatment of these rejected children (Berndt et al. 1993). Because rejection also prevents important opportunities to interact with others, rejected children often lack social skills and social support (Rubin et al. 2009). These factors combine to create the perfect invitation for peer abuse and victimization.

In addition to the broader risks associated with rejection by peers, more targeted behavioral deficits can increase children's vulnerability to peer victimization. Notably, aggression and withdrawal have emerged as salient personal factors. Aggressive and withdrawn behaviors deviate from social norms, and children often find these behaviors odd and irritating (Bierman 2004). Indeed, aggressive children's disruptive behaviors often provoke anger and abuse from peers (e.g., Salmivalli 2001), while withdrawn children's submissive behaviors likely invite attacks from those who view them as "odd" and "easy" targets (e.g., Olweus 1993).

Even though these problematic characteristics can put youth at risk for victimization, victimization can also impact children's status and behavior in peer groups. In particular, transactional models of development (Caspi et al. 1989) suggest that children actively shape their own environments, which in turn has an impact on their development. Consistent with this view, victimization predicts increases in rejection and friendlessness across childhood (Hodges and Perry 1999; Salmivalli and Isaacs 2005). Victimization also predicts increases in both aggression (Ladd and Troop-Gordon 2003) and withdrawal (Siegel et al. 2009) over time. From these perspectives, children and their social environments reciprocally influence one another across development.

In line with these views, longitudinal research has provided evidence of bidirectional relations between negative child attributes and peer maltreatment across development. For instance, Hodges and Perry (1999) found that initial victimization predicted later peer rejection, and that peer rejection also contributed to increased victimization across middle childhood. Boivin et al. (2010) found that withdrawn behaviors predicted later victimization, and that victimization also predicted later withdrawn behaviors in young adolescents. Because these studies were conducted only in North America and Europe, however, it remains to be investigated whether similar relations are also evident in non-Western settings.

Although longitudinal research on peer relationships has been mostly limited to Western contexts, a small number of relevant cross-sectional studies have been conducted with Chinese children in Mainland China and the Special Administrative Region of Hong Kong (Duong et al. 2009; Eslea et al. 2004; Xu et al. 2003). These findings suggest some degree of consistency in the concurrent correlates of peer victimization across Chinese and Western settings. For instance, as in Western settings, Chinese children who emerge as persistent victims of peer abuse are often rejected and disliked (Abouezzeddine et al. 2007; Xu et al. 2003). These children also tend to be highly aggressive and disruptive (Eslea et al. 2004). Though the links between withdrawal and negative peer experiences in Chinese children have been mixed, with some researchers finding positive relations (e.g., Hart et al. 2000; Schwartz et al. 2001) and others finding zero associations (Chen et al. 1999), increasing evidence suggests that withdrawal is a risk factor for negative peer experiences among Chinese children (Chang 2003; Chen et al. 1995). Although these studies provide important first-steps toward a cross-cultural understanding of peer maltreatment, they are limited to cross-sectional designs. Because development is a dynamic process between child and environment, research that incorporates longitudinal frameworks is needed to better understand the

developmental mechanisms underlying children's negative peer experiences.

Current Study

Due to the lack of longitudinal research on peer victimization in Chinese settings, this study examined the personal and interpersonal correlates of peer victimization across middle childhood in Hong Kong. Specifically, we used autoregressive cross-lagged panel analyses (Bollen and Curran 2006) to examine the potential reciprocal relations between victimization, rejection, aggression, and withdrawal over four time periods. In contrast to simple main effects models, autoregressive cross-lagged analyses help control for stability effects and concurrent links among study variables (Selig and Little 2012), allowing for a more reliable examination of developmental processes.

Based on the view of development as a dynamic process and because available findings suggest some degree of consistency in the correlates of victimization across Chinese and Western settings, we hypothesized a bidirectional relationship between victimization and problematic child characteristics over time. In particular, based on prior research with North American and European youth that demonstrate reciprocal relations between maladaptive child characteristics and peer victimization (e.g., Hodges and Perry 1999; Reijntjes et al. 2010), we posited that interpersonal (rejection) and behavior (withdrawal, aggression) would be reciprocally related to peer group victimization in the Hong Kong cultural context. That is, we expected that rejection, aggression, and social withdraw would each predict increases in peer victimization over time. In turn, we hypothesized that peer victimization would be predictive of later rejection, aggression, and withdrawal.

Method

Participants

Participants were drawn from a 4-year, four-wave longitudinal project that followed Hong Kong children from primary to secondary schools. The final sample consisted of 1,058 children (501 boys, 557 girls). The participating schools served families from Hong Kong's lower-middle socioeconomic class. Almost all of the mothers (97.7 %) had a lower secondary school education (the equivalent of a high school degree in the United States) or below. All families lived in government-subsidized housing, which required that each family's annual income and fixed assets were below set ceilings.

Procedures

At Time 1 (T1), all children in 3rd and 4th grade classrooms at four Hong-Kong schools were invited to participate in the project. Letters explaining the study were sent home along with consent forms. Parents were reminded that their children's participation was purely voluntary and that they could decline involvement in the study without penalty. Children were asked to return the forms to their classroom teachers regardless of whether their parents consented or denied their participation in the project. Of all the children who were invited to participate, 95 % returned positive parental permission, agreed to participate in the project, and were present in school during the period of data collection. On the days of data collection, research staff provided written and oral descriptions of the study procedures and children whose parents had provided consent were asked to give their assent.

Trained research assistants group-administered questionnaires students' classes in testing sessions lasting approximately 45 min. Two researchers were assigned to each classroom. One researcher read the instructions and questionnaire items aloud, while the other walked around to answer questions and ensure that students' answers were kept private.

The first wave of data collection was conducted in late fall 2005, and children were followed every year for 4 years. Data were collected after students had been in school for at least 2 months, so that participating students had time to know each other and could reliably report on their classmate's behavior. At T2, 4th and 5th graders from two additional schools were recruited. Of the 1,058 students in the final sample, 818 children (77.3 %) participated at T1, 1,018 children (96 %) participated at T2, and 713 children (67 %) participated at T3. Because the larger project included a transition from primary to secondary school, only a subset of children ($N = 459$; 43 % of the final sample) participated at T4. Children with incomplete data did not differ significantly from those with complete data on any demographic variable or study variable (all p's $>.10$). Study variables also did not differ as a function of classrooms or any other school characteristics across all time points (all p's $>.10$).

Measures

A sociometric (i.e., peer nomination) procedure was used to obtain measures of children's victimization, and personal and interpersonal characteristics. Peer nominations have been shown to produce estimates of children's peer status and social behaviors that are valid and highly reliable (Jiang and Cillssen 2005; also see Cillessen 2009, for a

review). Moreover, at least in Asian studies (e.g., Schwartz et al. 2001, 2002), overlap between peer nominations and estimates obtained via other informants (self-report and teachers) appears quite high. For instance, Schwartz et al. (2001) found high agreement between peer nominations, teacher-reports, and self-reports of victimization, aggression, and withdrawal in Chinese children.

Each participating child in the current study was given an alphabetized class roster and asked to nominate up to three peers who fit a series of behavioral descriptors. Students could nominate peers of either gender, and nominate the same peer for multiple items. They were told, however, that self-nominations were not allowed. A computer algorithm was used to remove any self-nominations before analysis. Because each item is completed by a large number of reporters (all participating students in the classroom), peer nomination procedures yield highly reliable and valid indices of peer reputations and social behavior even when a small number of assessment items are used (Coie and Dodge 1983). All items described below were derived from past research conducted in the Chinese cultural context (e.g., Schwartz et al. 2001). All measures were translated into Chinese.

Aggression

To assess aggression, students were given a class roster and asked to nominate three peers in their class who "fight with others," "push or hit others," "gossip or say mean things about other kids," and "try to leave other kids out of play to hurt their feelings." As in past research (e.g., Duong et al. 2009), we included items that tap both relational and overt aggression ($\alpha = .95$). The number of nominations a child received for each item was summed and standardized within class to account for varying numbers of nominators (as per Coie et al. 1982). The mean of these standardized scores constituted each child's aggression level, with higher scores reflecting more aggression.

Withdrawal

Withdrawal was also measured with four items on the peer nomination inventory. Students were asked to nominate the name of three peers who "are always alone," "are quiet," "are shy," and "like to be alone" ($\alpha = .85$). Similar to the procedure for calculating an aggression score, described above, we calculated a child's withdrawal score by summing the number of nominations he or she received for each item, standardizing this within class, and calculating a mean across the standardized scores. Research in Western settings has raised questions about the utility of peer nomination indices for identifying socially withdrawn youth. However, it should be noted that the evidence with regard to the validity of these assessment approaches in the Chinese cultural context has been stronger (Chang et al. 2005; Schwartz et al. 2001). For example, Schwartz et al. (2001) found that peer nominations for social withdrawal correlated with teacher reports and predicted rejection and peer group victimization.

Rejection

Children were asked to nominate three peers in their class whom they "like least." The number of nominations a child received for this item was standardized within class and constituted the child's rejection score.

Victimization

Five items on the peer nomination inventory assessed victimization by peers: "gets pushed around," "gets picked on or bullied," "gets bullied and can't protect themselves," "has mean things said about them by other kids," and "gets excluded from play when other kids are trying to hurt their feelings." As in past research (e.g., Duong et al. 2009), we included items that tap both relational and overt victimization ($\alpha = .90$). Again, the number of nominations a child received for each item was summed and standardized within class, and then a mean standardized score across all four items was used as the child's victimization score.

Plan of Analysis

We constructed several autoregressive cross-lagged path models (Bollen and Curran 2006) within Mplus 7 (Muthén and Muthén 1998–2012) to examine the longitudinal bivariate relations between victimization, rejection, withdrawal, and aggression from T1 to T4. In this framework, each study variable is regressed on all of the variables that precede it in time, allowing for the bivariate effects between different constructs to be examined while controlling for the temporal stability of these constructs over time. Comparative fit index (CFI), root-mean-square error of approximation (RMSEA), and standardized-root-mean-square (SRMR) were used for all model-fit assessments.

We conducted Little's MCAR test (Little and Rubin 1987) to assess whether data were missing completely at random (MCAR; Rubin and Coplan 2010). Results revealed that all data were missing completely at random ($\chi^2 = 95.72$, $df = 122$, $p = .96$). Full information maximum likelihood (FIML) was used to address data missingness, as this approach is effective at handling data that are missing at random (Little 2013). ML is superior to traditional techniques for addressing missing data because it maximizes statistical power by borrowing information from the observed data (Enders 2010). More specifically, ML integrates over all possible values of

missing data and gives more weight to values that are more likely (Allison 2002; Little and Rubin 1989). Because ML does not require complete data for each participant, it is ideal for addressing missingness in longitudinal data as participants can be measured at different time points. Indeed, research has shown that ML is a robust and accurate estimator of results even among data with large proportions of missingness (Enders 2010; Hancock and Mueller 2006; Little 2013; Schafer and Graham 2002).

Results

Descriptives

Descriptive statistics are presented in Table 1. Consistent with past research, peer victimization was significantly correlated with withdrawal, aggression, and rejection.

To assess whether there were potential gender differences in the relations between aggression, withdrawal, rejection, and victimization, we constructed several multi-group path analyses and compared freely estimated and constrained models with the Chi square difference criterion (see Hancock and Mueller 2006). Results did not differ as a function of gender. Thus, gender was omitted from the final model to keep the models parsimonious (Hancock and Mueller 2006). There were no statistically significant grade differences in variance among constructs across all time points.

Reciprocal Longitudinal Relations Between Rejection and Victimization

To assess the reciprocal relations between rejection and victimization, we constructed an autoregressive cross-lagged model with paths between all measures of rejection and victimization from T1 to T4. Results demonstrated excellent model-fit ($\chi^2 = 107.44$, $df = 12$, CFI = 0.98, RMSEA = .06 (90 CIs .06–.09), SRMR = .05).

Path coefficients indicated stability for both rejection and victimization over time (Fig. 1). As evident in Fig. 1, the relations between rejection and victimization were generally reciprocal over time. T1, T2, and T3 victimization predicted T2, T3, and T4 rejection after controlling for prior rejection, and T1 and T2 rejection predicted T2 and T3 victimization after accounting for prior victimization. These findings suggest reciprocal paths between rejection and victimization among children in Hong Kong.

Reciprocal Longitudinal Relations Between Withdrawal and Victimization

To assess the reciprocal relations between withdrawal and victimization, we constructed an autoregressive cross-lagged model with paths between all measures of withdrawal and victimization from T1 to T4. Results demonstrated excellent model-fit ($\chi^2 = 177.71$, $df = 12$, CFI = 0.96, RMSEA = .06 (90 CIs .06–.09), SRMR = .05).

Path coefficients indicated stability for both withdrawal and victimization over time (Fig. 2). As evident in Fig. 2, the relations between withdrawal and victimization were generally reciprocal over time. T1, T2, and T3 victimization predicted T2, T3, and T4 withdrawal after controlling for prior withdrawal, and T1 and T2 withdrawal predicted T2 and T3 victimization after accounting for prior victimization. These findings suggest reciprocal paths between withdrawal and victimization among children in Hong Kong.

Reciprocal Longitudinal Relations Between Aggression and Victimization

Finally, to examine the reciprocal relations between aggression and victimization, we constructed an autoregressive cross-lagged model with paths between all measures of aggression and victimization from T1 to T4. Results demonstrated excellent model-fit ($\chi^2 = 150.53$, $df = 12$, CFI = .97, RMSEA = .07 (90 CIs .06–.09), SRMR = .05).

Path coefficients indicated stability for both aggression and victimization over time (Fig. 3). As evident in Fig. 3, the relations between aggression and victimization were not reciprocal over time. Whereas T2 and T3 victimization predicted T3 and T4 aggression after accounting for prior aggression, aggression did not predict later victimization at any of the time periods after controlling for prior victimization. These findings suggest unidirectional paths from victimization to later aggression among children in Hong Kong.

Discussion

Research conducted in Western settings has shown that problematic child characteristics and peer maltreatment are reciprocally linked across development—rejection, withdrawal, and aggression predict later victimization, and victimization also predicts increases in these problematic characteristics over time (Boivin et al. 2010; Hodges and Perry 1999). By examining the interpersonal (rejection) and personal (withdrawal, aggression) antecedents and consequences of victimization across middle childhood in Hong Kong, findings from this study help extend the extant peer relationships research and contribute to a more comprehensive understanding of children's negative peer experiences in Eastern cultures.

Our results mostly replicate existing peer relationships research in Western contexts. As in previous research

Table 1 Correlations among the main study variables

	M	*SD*	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. T1 Withdraw	−.00	.82	.70**	.71**	.67**	−.04	−.08*	−.01	−.01	.24**	.17**	.27**	.26**	.54**	.46**	.52**	.50**
2. T2 Withdraw	−.00	.84		.79**	.64**	−.07	−.06	−.06	−.04	.16**	.18**	.23**	.19**	.43**	.57**	.57**	.44**
3. T3 Withdraw	−.01	.85			.82**	−.02	−.07	−.02	.03	.19**	.19**	.31**	.34**	.50**	.55**	.68**	.63**
4. T4 Withdraw	−.00	.89				.06	−.04	.06	.13*	.25**	.24**	.39**	.44**	.51**	.55**	.74**	.74**
5. T1 Aggress	−.00	.88					.78**	.75**	.67**	.61**	.56**	.51**	.47**	.47**	.36**	.30**	.28**
6. T2 Aggress	−.00	.90						.84**	.73**	.55**	.71**	.57**	.44**	.36**	.47**	.34**	.23**
7. T3 Aggress	−.01	.88							.79**	.57**	.61**	.62**	.50**	.37**	.43**	.42**	.30**
8. T4 Aggress	−.00	.90								.53**	.62**	.63**	.68**	.38**	.41**	.39**	.48**
9. T1 Reject	−.00	1.00									.67**	.65**	.60**	.63**	.52**	.48**	.47**
10. T2 Reject	−.00	1.00										.76**	.67**	.52**	.62**	.52**	.52**
11. T3 Reject	−.01	1.00											.76**	.56**	.59**	.64**	.65**
12. T4 Reject	−.00	1.00												.56**	.54**	.60**	.73**
13. T1 Victim	−.00	.80													.76**	.74**	.69**
14. T2 Victim	−.00	.81														.84**	.75**
15. T3 Victim	−.01	.83															.87**
16. T4 Victim	−.00	.88															

$N = 501$ boys, 557 girls. *Withdraw* withdrawal, *Aggress* aggression, *Reject* rejection, *Victim* victimization. * $p < .05$; ** $p < .001$

conducted in North America and Europe (Boulton and Smith 1994; Boulton and Underwood 1992; Ladd and Troop-Gordon 2003; Salmivalli and Isaacs 2005; Siegel et al. 2009), victimization, rejection, withdrawal, and aggression were highly stable over time: prior victimization significantly predicted later victimization, and prior rejection significantly predicted later rejection. Being a target of peer abuse and dislike may rob children of important opportunities to learn social skills and develop supportive peer relationships, thereby increasing their risks of further victimization and rejection (Bierman 2004). Similarly, we found significant continuity in withdrawal and aggression over time: prior withdrawal significantly predicted later withdrawal, and prior aggression significantly predicted later aggression. Given that aggression and withdrawal are considered dispositional characteristics (Rubin et al. 2009), such findings are not surprising. Indeed, previous research with North American and European youth have demonstrated moderate to high stability in children's levels of aggression and withdrawal across development (Ladd and Troop-Gordon 2003; Siegel et al. 2009). Taken together, our findings provide further evidence that children's social status and reputations are highly stable across development. Because negative peer experiences and maladaptive behavioral characteristics put children at significant risks for later psychopathology (Bierman 2004; Rubin et al. 2009), early interventions may be crucial for children who are experiencing peer difficulties.

One of the main contributions of this study was the longitudinal examination of bidirectional influences between peer victimization and child characteristics (rejection, withdrawal, aggression). Replicating previous research in Western settings (Hodges and Perry 1999), we found that rejection and withdrawal are reciprocally associated with victimization over time: rejection predicted later victimization, and victimization predicted later rejection; withdrawal predicted later victimization, and victimization also predicted later withdrawal. These reciprocal relations, however, were not found for aggression and victimization: whereas victimization predicted later aggression, aggression was unrelated to later victimization.

Consistent with our hypotheses, we found reciprocal associations between rejection and victimization over time. In line with research in North America and Europe (Ladd and Troop-Gordon 2003; Hodges and Perry 1999), these findings highlight the particular relevance of rejection as both a contributor to and a consequence of victimization in Hong Kong schools. Several explanations may account for these reciprocal relations. First, the low social status and lack of social resources experienced by rejected children may serve as risk factors for subsequent victimization. In particular, peer victimization is embedded in a larger social

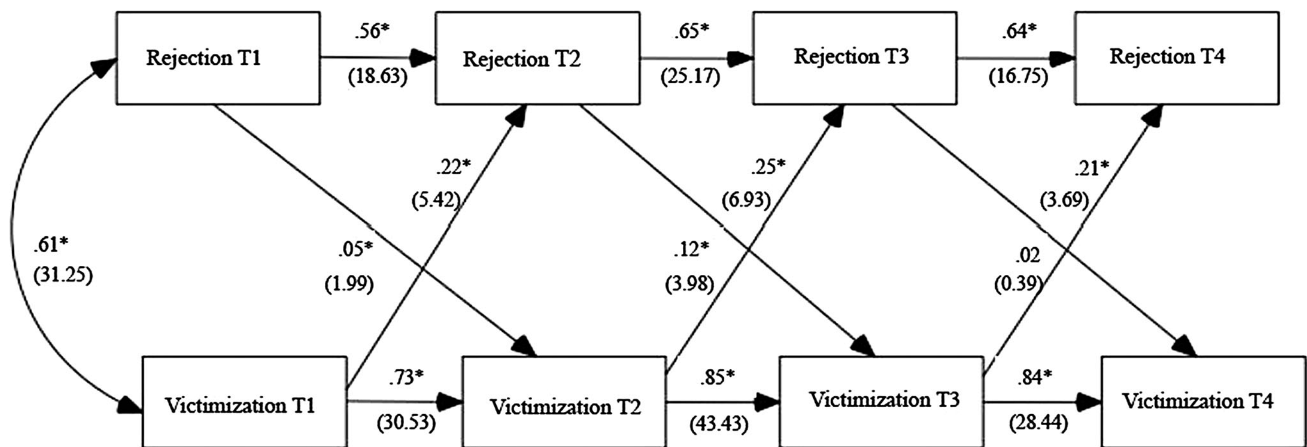

Fig. 1 Autoregressive cross-lagged model of rejection and victimization. *Note* Standardized coefficients and *z*-scores (in parentheses). $^{*}p < .05$

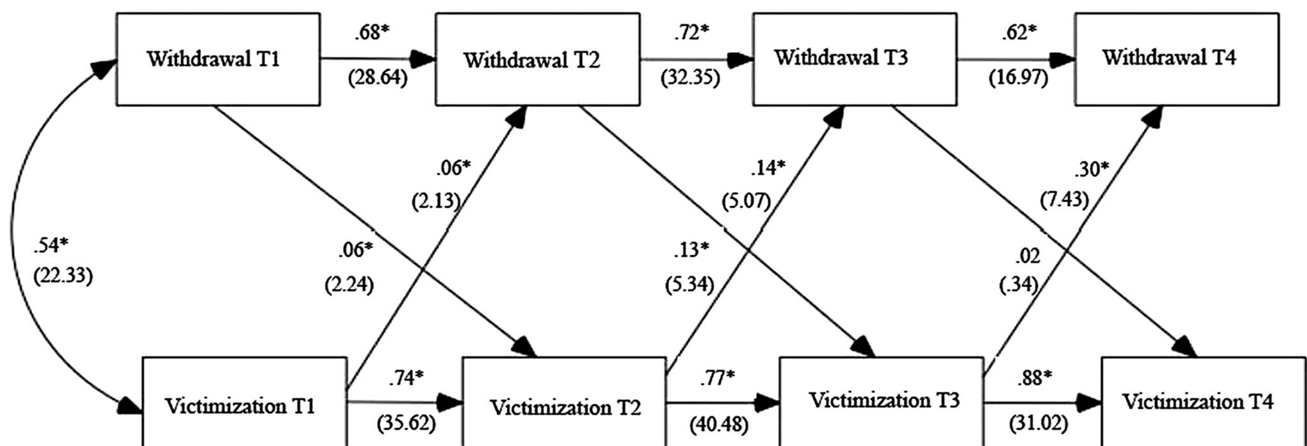

Fig. 2 Autoregressive cross-lagged model of withdrawal and victimization. *Note* Standardized coefficients and *z*-scores (in parentheses). $^{*}p < .05$

system (Salmivalli 2001)—children who are not liked or defended by others may represent vulnerable targets for bullies (Hodges and Perry 1999). Indeed, research has shown that bullies often choose victims who are rejected by the larger peer group (Bukowski and Sippola 2001; Salmivalli and Peets 2009); even nonaggressive children are shown to view rejected children unfavorably (Dodge 1986). These unfavorable views may lead other children to dismiss or even encourage the peer abuse experienced by rejected children (Salmivalli and Peets 2009). Because peer rejection also robs children of important opportunities to develop appropriate social skills (Bierman 2004; Rubin et al. 2009), rejected children may become increasingly isolated over time; this isolation may further contribute to future victimization.

At the same time, peer victimization may also increase children's risks for later rejection. Because social acceptance and approval are partly based on one's status and position in the hierarchy, children are likely to dissociate themselves from those whom they view as frequent targets of ridicule and abuse. Indeed, children may distance themselves from their victimized classmates in order to appear more like the bully, as doing so may increase their own social standing (Juvonen and Galván 2008). Children may also be unwilling to side with victims due to fears of becoming the next victims themselves. Because peer acceptance becomes increasingly important to youth across middle childhood (Rubin et al. 2009), children at this stage of development may be particularly unwilling to associate with their victimized classmates. Accordingly, victimized children may become even more rejected as victimization continues, as evident in this study.

The reciprocal links between rejection and victimization may be particularly strong in collectivistic societies like Hong Kong, where interpersonal relationships and group harmony are heavily valued. Indeed, being disliked is strongly associated with peer victimization across development in Chinese cultures (Chen et al. 1999; Xu et al.

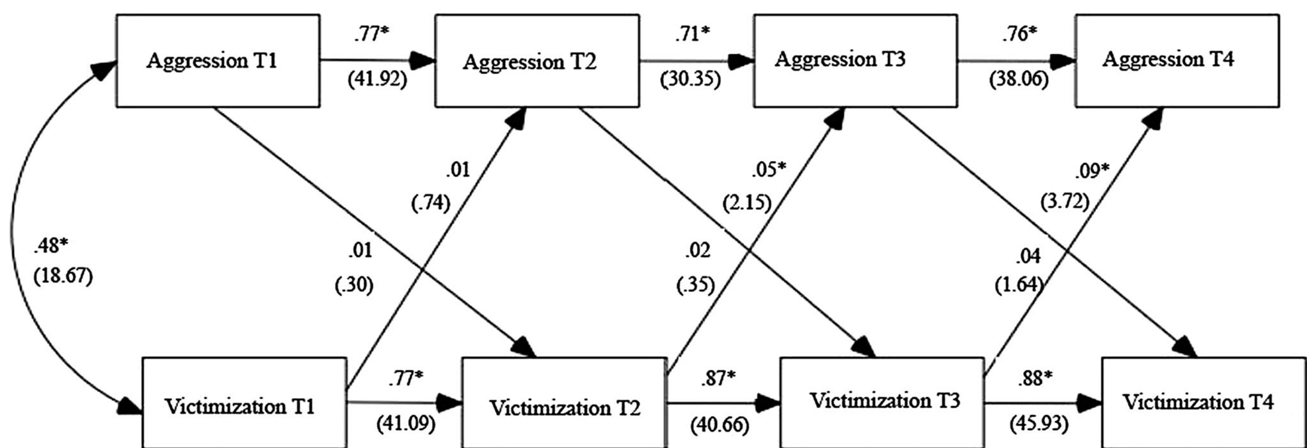

Fig. 3 Autoregressive cross-lagged model of aggression and victimization. *Note* Standardized coefficients and *z*-scores (in parentheses). $*p < .05$

2003). As one of the first studies to examine the longitudinal relations between rejection and victimization beyond the North American and European contexts, our findings suggest there is considerable correspondence in the links between rejection and victimization across Western and Hong Kong schools.

Also consistent with our hypothesis, we found reciprocal associations between withdrawal and victimization over time. In particular, as in research in North America and Europe (Reijntjes et al. 2010; Siegel et al. 2009), withdrawal predicted later victimization, and victimization reciprocally influenced later withdrawal over time. These findings highlight the particular relevance of withdrawal as both a contributor and a consequence of victimization among children in Hong Kong.

Why might withdrawal and victimization reciprocally influence each other over time in Hong Kong schools? First, withdrawal may signal weakness and thus attract aggressors. Indeed, peers often view withdrawn children as easy targets for abuse (Gazelle and Ladd 2003; Olweus 1993). Although some researchers have argued that withdrawn behaviors are conducive to China's collectivistic values on group harmony (Chen et al. 1995), recent research increasingly suggests that withdrawal has negative implications for Chinese children's adjustment, particularly in urban settings (see Chen 2010, for a review). For instance, Schwartz et al. (2001) found that peer victimization was positively associated with withdrawal in 5th and 6th graders living in China. Chang et al. (2005) found that social withdrawal was negatively predictive of peer acceptance during adolescence in Hong Kong. Others have also found similar relations across development in different urban regions of China (e.g., Chen et al. 2005; Xu et al. 2003).

While withdrawal may increase children's risks for victimization, victimization may also increase children's risks for withdrawal. In particular, chronic maltreatment by peers may lead to increased fear of classmates and further withdrawal from peer interaction and school activities (Hoglund and Leadbeater 2007). Consistent with this view, research has shown that peer maltreatment exacerbates withdrawal across development (Gazelle and Ladd 2003; Gazelle and Rudolph 2004). As evident in this study, withdrawn children often become even more withdrawn as victimization continues. By examining the reciprocal relations between withdrawal and victimization beyond the North American and European settings, our findings suggest there is considerable correspondence in the links between withdrawal and victimization across Western and Hong Kong schools.

In contrast to our findings with rejection and withdrawal, we did not find reciprocal associations between aggression and victimization among children in Hong Kong. Rather, the relations between aggression and victimization appeared to be unidirectional. Whereas aggression did not predict later victimization at any of the time points, victimization generally predicted later aggression over time. Although these results are inconsistent with our hypothesis, they appear consistent with some previous research in Western contexts. For instance, Hodges and Perry (1999) found that children's aggressive and externalizing behaviors were unrelated to victimization 1 year later. Boivin et al. (2010) found that aggression became decreasingly associated with victimization from the 3rd grade through the 6th grade. Other studies have also found similar associations between aggression and peer maltreatment across development (see Little et al. 2013, for a review).

Several explanations may account for why aggression was not a significant predictor of later victimization in this study. First, although aggression is strongly sanctioned against in Chinese cultures (Chen and French 2008), children in these settings may be unwilling to directly confront aggressive

classmates. Indeed, Chinese cultures are generally low on direct confrontational behaviors (Oyserman et al. 2002). Moreover, unlike their withdrawn counterparts, who often appear weak and powerless (Coplan and Rubin 2010), aggressive children are known to retaliate when attacked by peers (Crick and Dodge 1994). Over time, these children also increasingly associate with one another, forming networks characterized by high levels of aggression and deviancy (Vitaro et al. 2007). From this view, because the costs of bullying aggressive children may be greater than the costs of bullying "weaker" children (i.e., withdrawn children), aggressive children may be more avoided or feared than confronted in Hong Kong schools.

Aggression has also been associated with *increased* popularity across development. Indeed, recent research in Western settings has demonstrated that aggression is increasingly associated with perceived popularity and social prominence from middle childhood to early adolescence (Cillessen and Mayeux 2004; Little et al. 2013). As peers play an increasingly more central role in children's lives across development (Rubin et al. 2009), aggression becomes an effective means for some children to gain high social status and prominence. Although the Western construct of popularity appears inconsistent with China's collectivistic values, it is likely that popularity does not require a child to engage in behaviors that are positively evaluated or consistent with the larger societal norms, or even that a child is liked. Rather, popular children are likely to be those who are controversial (liked by some while disliked by others) and who are highly skilled at balancing both prosocial and aggressive behaviors within their peer groups (Cillessen and Mayeux 2004; Little et al. 2013).

Despite limited research, there is some evidence to support these views. For instance, using the same sample as this study, Schwartz et al. (2009) found that popularity was associated with high levels of aggression among 3rd and 4th grade children in Hong Kong. These researchers suggest that popularity in Hong Kong peer groups might reflect a context characterized by vertical collectivism. In vertical collectivism (Triandis 1995), individuals see themselves as unique actors contributing to the functioning of the group. From this view, because popular children in Hong Kong may be those who serve a central organizing role in the peer group hierarchy, their aggression may be more accepted by their peers, even if they are not necessarily well-liked. Future research that examines the impact of societal and cultural changes on youth aggression may shed additional insights.

Whereas evidence is mixed on the predictive role of aggression for later victimization, theoretical and empirical evidence suggest victimization is a significant predictor of aggression (Eslea et al. 2004; Schwartz 2000). According to social-cognitive models (e.g., Anderson and Bushman 2002; Crick and Dodge 1994), negative social experiences can cause one to misinterpret social cues and become overly sensitive to rejection cues; this hypervigilance likely increases one's tendency for aggressive behaviors. Indeed, research has demonstrated that victimization alters youth's social schemas about relationships and, in turn, increases their tendency to defensively expect and overreact to rejection (Wang et al. 2012). Consistent with these perspectives, our finding further emphasizes the relevance of maladaptive peer experiences for youth aggression across development.

The results of this longitudinal study provide insight into the processes underlying peer victimization in an underexplored cultural context. Nonetheless, several limitations are worth noting. As is common in longitudinal research (Little 2013), our attrition rate was not low. Because this study followed children across a school transition, complete data across all four time points were not available for the full sample. Although we addressed data missingness with FIML, the small sample size may have decreased the power of our findings. Future longitudinal research with larger samples is therefore needed before firm conclusions can be made regarding our findings.

Although sociometric methods like peer nominations provide important information about children's peer experiences, they are not without limitations. In particular, biases in children's interpretation of social behavior may yield unreliable results (Bierman 2004). Children also differ in abilities to recall descriptions of various characteristics and behaviors (Cillessen 2009). Future longitudinal research would do well to incorporate different methodologies (e.g., self-reports, parent-reports) in addition to peer nominations in examining children's peer experiences.

Limitations notwithstanding, this study provides several insights for Chinese youth intervention and prevention programs. In light of our findings that victimization was both influenced by and contributed to rejection and withdrawal over time, interventions for rejected and withdrawn Chinese children may prove fruitful if they include programs that explicitly teach children how to deal with negative peer experiences. Indeed, although interventions for rejected children incorporate social competence training, they often do not directly address issues of peer victimization. As a consequence, a rejected child in China may know what to do to increase his or her acceptance in the general peer group, yet still struggle in coping with direct attacks from specific classmates. Similarly, although interventions for withdrawn children incorporate social skills and assertiveness training, they often do not directly address issues of peer abuse.

At the same time, interventions for victimized Chinese children might consider including components that deal specifically with increasing children's peer group acceptance, such as adaptive behavioral training (e.g., increasing

cooperative behaviors; Bierman 2004). Increasing victimized Chinese children's prosocial behaviors might help facilitate adaptive affiliations and thus decrease the likelihood of future victimization. Programs for victimized Chinese children might also benefit from incorporating specific components from withdrawal interventions. For instance, assertiveness training (e.g., Albano and DiBartolo 2007) may help victimized Chinese children behave in ways that help promote positive relationships with others.

In light of our finding that victimization contributed to later aggression, identifying and helping Chinese children who are victimized might be particularly relevant for interventions that aim to decrease aggression in Chinese schools. In particular, victimization may serve as a marker for aggression, and interventions that increase self-regulation skills may help reduce aggression in victimized Chinese children. Indeed, research has highlighted the importance of self-regulation for maladaptive social behaviors like aggression (Gross 2007). Such interventions may be important given that aggressive behaviors, particularly those in reaction to negative social interactions (i.e., reactive aggression), are significantly associated with a variety of adjustment difficulties (Rubin et al. 2009), especially in Chinese cultures (Chen and French 2008).

Conclusion

This study adds to the extant peer relationships literature by replicating existing reciprocal models of maladaptive child characteristics and victimization in Hong Kong schools. Consistent with research in Western settings, the findings suggest that rejection and withdrawal are both determinants and consequences of victimization, while victimization appears to be a risk factor for later aggression. Further replications of this study in different cultures will shed additional insights on the mechanisms underlying peer maltreatment across development.

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Author contributions J.M.W. participated in the conceptualization of the study, performed data analyses, interpreted the findings, and drafted the manuscript; M.D. participated in the conceptualization of the study, data analysis, interpretation of data, and drafting of the manuscript; D.S. participated in the conceptualization of the study, interpretation of the data, and drafting of the manuscript. L.C. participated in the design of the study and the collection of data. T.L. participated in the conceptualization of the study and drafting of the manuscript. All authors read and approved the final manuscript.

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