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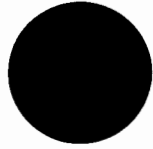
The roles of social withdrawal, peer rejection, and victimization by peers in predicting loneliness and depressed mood in childhood

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Abstract
The purpose of this study was to evaluate the relative contributions of social withdrawal, peer rejection, and victimization by peers in predicting feelings of loneliness and depressed mood over time. According to the proposed model, the feelings of loneliness associated with social withdrawal are mediated by the negative peer experiences (negative peer status and peer victimization) to which withdrawn children are exposed. In predicting depressed mood over time, it was further hypothesized that self-reported loneliness ultimately mediates the subsequent depressed mood associated with withdrawal and negative peer experiences. The study was conducted across 2 consecutive years (Time 1 and Time 2), with children each year nominating peers for peer status, social withdrawal, and victimization measures, and completing self-report measures of loneliness and depressed mood. Fourth- and fifth-grade children participated at Time 1, and children that remained in the same school were again evaluated at Time 2 ($N = 567$). A series of regression analyses indicated that the postulated sequence of mediations adequately represented the pattern of longitudinal associations between the variables, as well as their pattern of change over time. The contribution of social withdrawal to the prediction of subsequent loneliness was accounted for by the expected pattern of mediations of negative peer experiences. Self-reported loneliness ultimately mediated the subsequent depressed mood associated with withdrawal and negative peer experiences.

In recent years, there has been a growing interest in the potential contributions of peer

relationships to children's socioemotional development. Although it is known that children with peer relationship difficulties are "at risk" for future maladjustment (e.g., Parker & Asher, 1987), there is no consensus regarding the mechanisms underlying this association. On one hand, problematic peer relationships could simply indicate that there is an underlying deficit in the child, a deficit which could be the causal factor in later maladjustment. On the other hand, the nature of the child's experiences with peers could also contribute uniquely to his/her socioemotional problems and later maladjustment. This study is aimed at examining this latter possibility.

According to Rubin, LeMare, and Lollis (1990), two separate developmental pathways lead to difficult peer relationships in childhood. The first pathway is characterized by a pattern of aggressive and inappropriate behaviors; the second is characterized by internalizing behaviors such as inhibition, shyness, and social withdrawal. Support for the notion of multiple developmental pathways is provided by studies indicating that peer rejected children are a heterogeneous population with both aggressive and either submissive or withdrawn children likely to experience rejection (e.g., Boivin, Poulin, & Vitaro, 1994; Boivin, Thomassin, & Alain, 1989; Cillessen, van IJzendorn, van Lieshout, & Hartup, 1992; French, 1988, 1990; Hymel, Bowker, & Woody, 1993; Parkhurst & Asher, 1992; Patterson, Kupersmidt, & Greisler, 1990; Pope, Bierman, & Mumma, 1991; Volling, MacKinnon-Lewis, Rabiner, & Baradaran, 1993; Williams & Asher, 1987).

These distinct developmental pathways are also believed to be associated with differential long-term adjustment problems, with aggressive children being at greater risk for externalizing difficulties such as delinquency and withdrawn children at greater risk for internalizing difficulties such as loneliness and depressed mood. The links between aggressive behavior, peer rejection, and subsequent externalizing problems have been well established (Coie, Lochman, Terry, & Hyman, 1992; Panak & Garber, 1992; see also Parker & Asher, 1987; Asher & Coie, 1990 for relevant reviews). Recent studies have also examined how both aggressive behavior and peer rejection each contribute to subsequent internalizing problems (e.g., Coie et al., 1992; Hymel, Rubin, Rowden, & LeMare, 1990; Panak & Garber, 1992), although results have been neither compelling nor consistent across studies. For example, Panak and Garber found that initial levels of aggression did not significantly predict subsequent depressed mood 1 year later (see also Hymel et al., 1990), although increases in both aggression and rejection did predict increases in depressed mood over a school year. Coie

et al. demonstrated links between aggressive behavior and parental reports of internalizing problems, but these associations were generally weak and were accounted for by indices of social preference (peer rejection). When self-reports of internalizing problems were examined, an interaction between aggressive behavior and social preference was observed, with negative peer status predicting internalizing problems for low-aggressive children but not for high-aggressive children.

Given these weak and equivocal findings, it is surprising that social withdrawal has not been given more attention in predicting later internalizing difficulties. For example, Rubin, Hymel, and colleagues (Hymel et al., 1990; Rubin & Mills, 1988) have demonstrated that social withdrawal, but not aggression, as assessed in Grade 2 was predictive of subsequent loneliness and depressed mood 3 years later, suggesting that social withdrawal may play a critical role in the development of internalizing difficulties. This association between withdrawal and depressed mood is especially likely in the middle to later years of childhood, as social withdrawal has been shown to become increasingly non-normative with age, with withdrawn children becoming progressively more rejected by peers (Younger, Gentile, & Burgess, 1993; Younger & Boyko, 1987). Thus, by middle childhood, a significant proportion of socially withdrawn children experience increasing rejection by peers, which might well accentuate internalizing problems through a cycle of increasingly negative social self-perceptions, psychological distress, and further withdrawal.

Support for these arguments comes from studies indicating differential self-perceptions among subgroups of rejected children (Boivin et al., 1989, 1994; Hymel et al., 1993; Parkhurst & Asher, 1992; Williams & Asher, 1987). Relative to average-status children and in contrast to aggressive-rejected children, withdrawn-rejected children are more likely to view themselves negatively on a variety of dimensions and to report more negative affect regarding their

peer relations (e.g., greater loneliness). Moreover, Renshaw and Brown (1993) examined the relative contributions of aggression, withdrawal, and peer status to children's feelings of loneliness and found that self-reported loneliness was significantly predicted by both withdrawn behavior and overall peer acceptance, but not aggressive social behavior. Thus, both withdrawal and social status each appear to contribute to feelings of loneliness and social dissatisfaction.

There are probably multiple processes through which the combination of social withdrawal and negative peer status could adversely affect subsequent adjustment. As we have suggested elsewhere (Boivin & Hymel, forthcoming), their effect may simply be to limit the child's opportunities for social involvement, depriving the child of critical experiences through which their social competencies can be practiced and refined. However, social withdrawal and negative peer status may also lead to more aversive peer interactions, such as peer teasing and victimization. These negative experiences, in turn, could foster negative social self-perceptions and accentuate internalizing problems. In light of these arguments, Boivin and Hymel proposed a sequential model describing the social processes through which social behaviors (aggression, withdrawal) lead to negative social self-perceptions. In this model, a central role is given to the quality of peer experiences in mediating the influence of social behavior on social self-perceptions.

Boivin and Hymel began with the notion that children come to the peer group with particular behavioral tendencies, namely aggressive and/or withdrawn behavior, which in turn, are likely to impede social relationships and lead to peer rejection. Thus, peer rejection is not viewed as simply a correlate of social behavior, which has a significant and independent contribution to the prediction of self-perceptions, but instead partially mediates the relation between social behavior and self-perceptions. Peer rejection, however, only reflects the attitudes of the peer group, evaluations to which the

child does not necessarily have direct access. These attitudes are associated with negative peer experiences, which constitute the manifest conditions through which peer attitudes are "communicated" to the children. It is on the basis of such experiences that children are able to infer how well they get along with others (Hymel, Woody, Ditner, & LeMare, 1988). As Crick and Ladd (1993; Ladd & Crick, 1989) have suggested, children's perceptions of their own social situations develop gradually over time, as children attempt to understand the social experiences they encounter during the course of social interactions. Thus, according to Boivin and Hymel, social self-perceptions are mediated, in part, by the negative manifest experiences children encounter within the peer group.

In testing this model, Boivin and Hymel considered two distinct indices of actual peer experiences that may contribute to social self-perceptions: the lack of affiliative relationships within the peer group and reported victimization by peers. Results provided partial support for the proposed mediational model. Most notably, they found that peer rejection partially mediated the effects of socially withdrawn behavior on social self-perceptions and that victimization by peers (but not affiliations) partially mediated the impact of both peer rejection and withdrawal on social self-perceptions. Although the contributions of aggressive social behavior were also considered in the model, results indicated that aggressive behavior only had a small impact on social self-perceptions, and this effect was completely mediated by indices of peer rejection. Thus, results of the Boivin and Hymel research suggested that social self-perceptions are mainly associated with withdrawn social behavior, and this relation is successively mediated by peer rejection and, in turn, peer victimization. Withdrawn social behavior, however, continued to exhibit a unique and independent contribution to negative social self-perceptions, suggesting that withdrawn children may be cognitively predisposed to evaluate their situations more negatively (see also Zakriski & Ja-

cobs, 1995). As well, direct effects of negative peer status on social self-perceptions also remained, suggesting that other manifest behaviors, not targeted in that study (e.g., indirect aggression), may also be operative.

The first goal of this study was to extend the Boivin and Hymel research by examining the relative contributions of withdrawal,[1] social preference, and victimization (key predictors/mediators of social self-perceptions) to subsequent feelings of loneliness as children progress from one grade level to the next, using a short-term longitudinal design. Specifically, this study examined: (a) whether withdrawal, as assessed by peers in one school year (Time [T]1), predicts self-reported feelings of loneliness and social dissatisfaction, as reported in the subsequent school year (T2); and (b) whether the predictive relation between withdrawal and later loneliness is explained by the successive mediation of negative peer status and peer victimization.

In pursuing these analyses, we also examined whether *changes* in withdrawal, peer rejection, and victimization (i.e., from T1 to T2) would contribute further to the prediction of subsequent feelings of loneliness, and whether these contributions fall into line with the proposed model of successive mediations. In particular, we hypothesized that, although initial social conditions (withdrawal, rejection, victimization at T1) would certainly contribute to subsequent (T2) feelings of loneliness, such feelings may also be influenced by the more recent evolution of these conditions, as children

progress from one year to the next. Finally, following arguments presented by Renshaw and Brown (1993), we questioned whether initial indices of social behavior and peer experiences (withdrawal, peer rejection, and victimization as assessed at T1), as well as negative changes in these conditions forecast increasingly negative social self-perceptions over time (i.e., heightened levels of reported loneliness). Thus, increases in loneliness would be expected for withdrawn, rejected, and victimized children who experience increasing levels of withdrawal, rejection, and/or victimization in the subsequent school year.

Of additional interest was whether these same social factors also predict self-reports of depressed mood. Several studies to date have demonstrated links between social withdrawal and/or peer rejection, and depressed mood. For example, Volling et al. (1993) found that extremely withdrawn children who were either highly rejected by their peers or not rejected were rated by peers as being more "unhappy." Unfortunately, no measures of internalized problems (e.g., depressed mood, anxiety) were included in this study. However, as noted earlier, Rubin and Mills (1988) have demonstrated that early social withdrawal was predictive of subsequent depressed mood during middle childhood. Moreover, Boivin et al. (1994) found that withdrawn–rejected children expressed stronger depressed mood than either withdrawn–nonrejected or average-status children, which suggests that the *combination* of withdrawal and peer rejection (rather than withdrawal per se) is the crucial factor.

A second goal of this study was to extend the Boivin and Hymel model to the prediction of depressed mood. Although it is recognized that depressed mood is likely the result of self-appraisals across multiple domains of one's life, we nevertheless were interested in considering how one's social situation might contribute to such an overall self-evaluation. Results of recent research by Panak and Garber (1992) suggested that one's own appraisal of peer experiences may be a more important predictor of depressed

1. Withdrawal was defined here as "the act of being alone" (Rubin & Asendorpf, 1993, p. 11) presumably self-initiated (i.e., someone who is shy and/or prefers to be alone) rather than peer-imposed (i.e., someone who is left out, isolated by the group, see Rubin & Asendorpf, 1993). Peer status was assessed via indices of social preference in this study. Social preference score reflecting both acceptance (higher scores indicating a positive peer status) and rejection (lower scores indicating a negative peer status), the terms peer status and peer rejection are used interchangeably throughout this report.
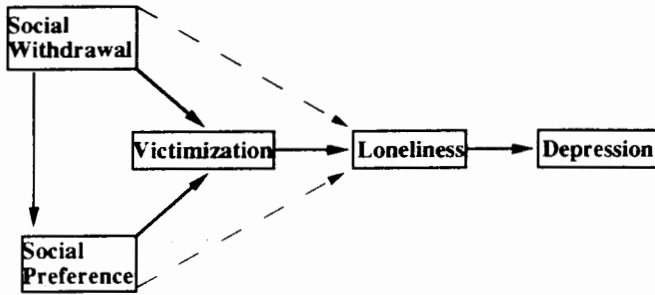
Figure 1. Model of the hypothesized mediation paths from social withdrawal to depressed mood.

mood than actual peer experiences themselves. Thus, we hypothesized that reports of depressed mood would be more likely when withdrawal, rejection, and/or victimization lead children to feel badly about their social situation (i.e., report greater loneliness and social dissatisfaction). If a child does *not* feel dissatisfied with his or her social situation (regardless of how negative that situation may appear to be), it is unlikely that negative social status or peer experiences would have an impact on depressed mood. Accordingly, as depicted in Figure 1, the Boivin and Hymel model was extended to include self-reported loneliness as a final mediator in predicting subsequent depressed mood. Specifically, it was hypothesized that contextually based feelings of loneliness within the classroom peer group (T1) would mediate the relation between initial social conditions (social withdrawal, peer status, victimization at T1) and subsequent internalizing difficulties (self-reported depressed mood at T2). In addition, we also tested whether *changes* in withdrawal, peer rejection, and victimization over time, would contribute further to the prediction of subsequent depressed mood (T2), and whether these contributions would be ultimately explained (i.e., mediated) by changes in feelings of loneliness and social dissatisfaction. Finally, these same questions were examined with respect to the prediction of changes in depressed mood over time.

Method

Participants

A total of 774, French-Canadian children, ranging in age from 9 to 12 years (mean age = 130 months) participated in the first year of the study (T1). These children (373 girls, 401 boys) attended fourth ($n = 359$) and fifth ($nT = 415$) grade classes in nine different elementary schools from a variety of socioeconomic environments in Quebec City. The composition of each class was stable throughout the academic year, and children had at least 8 months of contact prior to the study. Children's participation in the study required written parental authorization. Participation rate was more than 98%.

A total of 641 children (325 girls and 316 boys), representing 83% of the original sample, participated in T2 data collection. The 17% attrition rate was mainly caused by children moving out of a participating school. The final sample was further reduced to 567 children (288 girls and 279 boys), with the remainder providing incomplete or invalid data because of repeated absenteeism or inappropriate completion of the questionnaires. This reduction in sample size was slightly selective, as children who left the sample were generally less popular (social preference: $M = -.22$ versus $M = .11$, $F(1, 768) = 17.75$, $p < .001$), more victimized ($M = .15$ versus $M = -.06$, $F(1, 768) = 8.57$, $p < .01$), more lonely

($M = .16$ versus $M = -.06$, $F(1, 768) = 7.93$, $p < .001$), and more depressed ($M = .14$ versus $M = -.05$, $F(1, 768) = 5.58$, $p < .001$) at T1 than were children who remained in the final sample.

Procedure. The study was conducted in the spring (April–May) across 2 consecutive school years (T1 and T2), with all data collected within a 6-week period at both times. At both T1 and T2, children participated in a single, individual interview in which assessments of sociometric status within the classroom were administered, as well as in three separate group-testing sessions, during which peer assessment indices of social behavior and victimization as well as self-report measures of loneliness and depressed mood were administered. Each measure is described in detail below.

Peer status. Social status within the classroom peer group was assessed using a picture nomination sociometric procedure. Children were asked to select three "liked-most" (LM) and three "liked-least" (LL) choices in each of three situations: playing together, inviting others to a birthday party, and sitting next to others on the bus on a class excursion. Total LM (i.e., acceptance) and LL scores (i.e., rejection) were computed by summing the choices each child received from all classmates across all situations. As in prior studies (Boivin & Bégin, 1986, 1989), these LM and LL scores yielded good internal consistency (Cronbach's $\alpha = 0.90$ for LM, $\alpha = 0.96$ for LL). Following procedures outlined by Coie and Dodge (1983), LM and LL scores were first standardized within each class and used to compute an index of Social Preference (SP = LM − LL) for each child. These SP scores, again standardized within each class, were used as an index of peer status, with higher scores indicative of greater acceptance within the classroom peer group.

Peer assessments of withdrawal. Peer perceptions of social withdrawal were obtained

using two items from the Revised Class Play (Masten, Morison, & Pellegrini, 1985). This peer assessment inventory consists of 30 behavioral descriptors, which address three global behavioral dimensions: sociability/ leadership, aggression/disruption, and sensitivity/isolation. Children were provided with a picture roster of all classmates and were asked to choose two classmates who best fit each behavioral descriptor. Given arguments that the general subscales of the Revised Class Play may yield scores that are ambiguous, thereby confounding assessments of behavior and acceptance (see Coie et al., 1990; Rubin, Hymel, LeMare, & Rowden, 1989), a withdrawal score was computed as the sum of nominations received on two descriptors: "rather pay alone than with others" and "very shy," both of which have been shown to reflect the construct of withdrawal when used in peer assessments with children (Younger & Daniels, 1992). Withdrawal composite scores (Cronbach's $\alpha = 0.76$) were standardized within each class, with higher scores reflecting more extreme levels of withdrawn behavior.

Victimization by peers. The degree to which children were victimized by peers was assessed using the Victimization subscale of the Modified Peer Nomination Inventory developed by Perry, Kusel, and Perry (1988). The entire 26-item peer nomination inventory assesses peer perceptions of both aggression (7 items) and victimization (7 items), with 12 additional filler items, and has been shown to demonstrate good reliability and validity (see Perry et al., 1988). In this study, only the victimization subscale was used, including items that describe aversive peer experiences such as being made fun of, being called names, and getting hit and pushed by other kids, etc. Each participant could nominate up to two peers for each item. A Victimization score was computed for each participant, based on the sum of nominations received for all seven relevant items (Cronbach's $\alpha = 0.96$). Victimization scores were standardized within each class.

Loneliness. Children's feelings of loneliness and social dissatisfaction within the classroom were assessed using the Asher and Wheeler (1985) Loneliness and Social Dissatisfaction Questionnaire (LSDQ), a 16-item self-report scale. Previous research has demonstrated the internal reliability and validity of this scale (Asher & Wheeler, 1985; Asher et al., 1990). Loneliness scores were standardized within each class to facilitate comparisons across measures, with higher scores indicative of greater loneliness and social dissatisfaction.

Depressed mood. The Children's Depression Inventory (CDI) for school-aged children (Kovacs, 1983, 1985) is a self-rated 27-item scale assessing both primary and secondary affective, cognitive, motivational, and somatic symptoms of depression. In this study, one item on suicidal ideation was eliminated for ethical reasons. Children had to answer each item on a 3-point scale (0 to 2) according to the severity of a symptom. Responses to the scale yield a score ranging from 0 to 52, with higher scores indicating a greater depressed mood. The psychometric qualities of this scale are well documented (Carey, Gresham, Ruggiero, Faulstich, & Enyart, 1987; Kovacs, 1985; Saylor, Finch, Furey, Baskin, & Kelly, 1984). The scores were standardized across the entire sample to facilitate comparisons across measures.

Results

Correlations among the measures

Table 1 presents the correlations among both T1 and T2 peer-assessed withdrawal, peer status and victimization, and self-assessed loneliness and depressed mood. The 1-year test–retest stabilities (underlined) were all significant and substantial, especially for peer-assessed withdrawal, social preference, and victimization. The stability correlations ranged from $r = .52$ for self-reported depressed mood to $r = .71$ for peer-assessed victimization.

The pattern of intercorrelations observed within year was very similar at T1 and T2. As expected, withdrawal was negatively correlated with social preference and positively correlated with victimization at T1 and T2. Social preference was negatively related to victimization by peers, with the strong correlation supporting the view that the former is one major way through which children convey their feelings for, or opinions about particular peers. Self-reports of loneliness and depressed mood were significantly related to withdrawal, social preference, and victimization at both T1 and T2, although more modestly so for depressed mood than for loneliness. Loneliness and depressed mood were also moderately related. Overall, this general pattern of relations among measures also held over time (i.e., from T1 measures to T2 measures), although the correlations were lower compared to the concurrent associations.

Predicting loneliness

Loneliness at T2. Initial analyses examined the relative contributions of social withdrawal, social preference, and victimization by peers, as assessed at T1, as well as changes in these scores over time, to the longitudinal prediction of loneliness and social dissatisfaction at T2. To assess changes in each of these predictors, residualized scores were created by regressing the T1 measure on their corresponding values at T2 (i.e., social withdrawal-T1 on social withdrawal-T2, social preference-T1 on social preference-T2, etc.), following procedures recommended by Cohen and Cohen (1983). Each of these residualized scores were then considered in following analyses.

Because we hypothesized a specific sequence of mediations in predicting loneliness (see Figure 1), we followed the procedures recommended by Baron and Kenny (1986) for establishing support for mediation using regression analyses. According to Baron and Kenny, mediation is established only if specific conditions can be met. First, the independent variable, in this case withdrawal-T1, must be correlated with the outcome variable (loneliness-T2) and the medi-

Table 1. *Correlations among the social behavior, peer exchanges, and self-perception measures*

	WITHD-T1	SPREF-T1	VICT-T1	LONE-T1	DEP-T1	WITHD-T2	SPREF-T2	VICT-T2	LONE-T2
WITHD-T1	—								
SPREF-T1	-.37***	—							
VICT-T1	.45***	.67***	—						
LONE-T1	.26***	-.34**	.42***	—					
DEP-T1	.15**	-.16**	.21**	.53***	—				
WITHD-T2	.69***	-.33***	.37**	.21**	.15**	—			
SPREF-T2	-.25**	.63***	-.52**	-.25**	-.15**	-.36***	—		
VICT-T2	.39***	-.54***	.71**	.30**	.15**	.48**	-.64***	—	
LONE-T2	.20**	-.28**	.32**	.53**	.36***	.23**	-.41**	.37***	—
DEP-T2	.13**	-.20**	.22**	.36**	.52***	.17**	-.28***	.27***	.51***

Note: Underlined correlations are stability coefficients. WITHD-T1, withdrawal at Time 1; SPREF-T1, social preference at Time 1; VICT-T1, victimization at Time 1; LONE-T1, loneliness at Time 1; DEP-T1, depressed mood at Time 1; WITHD-T2, withdrawal at Time 2; SPREF-T2, social preference at Time 2; VICT-T2, victimization at Time 2; LONE-T2, loneliness at Time 2; DEP-T2, depressed mood at Time 2.
*$p < .05$; **$p < .01$; ***$p < .001$.

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ator (e.g., social preference-T1 as the first stage mediator). If these preconditions are met, the mediator must then be shown to: (a) uniquely predict the dependent variable (i.e., after the specific effect of the independent variable on the outcome is taken into account); and (b) reduce the effect of the independent variable on the outcome.

In predicting loneliness-T2, a two-stage mediational model is proposed (see Figure 1) according to which withdrawal-T1 is posited to lead to negative peer status (social preference-T1, the first mediator), with these two dimensions predicting loneliness-T2 through the mediation of victimization-T1, the second mediator. The correlations already presented in Table 1 indicate that the preconditions for testing mediation were met. For instance, withdrawal-T1 was significantly related to loneliness-T2, the outcome, as well as moderately associated with social preference-T1, the hypothesized first-stage mediator. Further, withdrawal-T1 and social preference-T1 were both significantly related to victimization-T1, the second-stage mediator.[2]

The last conditions for mediation were examined in the following hierarchical multiple regression predicting loneliness-T2. Specific predictors were systematically entered into the equation in a prescribed order. Sex was entered first (Step 1), because we wanted to covary out any main sex differences before considering the contributions of the main predictors. Then, loneliness-T2 (Step 2), social preference-T1 (Step 3), victimization-T1 (Step 4), changes in withdrawal (Step 5), changes in social preference (Step 6), and changes in victimization (Step 7) were entered in that order, in separate steps as main effects. Social preference-T1 was systematically considered after withdrawal-T1 because it is posited as the first-stage mediator of the predictive relation between withdrawal-T1 and loneliness-T2. Accordingly, we hypothesized that social preference-T1 would significantly add to the prediction of loneliness-T2 and account for a significant portion of the variance explained by withdrawal-T1 in the previous step. Similarly, victimization-T1 was entered after both withdrawal-T1 and social preference-T1, because it was posited as the second-stage mediator in the sequence leading from withdrawal-T1 to loneliness-T2. We hypothesized that victimization-T1 would add to the prediction of loneliness-T2 over and above the contributions of withdrawal-T1 and social preference-T1, as well as account for a significant

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2. Given that victimization is posited as an important mediator of the contribution of withdrawal and social preference in predicting loneliness, it may be relevant to examine if initial levels of withdrawal and social preference, as well as changes in withdrawal and social preference predict subsequent victimization (T2) and increases in victimization over time. Accordingly, we performed two hierarchical regressions, one predicting victimization-T2 and one predicting changes in victimization, in which sex, withdrawal-T1, social preference-T1, changes in withdrawal, and changes in social preference were systematically entered in that order as separate steps. The results of these analyses indicated that sex (1.1% of the variance), withdrawal-T1 (+17.2%), social preference-T1 (−16.7%), changes in withdrawal (+6.2%) and changes in social preference (+9.4%) each contributed to a significant increase in prediction of victimization-T2 (50.6% of the variance explained overall). Social preference-T1 was found to partly mediate the contributions of withdrawal-T1 (the unique contribution of withdrawal-T1 went from 1̄.6% to 5.3% when social preference-T1 was considered into the equation), as were changes in social preference for changes in withdrawal (the unique contribution of changes in withdrawal went from 6.3% to 2.6% when changes in social preference was included). The prediction of

changes in victimization was less strong (R^2 = 24.4), with the change scores (changes in withdrawal: +11.2%; changes in social preference: +10.3%) providing for most of the prediction. Changes in social preference partly mediated the contribution of changes in withdrawal (the unique contribution of changes in withdrawal went from 11.6% to 5.8% when changes in social preference was included). Although initial withdrawal (withdrawal-T1: 4.8%) significantly predicted changes in victimization, this contribution was not mediated by initial social preference, as social preference-T1 did not predict changes in victimization. In sum, children who were initially withdrawn and rejected and who became more withdrawn and more rejected over time were subsequently (i.e., T2) more victimized. Moreover, children who were initially withdrawn and who became more withdrawn and more rejected were increasingly victimized over time.

portion of the variance explained by these first two predictors in the previous step. The same rationale was applied to the residualized change scores that were expected, as a group, to contribute uniquely to the prediction of loneliness-T2 (over and above the T1 predictors), but in a manner consistent with the two-phase mediational model. That is, changes in social preference were expected to significantly account for the contribution of changes in withdrawal to the prediction of loneliness-T2, and changes in victimization was expected to significantly account for the contributions of both changes in withdrawal and changes in social preference to the prediction of loneliness-T2. The results of this analysis are presented in Table 2.[3]

Results indicated that the model accounted for 19.2% of the variance in loneliness-T2 overall (i.e., in Step 7), with initial (i.e., T1) conditions of social acceptance and victimization, as well as changes in social preference over time found to uniquely predict loneliness-T2. Children who initially experienced a negative peer status, were victimized by peers, and who endured a negative change of status over time were more lonely at T2. However, these direct

3. In the prediction of subsequent (i.e., T2) loneliness and depressed mood, as well as in the prediction of changes in loneliness and depressed mood, we also examined whether the effects of the main predictors were moderated by sex. For each prediction, to sets of Sex × Main predictor interaction terms were entered. Sex × T1 main predictor interactions were considered in one set (Step 8) and Sex × Changes in main predictor interactions were examined in the last set (Step 9). For three of the four outcomes, LONE-T2, DEP-T2 and DEP-CH, there were no significant Sex × Main predictor interaction, indicating that the pattern of results held for both boys and girls. There was a significant moderation by sex of the effects of the main predictors at T1 on changes in loneliness, although none of the specific Sex × Main predictor interactions were significant when they were simultaneously considered in the equation. A procedure of forward selection indicated that the overall sex interaction was mainly accounted by the Sex × Social preference interaction. Separate plots of the regression lines (not shown) indicated that the unique negative contribution of initial social preference on change in loneliness over time was slightly stronger for girls than for boys.

contributions were embedded in a sequence of indirect effects consistent with the proposed two-stage mediational model. For instance, withdrawal-T1 was found initially to significantly predict loneliness-T2, accounting for 4.3% of the variance in loneliness-T2 (Step 2). When social preference-T1 was added to withdrawal-T1 as main predictor (Step 3), a total of 9.3% of the variance in loneliness-T2 was accounted for, 4.6% of which was uniquely accounted for by social preference-T1. Accounting for the effect of social preference-T1 reduced the unique contribution of withdrawal-T1 (from 4.3% in Step 2 to 1.2% in Step 3), therefore indicating that social preference-T1 significantly mediated the contribution of withdrawal-T1 in predicting loneliness-T2. When victimization-T1 was considered in the equation (Step 4), an additional 2.1% of the variance in loneliness-T2 was accounted for. The contribution of victimization-T1 also had the effect of wiping out the unique contribution of withdrawal-T1 (from 1.2% in Step 3 to a nonsignificant contribution in Step 4), as well as reducing the unique contribution of social preference-T1 (from 4.6% in Step 3 to .7% in Step 4). Thus, to this point, the two-phase mediational model was supported as complete mediation was provided for withdrawal-T1 through the successive mediations of social preference-T1 and victimization-T1. The contribution of social preference-T1 was also partially mediated by victimization-T1.

The next three steps (Steps 5, 6, and 7) indicated that two of three residualized change scores significantly increased the variance accounted for in loneliness-T2, with changes in withdrawal adding 1% in Step 5 and changes in social preference accounting for a further 6.3% in Step 6. Accounting for the effect of changes in social preference eliminated the unique contribution of changes in withdrawal (from 1.0% in Step 5 to a nonsignificant contribution in Step 6), therefore indicating that social preference changes significantly mediated the contribution of withdrawal changes in predicting loneliness-T2. However, changes

Table 2. *Hierarchical regression analyses predicting self-assessed loneliness at T2 from measures of withdrawal, social preference, and victimization at T1, and changes in withdrawal, social preference, and victimization from T1 to T2*

Step	Variable Entered	Cumulative R^2	R^2 Change	Predictors in Equation	sr^2	Beta
1	SEX	.004	.004	SEX	.004	0.06
2	WITHD-T1	.047***	.043***	SEX	.008	0.09
				WITHD-T1	.043***	0.21***
3	SPREF-T1	.093***	.046***	SEX	.004	0.06
				WITHD-T1	.012**	0.12**
				SPREF-T1	.046***	−0.23***
4	VICT-T1	.114***	.021***	SEX	.003	0.05
				WITHD-T1	.004	0.07
				SPREF-T1	.007*	−0.11*
				VICT-T1	.021***	0.21***
5	WITHD-CH	.124***	.010*	SEX	.004	0.06
				WITHD-T1	.005	0.08
				SPREF-T1	.005	−0.10
				VICT-T1	.021***	0.20***
				WITHD-CH	.010*	0.10*
6	SPREF-CH	.187***	.063***	SEX	.001	0.03
				WITHD-T1	.004	0.08
				SPREF-T1	.012**	−0.15**
				VICT-T1	.010**	0.14**
				WITHD-CH	.001	0.03
				SPREF-CH	.063***	−0.27***
7	VICT-CH	.192***	.005	SEX	.000	0.02
				WITHD-T1	.003	0.06
				SPREF-T1	.010**	−0.14**
				VICT-T1	.013**	0.17**
				WITHD-CH	.000	0.10
				SPREF-CH	.042***	−0.23***
				VICT-CH	.005	0.09

Note: WITHD-T1, Time 1 withdrawal; SPREF-T1, Time 1 social preference; VICT-T1, Time 1 victimization by peers; WITHD-CH, change in withdrawal from T1 to T2; SPREF-CH, change in social preference from T1 to T2; VICT-CH, change in victimization by peers from T1 to T2; sr^2, squared semipartial correlations.
*$p < .05$; **$p < .01$; ***$p < .001$.

in victimization did not add significantly to the prediction of loneliness-T2 and could not be considered as a mediator of the impact of changes in withdrawal and changes in social preference.

Loneliness changes. The same hierarchical regression model was used to predict changes in loneliness over time (i.e., from T1 to T2). As indicated previously, changes in loneliness were assessed by regressing loneliness-T1 scores on loneliness-T2 scores, with the residualized scores taken as a measure of changes in loneliness. The results of this analysis are presented in Table 3.

When all main predictors were considered (i.e., in Step 7), 12.9% of the variance in changes in loneliness was accounted for, with changes in social preference and changes in victimization mainly accounting for the prediction of changes in loneliness. Children who experienced a negative change in peer status and an increase in victimization by peers became more lonely over time.

A closer look at the progression across

Table 3. *Hierarchical regression analyses predicting change in self-assessed loneliness from T1 to T2 from measures of withdrawal, social preference, and victimization at T1, and changes in withdrawal, social preference, and victimization from T1 to T2*

Step	Variable Entered	Cumulative R^2	R^2 Change	Predictors in Equation	sr^2	Beta
1	SEX	.005	.005	SEX	.005	0.07
2	WITHD-T1	.012*	.007*	SEX	.006	0.08
				WITHD-T1	.007*	0.09*
3	SPREF-T1	.019*	.008*	SEX	.005	0.07
				WITHD-T1	.002	0.05
				SPREF-T1	.008*	− 0.10*
4	VICT-T1	.020*	.001	SEX	.005	0.07
				WITHD-T1	.001	0.04
				SPREF-T1	.003	− 0.07
				VICT-T1	.001	0.04
5	WITHD-CH	.032**	.012**	SEX	.006	0.08
				WITHD-T1	.002	0.05
				SPREF-T1	.002	− 0.06
				VICT-T1	.001	0.03
				WITHD-CH	.012**	0.11**
6	SPREF-CH	.119***	.087***	SEX	.002	0.04
				WITHD-T1	.001	0.04
				SPREF-T1	.008*	− 0.12*
				VICT-T1	.001	− 0.04
				WITHD-CH	.001	0.03
				SPREF-CH	.087***	− 0.31***
7	VICT-CH	.129***	.010*	SEX	.001	0.03
				WITHD-T1	.000	0.02
				SPREF-T1	.006	− 0.10
				VICT-T1	.000	− 0.01
				WITHD-CH	.000	0.00
				SPREF-CH	.056***	− 0.27***
				VICT-CH	.010*	0.12*

Note: WITHD-T1, Time 1 withdrawal; SPREF-T1, Time 1 social preference; VICT-T1, Time 1 victimization by peers; WITHD-CH, change in withdrawal from T1 to T2; SPREF-CH, change in social preference from T1 to T2; VICT-CH, change in victimization by peers from T1 to T2; sr^2, squared semipartial correlations.
*$p < .05$; **$p < .01$; ***$p < .001$.

steps revealed that the initial conditions accounted for a very small percentage of the variance in changes in loneliness (e.g., in Step 4 only 2% of the variance in changes in loneliness was accounted for when withdrawal-T1, social preference-T1, and victimization-T1 were included in the equation). To this point, evidence for mediation was only provided for social preference-T1, as it was shown to account for the small contribution of withdrawal-T1 (Steps 2 and 3).

Most of the variance accounted for in loneliness changes was provided by changes in the main predictors, as reflected in residualized change scores. The successive increases in R^2 were 1.2% for changes in withdrawal (Step 5), 8.7% for changes in social preference (Step 6), and 1% for changes in victimization (Step 7), respectively. These successive contributions also provided support for the two-stage mediational model. Accounting for the effect of changes in social preference eliminated the unique contribution of changes in withdrawal (from 1.2% in Step 5 to a nonsignificant contribution in Step 6), suggesting a complete medi-

ation of changes in withdrawal by changes in social preference. The contribution of changes in victimization also had the effect of reducing the unique contribution of changes in social preference (from 8.7% in Step 6 to 5.6% in Step 7), indicating that the contribution of changes in social preference was partially mediated by changes in victimization.

Predicting depressed mood

Depressed mood at T2. As indicated previously, loneliness–T1 and changes in loneliness from T1 to T2 were hypothesized to mediate the impact of initial (i.e., T1) levels of withdrawal, social preference, and victimization, as well as their changes over time, in predicting subsequent (i.e., T2) depressed mood. Accordingly, in predicting depressed mood–T2, the regression model was extended to include loneliness–T1 and changes in loneliness to test for these mediations.

Again, the correlations presented in Table 1 indicate that the preconditions for testing mediation were met. Withdrawal–T1 was significantly related to depressed mood–T2, the outcome, as well as moderately associated with social preference–T1, victimization–T1, and loneliness–T1, the hypothesized moderators. Social preference–T1 and victimization–T1 were also significantly related to loneliness–T1.

The results of the hierarchical regression analysis predicting depressed mood–T2 are presented in Table 4. The analysis revealed that the model accounted for 28.3% of the variance in depressed mood–T2 overall (i.e., in Step 9). At this point, depressed mood–T2 was essentially accounted or by initial levels of loneliness and changes in loneliness over time. Children who initially expressed higher levels of loneliness and who increased in loneliness over time were subsequently more depressed.

Inspection of the different steps in the model generally supports the mediational hypotheses. Withdrawal–T1 was initially related to depressed mood–T2 (accounting for 1.6% of the variance in Step 2). When

social preference–T1 was considered as a main predictor (Step 3), it accounted for an additional 2.6% of the variance in depressed mood–T2, and eliminated the unique contribution of withdrawal–T1 (from 1.6% in Step 2 to a nonsignificant contribution in Step 3). Similarly, when victimization–T1 was included in the equation (Step 4), it accounted for an additional 1.0% of the variance in depressed mood–T2, and wiped out the unique contribution of social preference–T1 (from 2.6% in Step 3 to a nonsignificant contribution in Step 4). Finally, the same effect was found when loneliness–T1 was entered into the equation in Step 5. Loneliness–T1 accounted for an additional 8.3% of the variance in depressed mood–T2 and completely accounted for the unique contribution of the previous mediator (victimization–T1). Thus, to this point, the hypothesized sequence of mediation was supported as withdrawal–T1 was indirectly linked to depressed mood–T2 through the successive and complete mediations of social preference–T1, victimization–T1, and loneliness–T1.

The same pattern of results were found when the residualized change scores were considered (Steps 6 to 9). Each step was found to add significantly to the prediction of depressed mood–T2, with changes in loneliness providing the most important addition (10.6% in Step 9). The change variable introduced at each step also had the effect of reducing or eliminating the variance accounted for by the previous change variable. The significant contribution of loneliness–T1, however, was maintained across these last steps.

Depressed mood changes. The last analysis used the same hierarchical regression model to predict changes in depressed mood over time as assessed by the residualized scores (i.e., regressing T1 depressed mood on T2 depressed mood). The results of this analysis are presented in Table 5. When all main predictors were considered (i.e., in Step 9), 17.6% of the variance in depressed mood changes was accounted for, with changes in loneliness and, to a lesser degree, changes in

Table 4. *Hierarchical regression analyses predicting self-assessed depressed mood at T2 from measures of withdrawal, social preference, victimization, and loneliness at T1, and changes in withdrawal, social preference, victimization, and loneliness from T1 to T2*

Step	Variable Entered	Cumulative R^2	R^2 Change	Predictors in Equation	sr^2	Beta
1	SEX	.000	.000	SEX	.000	0.01
2	WITHD–T1	.016**	.016**	SEX	.001	0.03
				WITHD–T1	.016**	0.13**
3	SPREF–T1	.042***	.026***	SEX	.000	0.01
				WITHD–T1	.003	0.06
				SPREF–T1	.026***	− 0.17***
4	VICT–T1	.052***	.010*	SEX	.000	0.00
				WITHD–T1	.001	0.03
				SPREF–T1	.004	− 0.09
				VICT–T1	.010*	0.14*
5	LONE–T1	.135***	.083***	SEX	.000	0.01
				WITHD–T1	.000	0.01
				SPREF–T1	.002	− 0.06
				VICT–T1	.001	0.04
				LONE–T1	.083***	0.32***
6	WITHD–CH	.143**	.008*	SEX	.000	0.01
				WITHD–T1	.000	0.01
				SPREF–T1	.002	− 0.05
				VICT–T1	.001	0.04
				LONE–T1	.082***	0.32***
				WITHD–CH	.008*	0.09*
7	SPREF–CH	.169***	.026***	SEX	.000	− 0.01
				WITHD–T1	.000	0.01
				SPREF–T1	.004	− 0.08
				VICT–T1	.000	0.00
				LONE–T1	.082***	0.32***
				WITHD–CH	.002	0.04
				SPREF–CH	.026***	− 0.17***
8	VICT–CH	.177***	.008*	SEX	.000	− 0.02
				WITHD–T1	.000	− 0.01
				SPREF–T1	.002	− 0.07
				VICT–T1	.000	0.02
				LONE–T1	.083***	0.32***
				WITHD–CH	.000	0.02
				SPREF–CH	.014**	− 0.13**
				VICT–CH	.008*	0.10*
9	LONE–CH	.283***	.106***	SEX	.001	− 0.03
				WITHD–T1	.000	− 0.02
				SPREF–T1	.000	− 0.03
				VICT–T1	.000	0.02
				LONE–T1	.095***	0.34***
				WITHD–CH	.000	0.02
				SPREF–CH	.001	− 0.04
				VICT–CH	.003	0.06
				LONE–CH	.106***	0.35***

Note: WITHD–T1, Time 1 withdrawal; SPREF–T1, Time 1 social preference; VICT–T1, Time 1 victimization by peers; WITHD–CH, change in withdrawal from T1 to T2; SPREF–CH, change in social preference from T1 to T2; VICT–CH, change in victimization by peers from T1 to T2; sr^2, squared semipartial correlations.

*$p < .05$; **$p < .01$; ***$p < .001$.

Table 5. *Hierarchical regression analyses predicting changes in self-assessed depressed mood from T1 to T2 from measures of withdrawal, social preference, victimization, and loneliness at T1, and changes in withdrawal, social preference, victimization, and loneliness from T1 to T2*

Step	Variable Entered	Cumulative R^2	R^2 Change	Predictors in Equation	sr^2	Beta
1	SEX	.000	.000	SEX	.000	0.02
2	WITHD–T1	.003	.003	SEX	.001	0.03
				WITHD–T1	.004	0.06
3	SPREF–T1	.018*	.015**	SEX	.000	0.01
				WITHD–T1	.000	0.01
				SPREF–T1	.015**	− 0.13**
4	VICT–T1	.020*	.002	SEX	.000	0.09
				WITHD–T1	.000	0.06
				SPREF–T1	.005	0.06
				VICT–T1	.003	0.07
5	LONE–T1	.022*	.002	SEX	.000	0.09
				WITHD–T1	.000	0.06
				SPREF–T1	.004	0.06
				VICT–T1	.002	0.08
				LONE–T1	.002	0.05
6	WITHD–CH	.028**	.006	SEX	.000	0.01
				WITHD–T1	.000	− 0.01
				SPREF–T1	.003	− 0.08
				VICT–T1	.001	0.05
				LONE–T1	.002	0.05
				WITHD–CH	.006	0.08
7	SPREF–CH	.056***	.028***	SEX	.000	− 0.01
				WITHD–T1	.000	− 0.01
				SPREF–T1	.007*	− 0.11*
				VICT–T1	.000	0.01
				LONE–T1	.002	0.05
				WITHD–CH	.001	0.03
				SPREF–CH	.028***	− 0.18***
8	VICT–CH	.071***	.014**	SEX	.000	− 0.02
				WITHD–T1	.001	− 0.03
				SPREF–T1	.004	− 0.09
				VICT–T1	.001	0.05
				LONE–T1	.002	0.05
				WITHD–CH	.000	− 0.01
				SPREF–CH	.012**	− 0.13**
				VICT–CH	.014**	0.14**
9	LONE–CH	.176***	.105***	SEX	.001	− 0.03
				WITHD–T1	.001	− 0.04
				SPREF–T1	.002	− 0.05
				VICT–T1	.001	0.04
				LONE–T1	.004	0.07
				WITHD–CH	.000	− 0.01
				SPREF–CH	.001	− 0.03
				VICT–CH	.007*	0.10*
				LONE–CH	.105***	0.35***

Note: WITHD–T1, Time 1 withdrawal; SPREF–T1, Time 1 social preference; VICT–T1, Time 1 victimization by peers; WITHD–CH, change in withdrawal from T1 to T2; SPREF–CH, change in social preference from T1 to T2; VICT–CH, change in victimization by peers from T1 to T2; sr^2, squared semipartial correlations.

*$p < .05$; **$p < .01$; ***$p < .001$.

victimization accounting for the prediction of changes in depressed mood. Increases in loneliness and in actual victimization by peers over time predicted increases in depressed mood across the same period.

Initial levels of withdrawal, social preference, victimization, and loneliness accounted for a very small percentage of the variance in changes in depressed mood. Specifically, only 2.2% of the variance in depressed mood changes was accounted for when withdrawal–T1, social preference–T1, victimization–T1, and loneliness–T1 were considered in the equation (Step 5). There was no evidence for mediation to this point.

With the exception of changes in withdrawal (Step 6), the residualized change scores of the main predictors accounted for most of the variance of changes in depressed mood. The successive increases were 2.8% for changes in social preference (Step 7), 1.4% for changes in victimization (Step 8), and 10.5% for changes in loneliness (Step 7), respectively. Only partial support was found for the mediational model given that changes in withdrawal did not predict changes in depressed mood. On the other hand, accounting for the effect of changes in victimization reduced the unique contribution of changes in social preference (from 2.8% in Step 7 to 1.2% in Step 8), indicating partial mediation of changes in social preference by changes in victimization. Furthermore, the introduction of changes in loneliness into the equation had the effect of eliminating the unique contribution of changes in social preference (from 1.2% in Step 8 to a nonsignificant contribution in Step 9) and reducing the contribution of changes in victimization (from 1.4% in Step 8 to 0.7% in Step 9). This suggested that changes in loneliness partially mediated the impact of decreasing quality of peer relationships on changes in depressed mood.

Discussion

Boivin and Hymel (forthcoming) proposed that the quality of peer relationships mediates the predictive relation between social withdrawal and loneliness through a two-stage mediational process involving negative peer status and peer victimization. Specifically, they posited that socially withdrawn behavior contributes to the likelihood of peer rejection within the group (first-stage mediator). This, in turn, leads to victimization by peers (second-stage mediator), which constitutes the manifest conditions through which peer group attitudes are conveyed to the child. Thus, it follows that it is the withdrawn child who is rejected and victimized within the peer group who is most likely to feel lonely and socially dissatisfied.

The purpose of this study was twofold. First, we wanted to evaluate whether the Boivin and Hymel social process model, initially developed within a concurrent data set, would also hold in a longitudinal study, predicting subsequent loneliness and changes in loneliness over time. Second, the study also evaluated the plausibility of an extension of the Boivin and Hymel model in predicting subsequent depressed mood and changes in depressed mood over time. In this latter extension, the basic model was expanded to include self-reported loneliness and social dissatisfaction as the final mediator, based on the assumption that negative social conditions contribute to depressed moods, a subjective internalized state, through their negative impact on domain-specific social self-perceptions.

Both the basic social process model predicting loneliness and its extension to predicting depressed mood found support in the pattern of longitudinal findings that emerged in this study. Certain nuances, however, were observed with respect to previous concurrent findings (Boivin & Hymel, forthcoming), and some of the observed effects require further clarification. We will first discuss the results concerning the prediction of loneliness before turning our attention to the extended model and the prediction of depressed mood.

Predicting loneliness

With respect to the capacity of the basic model to predict subsequent loneliness and

changes in loneliness over time, the two-phase mediational model was generally supported, although the nature of the most significant predictors differed as a function of the outcome considered (i.e., subsequent loneliness vs. changes in loneliness). Overall, results indicated that lonely children (i.e., at T2) were initially more rejected and victimized and became more rejected over time. However, these overall effects were qualified by a series of mediations, as predicted by the model. The tests of mediations on the initial social conditions indicated that the contribution of initial withdrawal in forecasting subsequent loneliness was completely explained by its association with negative peer status and actual victimization. Further, the contribution of initial negative peer status was essentially, although not completely, accounted for by its association with actual victimization by peers. To this point then, the two-stage mediational model proposed by Boivin and Hymel was essentially replicated in the longitudinal study.

In extending this model by exploring the impact of *changes* in withdrawal, social preference, and victimization (assessed as residual scores on subsequent [T2] loneliness), results indicated that *increases* in withdrawal also contributed to subsequent loneliness (over and above the initial conditions), but that this contribution was explained by its related decrease in peer status. Contrary to expectations, however, the contribution of changes in peer status was not mediated by changes in victimization. In other words, increases in reported loneliness from one school year to the next were predicted by increases in withdrawn behavior, which were mediated only by accompanying increases in peer rejection. With the exception of the last result, these mediational effects were quite in line with the proposed model.

Subsequent analyses examined whether initial levels of withdrawal, social preference and victimization as well as changes in withdrawal, social preference and victimization predicted *changes* in loneliness across a school year. The examination of

changes in loneliness was important in demonstrating that the predicting relations observed were not accounted for by the stability of feelings of loneliness over time. With respect to *changes* in loneliness, results indicated that, overall, children who *increased* in loneliness and social dissatisfaction (irrespective of their initial levels of loneliness) were essentially those who became *more* rejected and *more* victimized over time. Initial levels of withdrawal, social preference, and victimization were only modestly related to changes in loneliness. These effects, however, reflected a sequential mediational pattern, as predicted by the Boivin and Hymel model (e.g., initial negative peer status explained the (marginal) contribution of initial withdrawal in predicting increases in loneliness). More compelling, however, was the pattern of results that emerged concerning the contributions of *changes* in their initial social conditions over time. Specifically, the sequence of successive contributions of the change scores indicated that the additional contribution of increases in withdrawal (i.e., over and above the initial conditions) in predicting changes in loneliness was completely explained by its related decrease in peer status. This decrease, in turn, was partially accounted for by a related increase in victimization. Thus, for both subsequent loneliness and changes in loneliness over time, the two-stage mediational model was supported.

These patterns of results confirm and extend previous concurrent findings regarding the utility of the two-stage mediational model (Boivin & Hymel, forthcoming), in which negative peer status and, in turn, actual victimization by peers were found to partly mediate the feelings of loneliness associated with withdrawn behavior. Overall, the proposed sequence of mediations (from withdrawal to social preference to victimization) were evident in both the concurrent and longitudinal studies. Also, in both cases, negative peer status was only partially mediated by peer victimization and continued to exert a direct influence on feelings of loneliness. As Boivin and Hymel suggested, victimization constitutes only

one of the many possible manifest conditions through which peer attitudes are communicated, and the continued unique contribution of social preference to feelings of loneliness may simply suggest that other, perhaps more subtle manifest conditions (not tapped in the present study) are operative.

However, in predicting *concurrent* loneliness, Boivin and Hymel found that, despite evidence for the mediational sequence, withdrawal continued to be uniquely related to loneliness, a finding that was not replicated in this longitudinal investigation. This discrepancy may in part be attributable to the fact that the zero-order relation between withdrawal and loneliness was somewhat higher in this concurrent study ($r(791) = .29$) than in the present longitudinal study, especially across the school year ($r(565) = .26$ $W_{T1}L_{T1}$, $r(565) = .23$ $W_{T2}L_{T2}$, $r(565) = .20$ $W_{T2}L_{T2}$), leaving somewhat less common variance to explain.

Predicting depressed mood

The second goal of the study was to investigate the utility of an extension of the model describing the mechanisms underlying the prediction of depressed mood, with particular emphasis on the mediating role of negative social self-perceptions (loneliness) in this prediction. With respect to both the prediction of subsequent depressed mood and changes in depressed mood over time, the extended model was generally supported.

In predicting Time 2 depressed mood, the pattern of results observed for the first part of the model (i.e., the successive mediations of social preference and victimization) was similar to that concerning the prediction of feelings of loneliness. For instance, in predicting later depressed mood (i.e., at T2), both initial social conditions and changes over time in these conditions fell in line with the expected pattern of mediations. That is, the contribution of initial withdrawal in forecasting subsequent depressed mood was completely explained by its association with negative peer status. In turn, the contribution of initial negative

peer status was completely accounted for by its association with actual victimization by peers. These results provide supplementary evidence for the value of the proposed model positing the mediational role of peer relationships in predicting internalized problems. Furthermore, consistent with the *extended* model, the sequential influence of initial social conditions on reported depressed mood was ultimately explained by resulting feelings of loneliness and social dissatisfaction. When changes in the initial social conditions were considered, the same sequence of mediations was observed, with *increases* in withdrawal adding significantly to the prediction of depressed mood. These increases, however, were successively mediated by decreases in social preference and, in turn, increases in victimization. Ultimately, however, reported depressed mood was predicted by feelings of loneliness and by changes (increases) in reported loneliness over the year. These results suggest that withdrawal and/or peer rejection are associated with depressed mood mainly when they involve actual negative treatments by peers, and only when these negative peer experiences negatively affect the child's assessment of his/her current social situation.

The extended model also partially accounted for observed changes in depressed mood over time, but only when changes in the social conditions and feelings of loneliness were considered. Initial levels of social preference, victimization, and loneliness were only modestly related to changes in depressed mood, and initial levels of withdrawal were not found to predict changes in depressed mood. Changes in withdrawal did not predict changes in depressed mood. However, a decrease in social preference was found to predict an increase in depressed mood, which was explained by a related increase in victimization. This relation was partially accounted for by a related increase in feelings of loneliness.

In sum, the pattern of results for depressed mood supports the basic mediational model and its extension to include feelings of loneliness as the ultimate mediator/predictor of depressed mood. Actual

negative peer experiences were likely to affect depressed mood mainly when these conditions lead children to feel badly about their social situation. This pattern of results is quite in line with previous findings reported by Panak and Garber (1992) indicating that one's own appraisal of peer experiences (i.e., perceived rejection) mediates the relation between actual rejection and depressed mood.

Overall, the results of this study are generally consistent with previous reports indicating that withdrawn–rejected children have a lower self-concept, express more loneliness and social dissatisfaction, and report stronger depressed mood than do average-status children (Boivin et al., 1989, 1994; Hymel et al., 1993; Rubin & Mills, 1988). However, these findings indicate that negative peer relationships, and victimization by peers in particular, have a unique contribution to the prediction of loneliness and depressed mood. Thus, they suggest that the previously reported differences in self-perceptions between withdrawn–rejected children and average status children were more likely caused by difficult peer relationships than by withdrawal.

The fact that negative peer relationships appear to mediate/predict feelings of loneliness and depressed mood over time could mean that the former may be causally involved in, rather than only incidental to, the development of internalizing problems (see Parker & Asher, 1987). However, we should be careful not to overconclude from these findings. For instance, the fact that changes in depressed mood were mainly accounted for by changes in loneliness, which, in turn, were essentially accounted for by changes in the quality of peer experiences, suggests that there was a concurrent rather than a prospective predictive relation between these variables (i.e., changes in outcomes were predicted by changes in predictors and not by their initial values). It could be that the potential impact of social conditions on feelings of loneliness and depressed mood were immediate and short-term, with the new social conditions (i.e., changes from T1 to T2) typically prevailing over earlier initial conditions in their socioemotional impact on the child. However, it is noteworthy that the social withdrawal and peer relationships indices were highly stable over the 1-year period, with test–retest correlations of .69 for social withdrawal, .63 for social preference and .71 for victimization. As well, loneliness and depressed mood were relatively stable. For instance, the test–retest correlations were .53 for loneliness and .52 for depressed mood over the 1-year period, a finding consistent with previous reports for children of similar age (Hymel & Franke, 1985; Renshaw & Brown, 1992). These stability coefficients suggest that children's social situations tended to persist from one year to the next. This may be accounted for by the fact that the study was conducted at a time when children endure relatively few changes with respect to their school environment (i.e., the children stayed in the same elementary school) and to their biological changes (i.e., prepuberty). In turn, this longitudinal stability may have limited the degree to which withdrawal and negative peer experiences had an effect on children's socioemotional adjustment over time. It may be interesting in future studies to determine whether transition periods, such as the transition from elementary school to secondary school, yield more change in loneliness and depressed mood, and to what extent withdrawal and negative peer experiences may forecast this change.

In conclusion, the results of this study were consistent with the proposition of Rubin et al. (1990) concerning one of the probable developmental pathways toward internalizing problems. The growing association between withdrawal and peer rejection in middle and late childhood is likely to lead to feelings of distress mainly through the mediation of actual negative experiences with peers and one's assessment of their aversive experiences. Although this study emphasized the central role of peer relationships and peer experiences in predicting children's socioemotional adjustment, other intraindividual and interpersonal processes may also be involved. These findings are gener-

ally congruent with the view that the quality of peer experiences is not only a sign of maladjustment (Parker & Asher, 1987), but rather, that it plays an effective role in the

child's personal and social adjustment. However, this latter view should be tested more decisively in future longitudinal studies.

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