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A LONGITUDINAL STUDY OF PEER AND TEACHER INFLUENCES ON PROSOCIAL AND ANTISOCIAL BEHAVIOR OF HONG KONG CHINESE ADOLESCENTS

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The influences of peers and teachers on the prosocial and antisocial behavior of 56 Hong Kong Chinese adolescents were investigated over a two-year period (Time 1 and Time 2). Results indicated that (i) a significant decrease in teacher influence occurred from Time 1 to Time 2 in subjects studying Grade 7 at Time 1; (ii) students who maintained a relatively high level of delinquent behavior from Time 1 to Time 2 demonstrated significantly higher peer influence than did those who maintained a relatively low level of delinquent behavior in the time interval; (iii) concurrent positive correlation was found between peer influence and delinquent behavior at Time 1 and Time 2; (iv) delinquent behavior at Time 1 was negatively correlated with teacher influence at Time 1; and (v) peer influence was negatively correlated with teacher influence at Time 1.

Keywords: peers, teachers, prosocial behavior, antisocial behavior.

In this study, both intensive interview and self-report questionnaire were used to investigate peer and teacher influences on the prosocial and antisocial behavior

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of Hong Kong Chinese adolescents over a period of two years.

Prosocial behavior in children and adolescents usually involves "sharing, cooperating, helping, feeling empathy, and caring for others" (Radke-Yarrow, Zahn-Waxler, & Chapman, 1983, p.528). In addition, altruistic behavior with some personal sacrifice and good-boy nice-girl or normative behavior can also be regarded as prosocial behavior — for example, giving gifts to parents, helping people with disabilities to cross the road, apologizing to others after committing a misdeed, and serving as a volunteer worker.

According to Hindelang, Hirschi, and Weis (1981, pp.54-55), the major antisocial and delinquent behavior of adolescents includes (a) general deviance, such as theft, alcohol use, cheating in examinations, and coming to school late; (b) drug use; (c) defying parents — for example, shouting at one's father or mother or going against parents' wishes; and (d) aggressiveness, such as group fist fighting. In the present study, the authors measured these antisocial and delinquent behaviors - with the exception of drug usage.

Peer Influences

The influence of peers on adolescent behavior has been found to be quite significant (Berndt, 1979; Eisenberg & Fabes, 1998; Hartup, 1983; Ma, Shek, Cheung, & Lam, 2000). Although parents may be influential in their children's beliefs and values about major issues (e.g., future educational goals), peers may be more influential in issues of style, such as clothing and hairstyles, and in deciding how to resolve day-to-day dilemmas. Many researchers have found that the peer group serves as a training ground for antisocial and delinquent acts: Ary, Duncan, Duncan, and Hops (1999) found that association with deviant peers was a strong proximal predictor of problem behaviors at a two-year follow up; Scholte (1992) identified the fact that adolescent delinquency may involve the delinquency of friends, risky behavior in leisure time, and severe conflicts with peers. Warr (1993) also noticed that adolescents who acquire delinquent friends thereby lock themselves out of future friendships with good friends through the stigma of delinquency. In addition, Coie and Dodge (1998) concluded in their review that research findings provide empirical support for "the hypothesis that deviant peer associations promote antisocial activity" (p.833). Steinberg and Silverberg (1986) pointed out that peer influence is especially significant during adolescence due to the fact that achieving greater emotional and behavioral autonomy from parents is high on the agenda. The psychological distancing from parents will be accompanied by an insistence on more stable and intimate relationships with peers. Hartup and Stevens (1999) argued that the developmental significance of peers and friends depends on their characteristics, for example, whether they are antisocial or socially withdrawn.

In a study of the prosocial and antisocial behavior of 2,862 Hong Kong

Chinese adolescents using self-report questionnaires, Ma, Shek, Cheung and Lee (1996) found that antisocial adolescents tended to perceive their best friends as antisocial and exerting more negative influences on them, whereas prosocial adolescents tended to perceive their best friends as prosocial and exerting more positive influences on them. In another study using both intensive interviews and self-report questionnaires, Ma, Shek, Cheung & Lam (2000) found that students with good relationships with their peers showed lower frequency of antisocial behavior than did students with bad relationships. These two studies employed a cross-sectional design, whereas the present study used a longitudinal design.

Teacher Influences

Schooling exerts significant effects on adolescents - not only on their academic skills but also on their social behavior (Nicholls, 1989). Students' sense of responsibility may be developed through participation in schools (Mooij, 1999). Teacher-student relationship has been found to be an important factor in affecting the prosocial behavior of students at different grades: Birch and Ladd (1998) found that good teacher-child relationships were associated with increasing the prosocial behavior of kindergartners. Wentzel (1998) also found that in adolescence, teacher support was a positive predictor of social responsibility. Therefore, the influence of teachers on both the prosocial and antisocial behavior of their students was affected by the quality of their interactions.

The data reported in the present study were derived from a two-year longitudinal study of the development of the prosocial and antisocial behavior of Hong Kong Chinese adolescents. Major research questions included: (1) Do peer influences and peer relationships change consistently over time? (2) Do peers tend to have greater influences on antisocial behavior than on prosocial behavior? (3) Do teacher influences and teacher-student relationships change consistently over time? (4) Do teachers tend to have greater influence on prosocial behavior than on antisocial behavior?

METHOD

Subjects

Subjects in the present study were involved in a two-year longitudinal study investigating the social behavior of Hong Kong students. They were recruited from 6 secondary schools in Hong Kong. There were a total of 108 subjects in Grade 7 (23 males and 29 females) and Grade 9 (31 males and 25 females) participating in the ABI (Adolescent Behavior Interview) and responding to the ABQ (Adolescent Behavior Questionnaire) in 1996 (Time 1). The mean ages of the Grade 7 males and females at Time 1 were 12.65 (*SD*= .57) and 12.38 (*SD*= .56), respectively, and the mean ages of the Grade 9 males and females were

14.84 (*SD*= .97) and 14.60 (*SD*= .76), respectively. In 1998 (Time 2), 56 students of the original sample, who were studying in Grade 9 (14 males and 21 females) and Grade 11 (9 males and 12 females), participated in the ABI interview and responded to the ABQ again. The mean ages of the Grade 9 males and females at Time 2 were 14.64 (*SD*= .50) and 14.35 (*SD*= .88), respectively, and of the Grade 11 males and females, 16.44 (*SD*=1.01) and 16.46 (*SD*= .88), respectively.

The attrition rate in this two-year longitudinal study was 48.15% (a loss of 52 out of 108 subjects), which can be accounted for by the following two factors: (1) Subjects' participation in this study was entirely voluntary. They were free to withdraw from testing at any stage. (2) In general, senior students (Grade 11) were less co-operative in participating in the study in comparison to the junior (Grade 7) students; and Grade 7 is the lowest grade in a high school in Hong Kong. In other words, when a student progressed from Grade 7/9 to Grade 9/11, his or her willingness to be tested again decreased significantly. A *t*-test was performed on the following variables/scores at Time 1 between the subjects who were re-tested at Time 2 (Group 1) and those who did not participate at Time 2 (Group 2): Age, IPEER, RPEER, ITEACHER, RTEACHER, DB, and PB. Results indicated that there were significant differences in age and DB only. The mean ages of Group 1 and 2 were 13.32, and 14.08, $t = -3.05$, $p < .01$; and the mean DBs of Group 1 and 2 were 1.76 and 2.07, $t = -2.18$, $p < .05$. In other words, those who did not participate at Time 2 were older and more delinquent than were those who participated at Time 2. In this study, subjects were selected only if they had completed both the ABI and ABQ at both Time 1 and Time 2.

Instruments

Adolescent Behavior Interview (ABI)

Ma, Shek and Cheung (1993) constructed this interview schedule for the exploration of the subjects' life experiences, value orientations, influences of parents, peers and teachers on their behavior, and interpersonal relationships with their parents, peers, teachers, and others. The present authors' major research questions included: (1) Did peer influences and peer relationships change consistently over time? (2) Were peer influences on antisocial adolescents stronger than those on prosocial adolescents? (3) Did peer influences and peer relationships predict prosocial and antisocial behaviors? Questions similar to those in (1), (2) and (3) were repeated for father, mother, and teachers. For each of the questions, the interviewer usually probed further after the subject had given the initial responses. Subjects were free not to answer any of the questions. Only the data on peer and teacher influences were analyzed in this study.

ABI Scores

Two sets of scores were established from the interview data: (1) Influence

Score: Peer and teacher influence on the social behavior of the adolescents are measured by the peer (IPEER) and teacher (ITEACHER) influence scores, respectively. The range of the scores is from 1.0 to 5.0. A high (low) score means greater (lesser) influence. For example, a high IPEER (ITEACHER) score indicates that the adolescent's social behavior (e.g., career choice, selection of arts or sciences streams in secondary school, studying hard, religious beliefs, and attitudes toward resolving interpersonal conflicts) is strongly influenced by his or her peers (teachers). (2) Relationships Score: The relationships between the adolescent and his or her peers (best friends) and teacher were measured by the peer (RPEER) and teacher (RTEACHER) relationships scores, respectively. The range of the scores is from 1.0 to 5.0. A high (low) score means good (poor) relationships. For example, a high RPEER (RTEACHER) score indicates that the relationship between the adolescent and his or her best friend (teacher) is harmonious; the best friend (teacher) understands the subject. A low RPEER (RTEACHER) score indicates that the relationship is poor; and they tend not to understand each other.

A total of 17 randomly selected ABI transcriptions were scored by two trained researchers. The interrater reliabilities of the IPEER, RPEER, ITEACHER, and RTEACHER scores were .72, .72, .82 and .85 respectively, which proved that the scoring systems were reliable.

Adolescent Behavior Questionnaire (ABQ)

This study adopted the Adolescent Behavior Questionnaire (ABQ: Ma, 1988) for the measurement of prosocial and antisocial behavior. There are 65 questions in the ABQ, on a 7-point scale, asking the subjects the frequency with which they had performed a particular act in the past year, for example, quarreled with classmates during a lesson, stolen things from their classroom or school, forgiven someone who had done something wrong to them, and undertaken volunteer work. In this study, two general scores, the Delinquent Behavior (DB) score and the Prosocial Behavior (PB) score were computed by averaging the delinquent behavior testing items and prosocial behavior testing items in the ABQ, respectively. Thus, the range of the DB score and the PB score is from 1.0 to 7.0. Generally speaking, a high (low) DB indicates a high (low) frequency of delinquent behavior performed in the past year. On the other hand, a high (low) PB indicates a high (low) frequency of prosocial behavior performed in the past year. An overall score, the Adolescent Behavior (AB) score, was also computed in this study by subtracting the DB score from the PB score (DB-PB). A high AB score indicates that, in general, the respondent reported more delinquent acts and fewer prosocial acts in the past year. The reliability and validity of the ABQ scores were demonstrated to be good for studying Chinese adolescents (Ma & Leung, 1991; Ma, Shek, Cheung & Lee, 1996).

PROCEDURES

Subjects were asked to complete the self-report questionnaire in their normal class period and to attend an individual interview (ABI) with a trained research assistant over a two-year time interval (Time 1 and Time 2). The interview took about 30 to 45 minutes to complete. Subjects participated in this study on a voluntary basis.

RESULTS

Subjects in this study were divided into four social behavior groups according to their AB scores at Time 1 and Time 2. They were placed into the Antisocial-Antisocial Group (A-A Group) if their AB scores at Time 1 and Time 2 were equal to, or higher than, the sample means. They were placed in the Antisocial-Prosocial Group (A-P Group) if their AB score at Time 1 was lower than the sample mean but was equal to, or larger than, the sample mean at Time 2. Those who were placed in the Prosocial-Antisocial Group (P-A Group), had an AB score at Time 1 which was equal to, or larger than, the sample mean - but was lower than the sample mean at Time 2. Subjects were placed in the Prosocial-Prosocial Group (P-P Group) if their AB scores at both Time 1 and Time 2 were lower than sample means. This grouping method facilitates the understanding of the change in delinquent behavior of the subjects in the two-year time interval. Broadly speaking, the A-A Group were those who maintained a relatively high level of delinquent behavior over the period of time; the A-P Group were those becoming more delinquent from Time 1 to Time 2; the P-A Group were those becoming more prosocial from Time 1 to Time 2; and the P-P Group were those maintaining a relatively low level of delinquent behavior over the period of time.

Table 1 presents the mean values of the ABI scores for the four social behavior groups at Time 1 and Time 2. A significant Time main effect was found in the ITEACHER score, $F(3, 52) = 8.16$, $p < .05$, indicating that teacher influence had decreased significantly from Time 1 to Time 2. Further analysis, however, revealed that the Time main effect in ITEACHER was only limited in Grade 7, $F(3, 31) = 4.49$, $p < .05$, while in Grade 9, the difference was insignificant, $F(3, 17) = 2.12$, $p = .16$. Therefore, the decreasing teacher influence from Time 1 to Time 2 was found only in the lower grade students.

In addition, a significant Group main effect was found in the IPEER score, $F(3,52) = 4.99$, $p < .05$. Post hoc comparisons followed, and it was found that IPEER in A-A Group was significantly higher than in the P-P Group. This demonstrated that subjects maintaining a relatively high level of prosocial and delinquent behavior between Time 1 and Time 2 had a higher IPEER score than did those maintaining a relatively high level of prosocial behavior and low level

TABLE 1
WITHIN SUBJECT ANALYSIS BETWEEN TIME 1 AND TIME 2 IN DIFFERENT SOCIAL BEHAVIOR GROUPS

	A-A Group (n=20)				A-P Group (n=8)				P-A Group (n=6)				P-P Group (n=22)						
	Time 1		Time 2		Time 1		Time 2		Time 1		Time 2		Time 1		Time 2		F		
Score	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	Time	Group	Time x Group
IPEER	4.35	.67	4.10	.85	3.50	.76	3.25	1.04	3.17	1.32	3.67	.82	3.55	1.30	3.09	1.19	.33	4.99*	.88
RPEER	4.05	.69	3.85	.75	4.00	.76	3.50	.53	3.50	1.05	3.83	.75	3.91	.81	3.73	1.16	.65	.38	.68
ITEACHER	2.95	2.21	2.25	2.00	3.17	1.72	2.67	1.03	3.75	.89	2.00	1.69	3.55	1.30	2.64	1.84	8.16**	.46	.53
RTEACHER	3.45	.89	3.00	.86	3.33	1.03	3.33	.52	3.13	.64	2.75	1.17	3.09	.53	3.14	1.17	1.32	.47	.86

*p <.05

Note: The four social behavior groups were A-A (Antisocial-Antisocial) group, A-P (Antisocial-Prosocial) group, P-A (Prosocial-Antisocial) group, and P-P (Prosocial-Prosocial) group. The two influence scores were IPEER (peer influence) and ITEACHER (teacher influence) scores, and the two relationship scores were RPEER (peer relationship) and RTEACHER (teacher relationship) scores.

of delinquent behavior over the time interval.

A correlation study investigating the relationships between the ABI scores and the AB scores at Time 1 and Time 2 was done. Results in Table 2 show that only the IPEER and ITEACHER scores were concurrently correlated with the AB scores. In particular, the IPEER scores at Time 1 and Time 2 were positively correlated with the AB scores in their respective years, $r = .28$, $p < .05$, $r = .32$, $p < .05$, respectively. The ITEACHER score was also negatively correlated with the AB score at Time 1, $r = -.30$, $p < .05$.

Multiple regression analysis on the AB scores at Time 1 and Time 2 was performed with the two influence and two relationship scores entered as predictors.

TABLE 2
CORRELATION BETWEEN ADOLESCENT BEHAVIOR INTERVIEW (ABI) SCORES AT TIME 1 AND TIME 2

	Time 1				Time 2			
	IPEER	RPEER	ITEACHER	RTEACHER	IPEER	RPEER	ITEACHER	RTEACHER
Time 1								
IPEER								
RPEER	.17							
ITEACHER	-.33*	.05						
RTEACHER	-.11	.37**	.31*					
DB	.02	-.17	.05	-.03				
PB	-.27*	-.06	.35**	.12				
AB	.28*	.07	-.30*	-.14				
Time 2								
IPEER	.34*	-.10	-.06	.06				
RPEER	.09	.18	.10	.07	.08			
ITEACHER	-.30*	.15	.24	.11	-.17	.09		
RTEACHER	-.24	.03	-.04	.25	.09	.22	.23	
DB	.02	-.07	.11	.09	.20	.20	.03	-.20
PB	-.13	-.27*	.18	-.02	-.15	.09	.10	-.03
AB	.15	.20	-.08	.10	.32*	.09	-.07	-.16

* $p < .05$
** $p < .01$

Concurrently speaking, the amount of variances (multiple *R* square) of the AB score at Time 1 accounted for by the two influence (IPEER and ITEACHER) and two relationship (RPEER and RTEACHER) scores at Time 1 were .13, $F(2,54) = 3.95$, $p < .05$; and .02, $F(2,54) = .56$, *ns*, respectively.

For the AB score at Time 2, the amount of variances that can be accounted for by the two influence (IPEER AND ITEACHER) and two relationship (RPEER and RTEACHER) scores at Time 2 were .10, $F(2,54) = 3.09$, $p < .05$; and .04,

F(2,54) =1.12, *ns***,** respectively. Longitudinally, the amount of variances of the AB score at Time 2 that can be accounted for by the two influence (IPEER and ITEACHER) and two relationship (RPEER and RTEACHER) scores at Time 1 were .02, *F* (2,54) = .32, *ns*; and .04, *F* (2,54) =1.12, *ns***,** respectively. Further analysis on the role of peer influence was done by correlating the IPEER scores at Time 1 with the other ABI scores at Time 1 and Time 2. Concurrently speaking, IPEER at Time 1 was negatively correlated with ITEACHER, $r = -.33$ ($p<.05$). Longitudinally speaking, IPEER at Time 1 was negatively correlated with ITEACHER at Time 2 with $r = -.30$ ($p<.05$). Therefore, peer influences were negatively associated with teacher influences. In addition, increasing peer influence at present tended to predict a decreasing teacher influence in the future (see Table 2).

DISCUSSION

Results in Table 1 indicated that peer influences did not change significantly over time but there were significant group differences in peer influence. In addition, there was no significant interaction (Time x Group) effect. Post hoc comparisons of peer influences between different social behavior groups showed that peer influence in the A-A Group (Antisocial Group) was significantly greater than that in the P-P Group (Prosocial Group). Other pairs of comparison did not produce significant results. Typical responses on peer influences are, for example, (1) “Influences from friends are the greatest, you would follow your friends wherever they go unless they are really very bad”. (2) “It is easy to talk about everything to friends, and they would encourage me. It is good to have someone doing the same thing as you do, that is, there is a force moving forward”. (3) “If you have a friend who is slightly delinquent, he would motivate you to behave a little bit delinquently”. It seems that peer influences on antisocial adolescents were greater than peer influences on prosocial adolescents. This finding is in line with previous findings in literature (Ary et al., 1999; Ma, Shek, Cheung, & Lee, 1996; Scholte, 1992; Warr, 1993). In other words, it is easier for peers to exert influence on adolescents to make them behave antisocially than to make them behave prosocially.

Results in Table 2 indicate that peer influence (IPEER) is significantly positively correlated with the AB score at Time 1 and Time 2, where $r = .28$ at Time 1 and $r = .32$, respectively. Since the AB score is a measure of negative behavior, the finding showed that peer influence tended to be associated with the frequency of delinquency and negative behavior of the adolescents. It seems that peers exert greater influences on the antisocial behavior than on prosocial behavior in adolescence. Perhaps, in the search for identity, adolescents tend to influence each other in such a way as to establish a value or a behavioral pattern

which is different from the expectation of adults or authorities - including their parents and teachers (Sebald, 1989). Thus peer influence is more likely to be in the negative direction and to have more impact on antisocial behavior than on prosocial behavior (Ma, Shek, Cheung, & Lee, 1996). On the other hand, teacher influence (ITEACHER) is significantly and negatively correlated with the AB score at Time 1, where r = -.30. This finding indicates that the greater the teacher influence, the less the frequency of delinquent behavior. However, it should be noted that the result at Time 2 is not significant, which may imply that teacher influence tends to be more effective at younger ages. Finally, results of multiple regression analysis indicate that the two influence scores (IPEER and ITEACHER) at Time 1 predicted fairly well the AB score at Time 1, but did not predict the AB score at Time 2, which implies that peer and teacher influences are more effective on the social behavior of adolescents concurrently, but that they will be less effective on future social behavior. This finding implies that peer and teacher influences on adolescent behavior tend to be short term rather than long term. In addition, the two relationship scores (RPEER and RTEACHER) were not good predictors of the AB scores either concurrently or longitudinally.

Results in Table 2 also show that peer influence (IPEER) is associated significantly and negatively with teacher influence (ITEACHER) at Time 1. This finding indicates that the greater the peer influence, the less the teacher influence. In other words, adolescents tend to be more influenced by their peers if the teacher influence is not great. The implication is simple and straightforward: if teachers are not able to build up a good relationship with the adolescents and hence exert an influence on their social behavior, then the adolescents will rely on their peers in shaping their daily life social behavior pattern. In some sense, peers and teachers are competing agents of socialization in the social development of adolescents. The findings are also in line with current literature which indicates that teachers are important in the socialization of adolescents (Ma, Shek, Cheung, & Lam, 2000; Nicholls, 1989; Wentzel, 1998).

It is interesting to note that teacher influence decreased significantly from Time 1 to Time 2 (see Table 1). In other words, teachers' influence on the social behavior of the adolescents became significantly less as the adolescents grew older in the two-year period. In addition, ITEACHER is significantly and negatively correlated with AB at Time1 but not significantly correlated with AB at Time 2 (see Table 2). One possible reason is that as adolescents grow from the age of 12 to 14 or from the age of 14 to 16, they might face more and more emotional problems (e.g., sex, love and puberty) which are less directly related to academic studies, and it appears that their tendency to seek help from their teachers decreases with time. Since teacher influence and teacher-student relationships are usually associated positively with adolescents' prosocial behavior

(see Table 2 and Ma, Shek, Cheung & Lam, 2000), this finding deserves further investigation in future studies.

It is suggested that future studies should be conducted in the following three directions; firstly, the time frame of the longitudinal study should be expanded to cover the whole period of adolescence from around Grade 5 to undergraduate level at the university. Secondly, the refined details of the social behavior and the process of influences should be investigated in a large-scale study. While in the present study the emphasis is on prosocial and antisocial behavior, a lot of common social behaviors such as watching TV and playing computer games deserve in-depth study. In addition, many studies of peer influence emphasize the bidirectionality or the reciprocity of peer interactions, for example the studies of the effects of friendship on adolescent behavior and development (Berndt & Zook, 1993; Rubin, Bukowski & Parker, 1998). The bidirectionality of peer influences deserves special attention in future studies. Thirdly, future studies should also include parental influence on the social behavior and development of adolescents. It would be interesting to find out how parental influences interact with peer influences in the development of social behavior in adolescents (see, e.g., Brown, Mounts, Lamborn, & Steinberg, 1993; Rubin et al., 1998).

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