

Peer acceptance and self-perceptions of verbal and behavioural aggression and social withdrawal

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This study presents a model of maladaptive social interactions that includes both behavioural and communication correlates of peer acceptance and self-perceived social competence. Tested in a sample of 377 Hong Kong secondary school students, verbal and nonverbal aggression contributed concurrently and longitudinally to peer acceptance. Communication avoidance was predictive only of self-perceived social competence but not of peer acceptance, whereas, as observed in Western children, social withdrawal negatively predicted peer acceptance and self-perceived social competency. These findings are presented in a discussion of the verbal and nonverbal involvement in defining aggression and social withdrawal in adolescent social interactions.

Introduction

Whereas young children play with one another, older children and adolescents spend most of their time talking (Samter, 1992). With development, verbal communication becomes so essential in forming friendship relations (Selman, 1981) that students who lack important communicative attributes experience difficulties in peer acceptance (Black & Hazen, 1990). Communication researchers have shown that middle school students who were unwilling to speak were perceived by peers as less desirable friendship choices (Hurt & Preiss, 1978) and that high school students who had more speaking experiences were more socially competent and successful in college (Duran & Kelly, 1994). Compared to their unpopular peers, popular middle school students were more accurate in assessing the “frame of reference” of an ongoing conversation and were better able to participate in the conversation (Putallaz & Gottman, 1981). Unpopular children, on the other hand, seemed to make noncontingent contributions to conversations with peers (Black & Logan, 1995). These children who are not effective communicators tend to demonstrate social adjustment problems (Hart, Newell, & Olsen, 2002). Apparently, verbal communication plays an important role in the development of social skills and peer relations, especially among older children and adolescents.

However, due to different disciplinary focuses, developmental psychologists do not routinely include communication variables in the study of peer relations. The purpose of the

present research was to develop a model of peer relations that includes both verbal and nonverbal correlates of peer acceptance and self-perceived social competence. Two sets of predictors were included. They were social withdrawal and aggression, which have been extensively studied as behavioural correlates of peer acceptance, and communication avoidance and verbal aggressiveness, which have not been the focus of existing developmental studies. The model, including both concurrent and longitudinal effects, was tested in a sample of 377 Hong Kong secondary school Year 2 and Year 3 students who were observed over a 1.5-year period. Despite a growing interest in learning psychological processes from diverse cultural samples, Asian populations are still understudied, especially in the social developmental domain. A study based on Chinese adolescents was expected to provide more culturally informed understandings of social development for this age group.

Communication avoidance and verbal aggressiveness

Communication avoidance or unwillingness to communicate has been defined as a “chronic tendency to avoid and/or devalue oral communication” (Burgoon, 1976, p. 60). Parallel to social withdrawal, communication avoidance represents verbal withdrawal from social interactions. Although there is a lack of cross-discipline work to draw theoretical connections between communication avoidance and children’s social

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development, a large number of communication studies have shown similarly negative outcomes associated with communication avoidance as have been found with social withdrawal in the child development literature. For example, communication avoidance was correlated with low self-esteem (McCroskey & Richmond, 1987), social anxiety, sensitivity and avoidance (Daly, 1978), communication apprehension (Burgoon & Hale, 1983), anomia and alienation (Burgoon, 1976), reticence (Burgoon & Koper, 1984), shyness (McCroskey & Richmond, 1982), loneliness (Zakahi & Duran, 1982), social isolation (Mortensen, Arnston, & Lustig, 1977), and depression (Breznitz & Sherman, 1987), especially among adolescents (Cheek, Carpentieri, Smith, Rierdan, & Koff, 1986). These findings suggest that, like social withdrawal (see Rubin & Asendorpf, 1993, for a review), communication avoidance is associated with negative self-perceptions.

The relationship between communication avoidance and peer acceptance has not been specifically investigated in the communication literature. Indirectly, several observational studies have looked at how communication avoidance is perceived by others. Reticent and apprehensive communicators were perceived as incompetent or ineffective in communication (Daly, Vangelisti, Neel, & Cavanaugh, 1989), unpopular as group leaders (Hawkins & Stewart, 1991), and unsatisfying to interact with (Colby, Hopf, & Ayres, 1993). Studies of adult communicators showed that those who were shy and apprehensive in conversations were also low in social competence and efficacy (e.g., Hopf & Colby, 1992) and had few friendship choices (e.g., Zakahi, Jordan, & Christophel, 1993). Among children, communication skills have been found to be increasingly important in making friends and gaining popularity in schools (Russell, Hart, Robinson, & Olsen, 2003). The communication work by Black and Logan (1995) also suggests that communication avoidance and the related lack of verbal skills should reduce a child's conversational and other social interactions with peers or make her underperform in such social occasions and thus lower her influence and popularity among peers (Hart et al., 2002). Given this and other communication and psychology literature, we expected a negative association between communication avoidance and peer acceptance.

The other communication variable investigated in this study was verbal aggressiveness. It has been defined as a "destructive trait" that manifests itself verbally through messages that attack the self-concept of others (Infante & Rancer, 1996; Infante & Wigley, 1986). Because of its parallel to aggressive behaviours, which have consistently been implicated in negative peer relations, verbal aggressiveness was hypothesised to contribute equally negatively to peer acceptance. Although few studies have specifically examined verbal aggressiveness in relation to peer acceptance among young adolescents or children, indirectly, several studies have examined the communication styles of children with varying peer status. For example, Dumas, Blechman, and Prinz (1994) examined conversational styles of third-grade children and found that those who were categorised as behaviourally aggressive tended to engage in less effective and more disruptive conversations than did nonaggressive children. In two other studies, rejected and accepted children were found to demonstrate significant differences in their communication skills and attributes, either from a content analysis of their conversations (Vogel, Keane, & Conger, 1988) or from observations of dyadic interactions (Keane, Conger, & Vogel, 1984). Other researchers found

rejected and accepted children to demonstrate significant differences in their communication skills and attributes (Vogel et al., 1988), and aggressive speakers were perceived derogatorily by others, especially when the speakers initiated, rather than reciprocated, verbal aggression (Infante, Riddle, Horvath, & Tumlin, 1992). Together, the communication and developmental literature has both implicated verbal aggressiveness as a negative contributor to young adolescents' peer interactions that are increasingly verbal.

Verbal and behavioural correlates considered together

In addition to the two communication variables, the negative predictors of peer acceptance and perceived social competence also included nonverbal indicators of social withdrawal and aggression. The rationale for including both verbal and nonverbal indicators of aggression and withdrawal was a double-edged sword. On the one hand, examining behavioural and communication correlates in the same model provides an opportunity to differentiate among different expressions of aggression and withdrawal, respectively. Existing studies of child aggression, for example, have primarily adopted an aggregating method that incorporates antisocial behaviours of all forms and expressions into one scale (Tremblay, 2000). Such a method fails to differentiate among antisocial behaviours that are correlated but are also different (Xie, Farmer, & Cairns, 2003). Verbal aggression represents a specific expression of aggression that should be differentiated from other behavioural expressions of aggression. For example, pushing and hitting versus ridiculing and saying mean things should independently contribute to peer rejection. Similarly, social withdrawal may present itself in terms of social isolation and verbal reticence, both of which were expected to affect peer and self-perception of social competence.

On the other hand, the two forms of aggression and of withdrawal, respectively, were also expected to correlate and their overlap should be statistically controlled in order to study the unique effect of each form (Xie et al., 2003). For example, the peer impression that a child "starts fights" or "hits others", commonly used peer nomination items to measure aggression, is likely to be influenced by the observation that the child is verbally aggressive. Similarly, the peer nomination that a child "plays by him/herself" can also be influenced by the observation that the child does not speak much during conversations. Conversely, the extent to which a teacher or peer believes a child avoids communication may also depend on how often the child is seen playing with others. Thus, each variable may have "spill-over" effects that need to be factored out. Including relevant correlates in a set of simultaneous equations enables researchers to sort out unique effects.

Social behaviours within cultural contexts

The extant literature is derived primarily from studies of Western populations. The present study was based on secondary school children in Hong Kong. Thus, expected East-West differences and similarities concerning children's peer relations need to be addressed. First, unsurprisingly, similar to the Western literature, aggressive and disruptive behaviours are rejected and discouraged in Chinese adolescents (e.g., Chang, 2003; Chang, Liu, Wen, Fung, Wang, & Xu, 2004). However, evidence suggesting that some aggressive children in the West appear to be unrealistically positive about

their social competency and peer status (Cillessen, Van IJzendoorn, Van Lieshout, & Hartup, 1992; Parkhurst & Asher, 1992) is absent or unclear in Chinese children. In the Chinese studies conducted by Chen and his colleagues (Chen, Chen, & Kaspar, 2001; Chen, Rubin, Li, & Li, 1999), the correlation between peer nomination of aggression and self-perceived social competence was zero. The correlation was $-.08$ in another recent Chinese study (Guo & Chang, 2003). Given these Chinese findings and the fact that the lack of association between aggression and self-concept has also been reported in the Western literature (Boivin & Hymel, 1997), both verbal and behavioural forms of aggression were expected to correlate negatively with peer acceptance but not with self-perceived social competence.

Within the classroom context, the self-construal of social withdrawal seems to be similar in Asian countries as in the West. Clearly, withdrawn, shy, fearful, and anxious children tend to have more negative self-perceptions than socially competent children. In a study of Chinese fifth-graders, withdrawn children were found to hold negative perceptions about themselves in the domains of physical ability, academic performance, appearance, and peer relations (Xiao & Matsuda, 1998). Their self-evaluations were as negative as those of their peers who rated them, whereas other children tended to be more positive about themselves than their peers were. Studies on depression and coping in Hong Kong middle school students (Chan, 1994, 1995, 1997) corroborates the negative association between social isolation and depressed feelings about one's social competency. Consistent with the Western literature (e.g., Rubin & Asendorpf, 1993), these findings suggest that Chinese withdrawn children are self-conscious about their internalising difficulties and feel negative about their inability to exert social influence. Both verbal avoidance and social withdrawal were hypothesised to negatively predict self-perceived social competence.

Evidence on the link between social withdrawal and peer acceptance in Chinese children is not clear cut. In the initial study on this topic, Chen, Rubin, and Sun (1992) looked at shyness-sensitivity in Chinese children aged 8 to 10 years. Contrary to the findings in the Western literature, they found a positive and significant correlation between shyness-sensitivity and peer acceptance. However, the authors believed that this positive effect was age related and should disappear in older children (Chen et al., 1992). As they expected, in their follow-up study of these children 4 years later (Chen et al., 1999), the correlation became negative, although not statistically significant, as is reported in the Western literature. Other Chinese studies have all reported negative associations between social withdrawal and peer acceptance. For example, in comparing American, Russian, and Chinese kindergarten children, Hart et al. (2000) found reticence-withdrawal to be negatively correlated with peer sociometric ratings in all three cultural samples. In another study of fifth-graders (Schwartz, Chang, & Farver, 2001), social withdrawal was a negative and robust predictor of peer acceptance. Studies based on Chinese adolescents have also shown that withdrawn children were not well accepted by peers (Chang, 2003; Chang et al., 2004). In addition to age and potential sampling fluctuations, the mixed findings are also in part due to the fact that different items were used to measure social withdrawal. For example, in the two studies by Chen and his colleagues, they removed avoidance items from the scale (e.g., "Someone who is often left out" and "Someone who has trouble making friends":

Chen et al., 1999, p. 207) to stress social sensitivity as the intended construct. The items used in the present study were almost identical to those of Chang and colleagues (Chang, 2003; Chang et al., 2004; Schwartz et al., 2001). Consistent with the majority findings, social withdrawal was hypothesised to affect peer acceptance negatively.

Developmental effects and summary of the study

Finally, of developmental interest is the issue of the longitudinal predictability of these communication and behavioural constructs. Indirect evidence points to the longitudinal effect of communication style differences. For example, high school students who had more speaking experiences were found to be more competent and successful socially in college (Duran & Kelly, 1994; Rubin, Le Mare, & Lollis, 1990). Similarly, in the social development literature, aggressive and withdrawn children observed at the beginning of the school year were found to have reduced peer acceptance and peer impact, respectively, at the end of the school year (Ladd, Price, & Hart, 1990). However, when the initial level of peer acceptance was statistically controlled, the same longitudinal predictability was not found in fourth- and fifth-graders (Sandstrom & Coie, 1999). In a Chinese study (Chen, Rubin, & Li, 1995), aggression was a significant predictor of positive peer nomination 2 years later ($\beta = -.24$), whereas withdrawal was not. Given this literature, the behavioural and communication predictors were hypothesised to have the same effects with reduced magnitudes on the Time 2 outcome measures obtained 1.5 years later.

In summary, two sets of hypotheses were tested. (1) Verbal and behavioural forms of aggression would have negative effects on peer acceptance concurrently and longitudinally across a 1.5-year lag. They were not expected to affect self-perceived social competence at either time point. (2) Communication avoidance and social withdrawal would have negative affects on peer acceptance and perceived social competence, both concurrently and longitudinally. These hypotheses were tested as simultaneous equations presented in Figure 1, which is reported later in the Results section.

Method

Population, sample, and procedure

Secondary education in Hong Kong is 7 years, whereas tertiary education is 3 years. The majority of the 75,000 students entering secondary schools each year will have an uninterrupted first 5 years of secondary education, which is equivalent to American Grades 7 to 11. At the end of the fifth year, they take a public exam that determines whether they continue to the sixth (American Grade 12) and seventh year (American first year of college) of secondary education. About one third of the students continue to the sixth and seventh year, at the end of which students take another public exam that determines college entrance and placements. Some students experience school transition during the sixth year, whereas there is normally no school transition during the first 5 years of secondary education.

Secondary schools in Hong Kong are grouped according to a banding system. Based on various primary school test results, students are allocated placement in secondary schools of one of

five bands, which have recently been changed into three bands. In general, the banding represents academic performance of the students, with Band 1 being the highest and Band 5 being the lowest in terms of academic excellence. However, different schools of the same banding may have students of somewhat different academic abilities. School banding may also differ from year to year and, within a school and grade, students' academic performance usually varies between two adjacent band levels. In many schools, classes are also formed according to academic performance so that there is a distinction among high-, intermediate-, and low-achieving classes within the same grade in a school.

Two Band-3 schools of similar size and family backgrounds were selected from among 800 secondary schools currently operating in Hong Kong. Second- and third-year (American Grades 8 and 9) students were invited to participate in the study. The second wave of data was collected 1½ years later when the students entered the second semester of the third and fourth year. Written parental permission was obtained prior to each of the two data collections. Teachers of two classes in one school did not allow their classes to participate in the study. These were high-achieving classes that also had more female students. Thus, although we aimed at sampling the average academic ability students, our sample could be slightly below average in academic performance and there were slightly more male than female students.

For the classes whose teachers allowed participation, over 95% of the students returned the parental consent forms and participated in the study. Students were given a McDonalds' coupon for each of the two data collections. To reduce personal identification and the related social desirability influence on self-responses, students were not asked to write down their names and gender. However, students were informed that a unique number assigned to each person identified their answers. A list of student names with numbers printed on mailing labels had been prepared. Upon returning the questionnaire and receiving the McDonalds' coupon, a student was asked to sign next to his/her name on the list. The data collector then peeled off the number label and affixed it to the student's questionnaire.

During the first data collection, students answered two communication questionnaires, Verbal Aggressiveness Scale and Unwilling-to-Communicate Scale, and the Perceived Competence Scale. They also responded to a set of peer nomination items that were used to derive aggressive and withdrawn behaviours and peer acceptance. During the second data collection 1½ years later, students repeated the Perceived Competence Scale and friendship nomination that measured peer acceptance. The initial sample from 10 classes contained 377 students, of whom 62% were male. The average age was 14.86 years ($SD = 1.03$). The average class size was 38. The final sample with complete data matched between Times 1 and 2 consisted of 323 cases of which 61% were male. The average age was 14.71 years ($SD = 1.03$). There were no statistical differences between the two samples on the Time 1 variables used in the study. Controlling for gender, there were no statistical differences between the two schools on any of the variables used in the study.

Measures

Communication avoidance. This was measured by the Approach-Avoidance subscale of the Unwillingness-to-Communi-

cate Scale (Burgoon, 1976). The subscale has 10 items tapping the degree to which individuals "are inclined to actively participate in (communications) or not" (Burgoon & Hale, 1983, p. 240). The items were written on a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Sample items include "I have no fears about expressing myself in a group (reverse coded)", "I listen more than talk", and "I avoid group discussions". The scale has been used with Western (e.g., Burgoon, Pfau, Birk, & Manusov, 1987) but not Chinese adolescents. For the present study, the scale was translated into Chinese by a professional translator and proofread by two research assistants and a secondary school teacher. The internal consistency reliability of the scale obtained from this sample was .62.

Verbal aggressiveness. This was measured by the Verbal Aggressiveness Scale (Infante & Wigley, 1986). The scale consists of 20 items measuring the communication style that "attacks the self-concepts of other people instead of, or in addition to, their positions on topics of communication" (Infante & Wigley, 1986, p. 61). The items were anchored on a 5-point scale ranging from 1 (*almost never true of me*) to 5 (*almost always true of me*). Sample items include "I try to make people feel good about themselves even when their ideas are stupid" (reverse coded), "When individuals are very stubborn, I use insults to soften the stubbornness", and "If individuals I am trying to influence really deserve it, I attack their character". The scale has been used with middle school students in the West (e.g., Rancer, Avtgis, Kosberg, & Whitecap, 2000) but has not been used with Chinese students. In translating these items into Chinese, "students or classmates" were used in place of "people" and "friends" to make the items more familiar to the student participants. The internal consistency based on the current sample was .70.

Perceived social competence. This was measured using the Social Competence subscale of the Perceived Competence Scale for Children (Harter, 1982). The subscale has seven items, three of which are reverse coded. The items were presented on a 4-point scale using the scale's original design to reduce response set. The scale has been used with other Chinese children of similar ages (Chang, 2003). The internal consistency reliability based on the present sample was .71 and .70 for Times 1 and 2, respectively.

Peer nominations. These were used to measure behavioural aggression and social withdrawal. The items were derived from the literature (e.g., Schwartz, McFadyen-Ketchum, Dodge, Pettit, & Bates, 1998) and have also been used with Chinese children elsewhere (Chang et al., 2004). Six aggression items included, in somewhat abbreviated forms, "kids who start fights, hit or push, bully, say mean things to, pick on, and exclude others". Six social withdrawal items were "kids who are often alone, shy, quiet, submissive, would rather be alone, and dare not join others". For each item, students were asked to nominate three names, of either gender, in the class. All nomination items were standardised within classes. The internal consistency reliability was .91 for aggression and .95 for social withdrawal. Peer acceptance was measured using unlimited nominations. This approach is deemed to yield similar results to those from limited nominations (Bukowski, Pizzamiglio, Newcomb, & Hoza, 1996).

Table 1*Means, standard deviations, and correlation coefficients of the variables in the study*

Variables	1	2	3	4	5	6	7	8
1 Perceived social competence (Time 2)	1.00							
2 Peer acceptance (Time 2)	.10	1.00						
3 Perceived social competence (Time 1)	.43	.16	1.00					
4 Peer acceptance (Time 1)	.15	.45	.26	1.00				
5 Communication avoidance (Time 1)	-.30	-.02	-.27	-.04	1.00			
6 Verbal aggression (Time 1)	.01	-.21	.05	-.14	-.06	1.00		
7 Behavioural aggression (Time 1)	.12	-.19	.17	-.21	-.18	.22	1.00	
8 Social withdrawal (Time 1)	-.29	-.30	-.27	-.46	.15	.06	-.09	1.00
Mean	2.76	-0.01	2.68	0.06	3.30	2.77	-0.03	0.02
SD	0.52	1.01	0.43	1.02	0.65	0.53	0.75	0.96

Results

Means, standard deviations, and correlation coefficients of the variables used in the study are reported in Table 1. Peer nominations of aggression and withdrawal were positively skewed. Log transformation was tried on these variables to normalise the data. However, results based on the transformed variables were almost identical to those based on the original variables. The analyses reported here are based on the original measurements.

To test the model in Figure 1, individual items were first made into parcels to achieve an acceptable sample-size-to-variable ratio. Parcelling, which has been shown to improve measurement reliability and goodness of fit (MacCallum, Widaman, Zhang, & Hong, 1999), is widely used in structural equation modelling studies (Little, Cunningham, Shahar, & Widaman, 2002). The approach works well, especially when,

as in the present study, the constructs are unidimensional and the purpose of the study is to investigate structural but not measurement relations (Little et al., 2002). The 20 verbal aggressiveness items were made into four parcels each consisting of 5 items. The 10 communication avoidance items were made into two 3-item and one 4-item parcels. Peer nomination items of social withdrawal and aggression and self-response items of perceived social competence were formed into 2-item or 3-item parcels. Item composition for parcelling was random. With parcelling, the sample size to variable ratio was within the recommended range between 5 and 10 (Bentler & Chou, 1987). For the two communication variables and perceived social competency, internal consistency reliability estimates based on the parcels were improved over those based on the individual items reported earlier. Table 2 presents the correlation coefficients of the item parcels.

Table 2*Means, standard deviations, and correlation coefficients of the item parcels*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1 FD	1.00																				
2 PS1	.18	1.00																			
3 PS2	.17	.30	1.00																		
4 PS3	.18	.34	.31	1.00																	
5 2FD	.47	.08	.13	.16	1.00																
6 2PS1	.06	.36	.13	.20	.07	1.00															
7 2PS2	.13	.33	.31	.33	.14	.37	1.00														
8 2PS3	.10	.21	.20	.27	.09	.37	.43	1.00													
9 VA1	-.11	.04	.02	-.03	-.13	.00	.06	-.05	1.00												
10 VA2	-.16	.05	.06	-.01	-.16	.06	.03	.01	.39	1.00											
11 VA3	-.17	-.10	-.08	-.03	-.19	.02	.02	-.06	.38	.43	1.00										
12 VA4	-.19	-.01	.02	-.05	-.12	-.01	.05	-.03	.41	.42	.44	1.00									
13 CA1	-.08	-.14	-.19	-.17	-.04	-.17	-.18	-.17	.01	-.05	-.03	-.06	1.00								
14 CA2	.02	-.20	-.19	-.14	.03	-.18	-.26	-.19	.03	-.04	.03	-.03	.38	1.00							
15 CA3	-.04	-.19	-.17	-.26	-.02	-.18	-.22	-.24	.02	-.03	-.02	.01	.39	.43	1.00						
16 AG1	-.19	.18	.12	.03	-.17	.12	.07	.07	.09	.17	.04	.13	-.11	-.20	-.09	1.00					
17 AG2	-.18	.14	.13	.00	-.18	.14	.08	.08	.15	.19	.07	.18	-.08	-.16	-.08	.78	1.00				
18 AG3	-.17	.15	.09	.02	-.14	.08	.03	.09	.13	.16	.03	.11	-.10	-.20	-.08	.73	.74	1.00			
19 WI1	-.42	-.20	-.16	-.18	-.32	-.26	-.21	-.23	.07	.07	.05	.08	.11	.08	.16	-.01	-.03	-.13	1.00		
20 WI2	-.44	-.19	-.17	-.18	-.30	-.22	-.21	-.21	.07	.08	.05	.06	.08	.05	.13	-.02	-.03	-.13	.90	1.00	
21 WI3	-.42	-.22	-.16	-.20	-.29	-.21	-.20	-.25	.06	.05	.05	.06	.12	.11	.16	-.07	-.07	-.19	.89	.87	1.00
Mean	0.08	2.61	2.72	2.75	-0.02	2.72	2.73	2.85	2.69	2.73	2.69	2.79	3.38	3.21	3.31	-0.01	-0.03	-0.04	0.00	0.02	0.01
SD	0.98	0.49	0.61	0.61	1.00	0.71	0.59	0.70	0.57	0.63	0.62	0.60	0.80	0.90	0.78	0.81	0.86	0.75	0.95	0.95	0.97

FD = Time 1 friendship nomination; PS = Time 1 self-perceived social competence; 2FD = Time 2 friendship nomination; 2PS = Time 2 self-perceived social competence; VA = Time 1 verbal aggressiveness; CA = Time 1 communication avoidance; AG = Time 1 behavioural aggression; WI = Time 1 social withdrawal.

Confirmatory factor analysis was first conducted on the item parcels to assess the goodness of fit of the measurement model. The results showed adequate fit: $\chi^2(134, N = 377) = 146, p = .22$; RMSEA = 0.016; NFI = 0.96; NNFI = 0.99; CFI = 1.00; IFI = 1.00. Standardised factor loadings were all above .50.

Before testing the model in Figure 1, to rule out school and grade effect, a variance-covariance invariance test across the two schools and across the two grades were conducted, respectively. The results supported invariance across grades, $\chi^2(231, N = 377) = 258, p = 0.10$, RMSEA = 0.027, NFI = 0.92, NNFI = 0.97, CFI = 0.98, IFI = 0.99, and across schools, $\chi^2(231, N = 377) = 263, p = 0.07$, RMSEA = 0.028, NFI = 0.93, NNFI = 0.98, CFI = 0.99, IFI = 0.99.

The full model, including the structural relations, was then tested. The results are shown in Figure 1. In testing the model, measurement errors of Time 1 and Time 2 peer acceptance and of Time 1 and Time 2 perceived social competence, respectively, were allowed to correlate. Time 2 missing data were imputed using full maximum likelihood estimation (Wothke, 2000). The model yielded an insignificant chi-square and other adequate fit statistics, $\chi^2(166, N = 377) = 176, p = .28$; RMSEA = .013; NFI = .96; NNFI = 1.00; CFI = 1.00.

As shown in Figure 1, most of the hypothesised paths were significant, $p < .05$. Behavioural aggression was predictive of peer acceptance at both Times 1 and 2 ($\beta = -.22, -.10, p < .05$), while controlling other predictors in the model. (The last "controlling" statement will not be repeated as, in solving for simultaneous equations, every effect was obtained while controlling for every other effect in the model.) Similarly,

verbal aggression was a significant predictor of peer acceptance at Time 1 ($\beta = -.16, p < .05$) and Time 2 ($\beta = -.10, p < .05$). As anticipated, both verbal and behavioural aggression was not predictive of perceived social competency and thus these paths were not estimated in Figure 1. In separate analysis estimating these paths, the four coefficients ranged from $-.03$ to $.08$.

As hypothesised, communication avoidance negatively predicted perceived social competence at Time 1 ($\beta = -.47$) and time 2 ($\beta = -.25$). Social withdrawal was also a negative predictor of perceived social competence at both times ($\beta = -.25$ and $-.16$, respectively). Social withdrawal was also a robust concurrent ($\beta = -.45$) and longitudinal ($\beta = -.16$) correlate of peer acceptance. The effect was negative. Not bearing out our hypothesis, communication avoidance was not predictive of peer acceptance at either Time 1 or Time 2.

Gender differences

Exploring gender effects was not among the objectives of this paper. However, a gender invariance test was conducted to see if the model fitted both sexes equally well. First, gender invariance of the measurement model was tested. The results yielded an insignificant chi-square difference, $\Delta\chi^2(13, N = 377) = 12.38, p > .05$, between the unconstrained measurement model where factor loadings were freely estimated within each gender and the constrained model where factor loadings were set to be equal across genders. Second, a structural invariance test was conducted. The results also yielded a

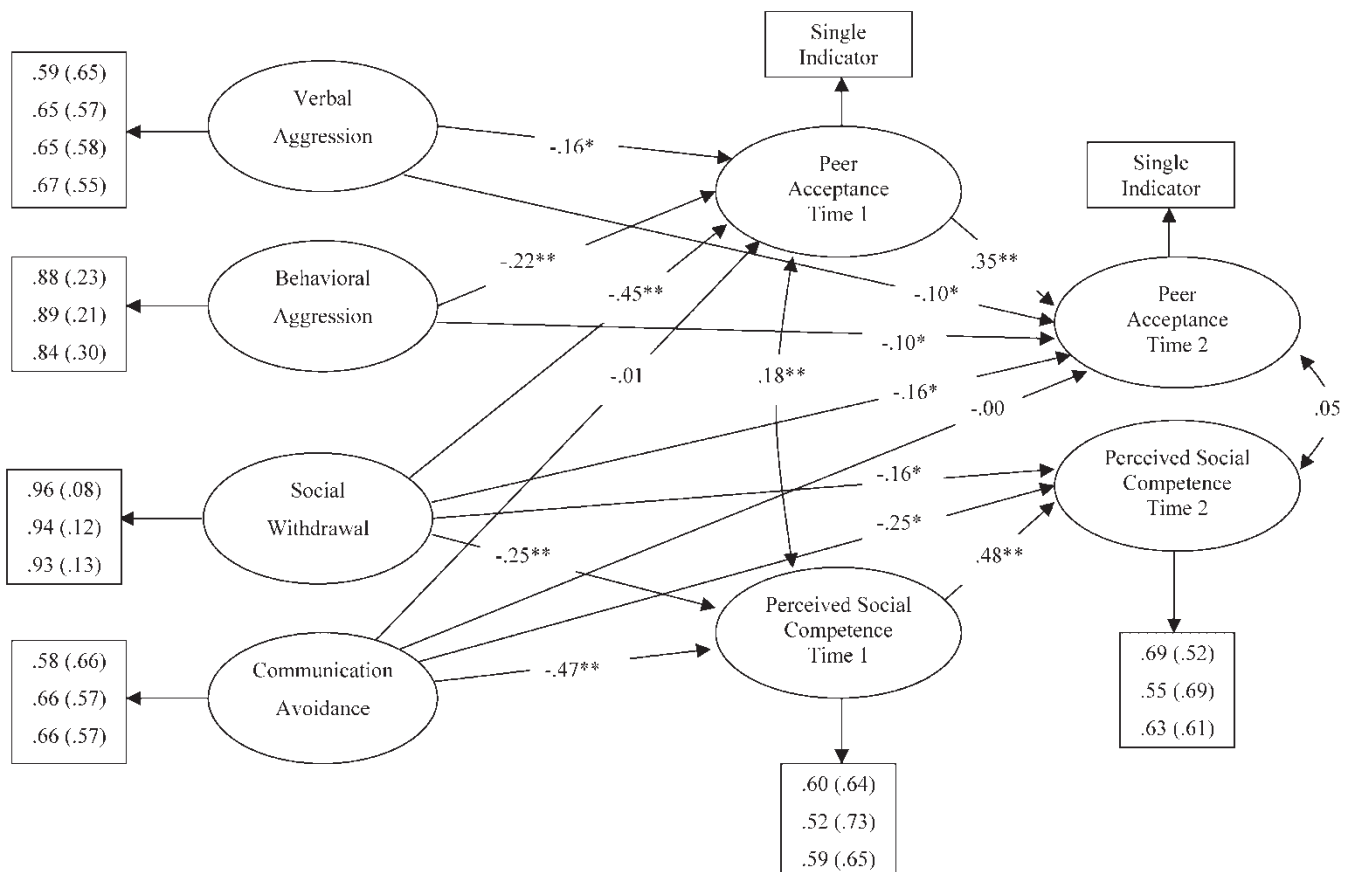


Figure 1. The model and results ($*p < .05$, $**p < .01$): Numbers in boxes are factor loadings and measurement errors are in parentheses.

nonsignificant chi-square difference, $\Delta\chi^2(12, N = 377) = 14.26, p > .05$, between the unconstrained model and the constrained model where all path coefficients were set equal across genders. Other goodness-of-fit statistics were also similar between the two models. When all the measurement and structural coefficients were constrained to be equal across the two genders, the model still enjoyed adequate fit of data, $\chi^2(371, N = 377) = 414, p = .06$; RMSEA = 0.025, NFI = .89; NNFI = .98; CFI = .98; IFI = .98. These results suggest that the model tested in this study fits the two sexes equally.

To see whether the parameter estimates took on different values across the two genders, the invariance restriction was relaxed in a subsequent analysis where the model structure, but not its estimates, was constrained to be equal across genders. The results showed that all the hypothesised coefficients were of the same direction and most were of similar magnitudes across genders. There were a few notable results: aggression was a stronger predictor of peer acceptance for the female sample ($-.33$ and $-.17$ for Time 1 and 2, respectively) than the male sample ($-.16$ and $-.09$ for Times 1 and 2, respectively). Verbal aggressiveness also affected female Time 2 peer acceptance ($-.21$) more than male ($-.10$). These results are consistent with the literature (e.g., Crane-Ross, Tisak, & Tisak, 1998). Social withdrawal was also more predictive of peer acceptance in girls ($-.59$ and $-.33$ for Times 1 and 2, respectively) than boys ($-.39$ and $-.12$ for Time 1 and 2, respectively). However, it was more predictive of perceived social competence for boys ($-.33$ and $-.20$ for Times 1 and 2, respectively) than girls ($-.26$ and $-.06$ for Times 1 and 2, respectively).

Analyses of means showed that males had statistically higher means on both behavioural ($M = 0.10$ for male, $M = -0.20$ for female) and verbal aggression ($M = 2.86$ for male and 2.68 for female). These findings are consistent with existing Chinese literature (e.g., Schwartz et al., 2001). Other Chinese studies also suggest a lack of distinction between relational and overt aggression (Nelson, Hart, Yang, & Robinson, 2002), and boys tend to score high on both physical and verbal aggression (Schwartz et al., 2001; Xu, Farver, Schwartz, & Chang, 2003). Females had significantly higher ratings on peer acceptance (0.28 and 0.12 for Time 1 and 2, respectively) than males (-0.07 and -0.08 for Times 1 and 2, respectively). These findings are consistent with the literature, which suggests that adolescent girls are more concerned with peer relations than boys (Boldizar, Perry, & Perry, 1989), have larger social cliques than boys (Bagwell, Coie, Terry, & Lochman, 2000), and attain higher peer nomination ratings than boys (Coie, Dodge, & Coppotelli, 1982). Because a detailed treatment of possible gender differences, which entail classroom cultures (Chang, 2004) among other socialisation processes, is beyond the objectives of this study, these normative gender differences will not be discussed further in this paper.

Discussion

Young adolescents' verbal communication is increasingly rich and complex (Samter, 1992) and plays an important role in adolescents' social interactions (Riggio, 1992). Given this developmental characteristic, we examined verbal and non-verbal maladaptive behaviours in relation to peer acceptance and self-perceived social competence. As hypothesised, behavioural and verbal aggression contributed concurrently and

longitudinally to peer acceptance. Also as hypothesised, social withdrawal was a significant predictor of both peer acceptance and self-perceived social competence at Time 1 and, to a lesser degree, at Time 2. Communication avoidance, however, was predictive only of perceived social competence but not of peer acceptance. All these effects were negative. We believe these findings may help broaden the peer relations literature, which has not routinely included communication variables. Our findings on the verbal variables are also consistent with those from communication research. For example, verbal aggression has been consistently related to social rejection (Infante & Rancer, 1996). Adolescents who were unwilling to speak were unhappy (Hurt & Preiss, 1978) and less socially successful in college (Duran & Kelly, 1994). Children who were not effective communicators tended to demonstrate externalising and internalising difficulties (Hart et al., 2002). This communication literature and our findings together underscore the importance of including communication variables into maladaptive social relations research and intervention. With the above summary of the overall study, more detailed attention is given below to a discussion of different forms of aggression and withdrawal, which are the focuses of the present investigation.

Verbal and behavioural aggression

The findings on verbal and behavioural aggression have two implications. First, there is only moderate overlap between the peer nomination of aggressive acts and the self-response of aggressive communication styles. This is shown by the moderate correlation between the two variables ($r = .22$) and the uniqueness of the contents making up the two constructs. Among the six nomination items of aggressive behaviour, only one (i.e., saying mean things) taps verbal aggression. The rest of the items refer to physical aggression (e.g., kids who start fights, hit or push, bully, pick on others). Thus, the inclusion of verbal aggressiveness provides an opportunity to explore the effects of different expressions of aggression. Among the different expressions of aggression, physical and overt aggression decrease as children grow older, whereas verbal aggressiveness continues to affect the social interactions of adolescents.

Second, to a lesser degree, the inclusion of verbal aggressiveness may also have served to distinguish between different forms of aggression. One distinction between forms of aggression lies in the conceptual framework known as reactive versus proactive aggression (Dodge, 1991). "Reactive aggression includes anger expressions, temper tantrums, and vengeful hostility, and proactive aggression includes bullying, domination, teasing, name-calling, and coercive acts" (Dodge, Lochman, Harnish, Bates, & Pettit, 1997, p. 38). The former is retaliatory, emotionally charged, and somewhat irrational, without clear goals. The latter is goal-oriented, unemotional, and instrumental, often aiming to humiliate others (Dodge et al., 1997). The distinction between these two forms of aggression emphasises differences in intention and mannerism more than the outcome of an aggressive act. Peer nominations of aggressive acts that address outcomes but not motives and emotions do not fare well in differentiating these two forms of aggression. However, verbal aggressiveness used in the present study may tap proactive aggressive tendencies. Articulating verbal messages is more intentional and rational than other acts of aggression such as hitting and screaming, which may be more emotionally based. The definition that verbal aggressive-

ness “attacks the self-concepts instead of, or in addition to, their positions on topics of communication” (Infante & Wigley, 1986, p. 61) resembles that of proactive aggression in humiliating others and establishing self-dominance. Many of the verbal aggressiveness items used in this study may be viewed as operationalising proactive aggression. For example, “attacking individuals’ intelligence, attacking their character; using insults, telling people off; poking fun at people, and making people feel bad about themselves” may all tap proactive aggression. Thus, verbal aggression may be viewed as an indicator of the construct of proactive aggression even though it is also noted that proactive aggression is not restricted to verbal attack.

Another distinction between the forms of aggression represents the recent strategy to separate relational aggression from overt aggression (Crick, 1995). Unlike physical or overt aggression, relational aggression consists primarily of verbal tactics (Crick, Casas, & Ku, 1999). The verbal tactics are employed to viciously manipulate social reputations and to damage or threaten to damage peer relationships of others (Crick et al., 1999). Verbal aggression investigated in the present study, may tap into relational more than physical aggression. Like the definition of proactive aggression, vicious relational manipulation is clearly intentional and often well calculated and, because it primarily involves verbal tactics (Crick, 1995), there is an overlap between relational and verbal aggression. However, a difference between these two forms of aggression is that, whereas relational aggression emphasises indirect manipulation (Crick, 1995), verbal aggression can be both indirect and confrontational. Despite the potential nuances of different forms of aggression (Xie et al., 2003), the present study suggests that relational aggression, proactive aggression, and communicative aggressiveness may tap a similar underlying construct that tends to be more verbal and relational than physical, and is intentional and calculated rather than a spur-of-the-moment reaction.

The lack of multiple informants and the use of self-report to measure verbal aggressiveness limit our findings. Clearly social desirability would have hindered negative responses, despite the effort to minimise personal identification during data collection. Serendipitously, social desirability, either as a consistent factor in restricting the response range or as a random factor, would, in the case of the present study, have potentially attenuated the reported associations involving verbal aggressiveness and, thus, would not increase Type I error. Future research should use more objective measures of verbal aggression by employing some of the communication research methods (Leaper, 1991).

Communicative and social withdrawal

The negative association between social withdrawal and self-perception of social competence is consistent with the corpus of both Chinese and Western studies. The finding of a negative effect of social withdrawal on peer acceptance, both longitudinally and concurrently, is also consistent with that of Western studies. However, a consistency judgment of this finding in the context of the existing Chinese studies is less straightforward. As reviewed earlier, positive (Chen et al., 1992), negative (e.g., Chang, 2003; Hart et al., 2000; Schwartz et al., 2001), and zero (Chen et al., 1999) relations have all been reported between social withdrawal and peer acceptance in Chinese children. The present study lends support to a

negative association, as has consistently been found in Western participants.

Notwithstanding the mixed results in the Chinese literature, the present finding of a negative association is unsurprising. Independent of the variable motivation and psychological experience associated with withdrawn children’s solitary behaviours, their mere solitude makes them unlikely choices to include in a peer’s circle of friends. Thus, even though there is no clear evidence that withdrawn children are actively rejected or shunned by peers, although some are (Rubin et al., 1990), the correlation between peer nomination of friends and social withdrawal are not expected to be positive. The present finding suggests that, at least for Chinese adolescents, withdrawal and inhibition, which are abhorrent to the intense prosocial culture of this age group (Richards, Crowe, Larson, & Swarr, 1998), are not welcome by peers. More Chinese studies are certainly needed to attenuate sampling fluctuations across studies in order to draw more confident conclusions on the relationship between social withdrawal and peer acceptance.

Unlike social withdrawal, communication avoidance was not associated with peer acceptance. One explanation for this finding focuses on the difference of the two constructs, on the one hand, and the distinction among subtypes of social withdrawal (e.g., Rubin & Mills, 1988), on the other. Social withdrawal, as used in this study, included items of withdrawal or solitude, e.g., “kids who are often alone, would rather be alone”, and to a lesser degree, “dare not to join others”, as well as items of behavioural inhibition, e.g., “kids who are shy, fearful, and submissive”. Like most of the existing studies on social withdrawal, this aggregation of behaviours represents the passive-anxious subtype (e.g., Rubin & Mills, 1988), who are behaviourally inhibited and not popular with peers (Harrist, Zaia, Bates, Dodge, & Pettit, 1997; Rubin & Mills, 1988) partly because they have an approach-avoidance conflict (Asendorpf, 1990) that results in their being alone most of the time and feeling socially anxious and fearful (e.g., Coplan, Rubin, Fox, Calkins, & Stewart, 1994; Hart et al., 2000). Verbal avoidance (e.g., “I avoid discussions in a group”, “Talking to others is a waste of time”, “I listen more than speak”, and “I do not talk much because I am shy”), on the other hand, taps social disinterest or reticence more than physical solitude and social anxiety. This communication style corresponds to the withdrawal subtype denoting solitary-passive children (e.g., Rubin & Mills, 1988) who tend to play alone (Coplan et al., 1994; Hart et al., 2000) because they have a low approach proclivity (Asendorpf, 1990). In young children, this subtype of social withdrawal is not associated with peer acceptance problems (Coplan et al., 1994; Hart et al., 2000; Rubin & Mills, 1988). Similarly, the present finding suggests that adolescents who are not active participants in conversations are not rejected by peers. Like the finding on solitary-passive children (e.g., Coplan et al., 1994), these adolescents are not sought out as friends either.

Unlike the solitary-passive social withdrawal in young children, verbal avoidance was negatively associated with self-perception of social competence in the present sample of adolescents. This finding underlies a developmental characteristic of the subjective experience of social withdrawal. Playing alone, especially in object play, does not deviate from the social norms of young children. In fact, such solitary behaviour is somewhat encouraged by teachers and adults (e.g., Coplan et al., 1994). From middle childhood to adolescence, solitary

behaviours become increasingly more noticeable as deviating from social norms. Heightened desire for social conformity adds additional pressure on adolescents to socialise and may contribute to depressed feelings about social competence for those who have a low approach proclivity. Perhaps many of the verbally reticent adolescents preferred playing alone or object play (Coplan et al., 1994) as young children. The finding suggests that these adolescents are aware of and do not feel good about their inability to exert social influence, even though they do not have particular difficulties with peers.

By including communication variables, the present study provides a different perspective on social withdrawal, as well as aggression. However, as mentioned earlier, the lack of multiple informants in data collection is a potential limitation. For example, the association between communication avoidance and perceived social competence could be due to common method variance, as both were obtained by self-response. However, the robust relation between self-reported verbal aggressiveness and peer nomination and the lack of a relation between verbal aggressiveness and self-perceived social competence, both of which were self-reports, suggest limited method confounding. Future studies should employ more detailed discourse analysis that allows researchers to examine verbal contents and their social impacts. Because social interactions of older children and adolescents are increasingly verbal (Samter, 1992), knowing what and how these children communicate is essential in understanding the psychological processes underlying their social adjustment.

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