RUNNING HEAD: EXTERNALIZING AND INTERNALIZING BEHAVIORS

Parental Reports of Externalizing and Internalizing Behaviors in Chinese Children: Relevancy to Social, Emotional and School Adjustment

Xinyin Chen & Mowei Liu
University of Western Ontario

Kenneth H. Rubin
University of Maryland

Dan Li, Zhenyun Li, Guozhen Cen, & Boshu Li
Shanghai Teachers' University

Abstract

Most previous studies concerning children’s externalizing and internalizing behaviors in non-Western cultures are epidemiological in nature, focusing on the average level of behavioral functioning. Little is known about how these behaviors are relevant to social and psychological adjustment in the culture. A sample of children, aged 12 and 14 years, in two junior high schools in Shanghai, P. R. China, participated in this longitudinal study. Information on children’s behavioral functioning was collected from parental reports. Data concerning adjustment, including social status and competence, school achievement and emotional well-being were obtained from multiple sources including peer assessments, teacher ratings, self-reports and school records. The information on adjustment was re-collected two years later. It was found that parental reports of externalizing behaviors were significantly associated with, and predictive of, social and academic problems. Internalizing behaviors were associated with, and predictive of, emotional difficulties including self-reported loneliness and depression and negative perceptions of self-worth, but not social adjustment problems. Moreover, internalizing behaviors might serve to buffer against the negative effects of externalizing behaviors on school adjustment. In general, the study provided evidence on the validity of the Western conceptualization of externalizing and internalizing problems in Chinese children.
Parental Reports of Externalizing and Internalizing Behaviors in Chinese Children: 
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In the past two decades, children’s externalizing and internalizing behavioral problems have received substantial attention from researchers in the field of developmental psychopathology (see Cicchetti, & Cohen, 1995; Rutter & Garmezy, 1983). It has been found that externalizing problems such as aggression and disruption are associated with and predictive of a variety of social and life adjustment difficulties including school failure and juvenile delinquency (e.g., Coie, Terry, Lenox, Lochman, & Hyman, 1995; Rubin, Chen, McDougall, Bowker, & McKinnon, 1995). In contrast, children who display behaviors of an internalizing nature such as social withdrawal tend to have maladaptive emotional outcomes such as negative perceptions of self-worth, feelings of loneliness and depression (e.g., Boivin, Hymel, & Bukowski, 1995; Rubin et al., 1995). Furthermore, it has been demonstrated, in Western cultures, that both externalizing and internalizing problems may lead to difficulties in social relationships; children who display externalizing or internalizing behaviors are likely to be disliked or rejected by peers and adults (e.g., see Rubin, Bukowski, & Parker, 1998).

Externalizing and internalizing behaviors comprise the most common of children’s reactions to the experience of stress (Achenbach, & Edelbrock, 1981; Rutter & Garmezy, 1983). Whereas externalizing behaviors are reactions that are directed toward others, internalizing behaviors, such as anxiety, withdrawal, and somatic complaints, are mainly directed toward the self. Behavioral patterns that reflect constructs of externalizing and internalizing functioning have been found in many cultures (Auerbach, Yirmiya, & Kamel, 1996; Weisz et al., 1988). However, the prevalence of externalizing and internalizing symptoms may vary across different societies. For example, Weisz and his colleagues found that, compared with their counterparts in U.S., children in Thailand, Kenya and Jamaica, which emphasize obedience to authority figures and behavioral control, displayed a lower level of externalizing behavior and a higher
level of internalizing or overcontrolled behavior (Weisz et al., 1988). These findings suggest that culture may be involved in the interpretation and production of child behavioral functions and dysfunctions.

Most previous studies in non-Western cultures have been epidemiological in nature, focusing on the mean level of the behaviors. Little is known about how these behaviors are relevant to children’s social and psychological adjustment in the culture. In other words, the adaptational meanings of externalizing and internalizing behaviors remain to be examined in non-Western cultures. Indeed, it is even unclear at this time whether the behavioral symptoms that have been identified in Western cultures represent “problems” in other cultures. It has been argued that behavioral functioning may be perceived and interpreted in accord with cultural norms and values (Bornstein, 1995; Chen, 2000). Behaviors identified as predicting certain adjustment difficulties in the West may be viewed differently and thus may serve different functions in non-Western cultures. An investigation of the relations between externalizing and internalizing behaviors and social and psychological adjustment, particularly from a developmental perspective, would provide valuable information about the significance of the behaviors in cultural context.

In the present study, we sought to examine the relations between children’s externalizing and internalizing behaviors and social, emotional and school adjustment in Chinese culture. Parental reports of externalizing and internalizing behaviors were obtained on a sample of children in Shanghai, P. R. China. Information on children’s social adjustment, school achievement and emotional well-being was collected from multiple sources. The same information on adjustment was re-collected two years later. This data set allowed us to examine both concurrent and predictive relations between behavioral functions and adjustment.

**Externalizing behaviors in Chinese children**

Maintaining social order and interpersonal harmony are the primary concerns in collectivistic Chinese societies. Collectivism is reflected in various political and social aspects
of school education in China. Children are often required to participate in extra-curricular group activities that are organized by formal organizations such as the Young Pioneers, the Youth League and the class committee. During these activities, children are encouraged to cooperate with each other and to learn skills and behaviors that are required for group functioning such as obedience and conformity. Externalizing behaviors such as aggression and disruption are strictly prohibited since they may threaten the harmony and the welfare of the collective. Given this background, it seems reasonable to argue that children who display externalizing behaviors are likely to experience difficulties in social adjustment. Thus, we first hypothesized that, consistent with the Western literature (e.g., Rubin et al., 1995), externalizing symptoms would be associated with peer rejection, low social status and other social problems. Furthermore, since externalizing behaviors and social rejection may disrupt learning processes and lead to negative emotional and motivational responses to the school, we hypothesized that, consistent with the Western results (e.g., Wentzel, & Asher,1995), children who had externalizing behavioral problems would underachieve or fail in academic areas in China.

In Western cultures, it has been found that, despite their marked social difficulties, children with externalizing problems tend to have biased self-perceptions and to overestimate their social competence; consequently, they do not report loneliness and depression (e.g., Asher, Parkhurst, Hymel, & Williams, 1990; Boivin, Thomassin & Alain, 1989). Some researchers have suggested that such inflated self-perceptions and self-feelings may result from ego defensiveness and inability to make appropriate social comparisons (Asher et al., 1990). The relations between externalizing behaviors and emotional adjustment may be different in Chinese children due to the public evaluation processes in Chinese schools (Chen, Rubin, & Li, 1995a, 1995b).

As an important part of collectivistic education, children’s performance is regularly evaluated by teachers, peers and self in Chinese schools. The results of these evaluations are often posted on bulletin boards or announced in public situations, such as class meetings. Since
it is believed that awareness of shame may force one to improve his/her performance, children who have social and behavioral problems are often humiliated, both privately and publicly, by their teachers, parents, and peers. As a result, children who display externalizing behaviors may develop "accurate" self-perceptions of their social difficulties and feel distressed. Thus, we expected that, inconsistent with the Western literature (e.g., Hymel, Rubin, Rowden & LeMare, 1990; Zakriski & Coie, 1996), externalizing behaviors would be positively associated not only with social and school difficulties, but also with emotional distress including negative perceptions of self-worth and feelings of loneliness and depression.

Internalizing behaviors in Chinese children

In Chinese and perhaps other Asian cultures, children’s internalizing behaviors have received little attention from both researchers and the public. On the one hand, parents and teachers appear highly insensitive to internalizing symptoms such as somatic complaints, feelings of fearfulness and depression. On the other hand, it may also be true that children who display internalizing behaviors may not receive such negative reactions from peers and adults as has been noticed in North American cultures. In other words, internalizing functioning may be tolerated or even accepted in Chinese culture. (here’s a question. Might it be ignored?) It has been found that children’s shy-inhibited behavior is positively associated with, and predictive of, peer acceptance and social adjustment in Chinese children (Chen, Rubin, & Sun, 1992; Chen et al., 1995b). Furthermore, shy-inhibited children have been found to perform well in academic achievement (Chen, Rubin, & Li, 1997). Although shyness-inhibition, based largely on dispositional characteristics (e.g., Kagan, 1998 what about the data that indicate quite clearly that inhibited/reticent behavior is also a “product” of parental influence? This last statement is a bit of a “reach.”), may be different from the broader construct of internalizing problems, shy-inhibited behavior appears to be related to internal anxiety and fearfulness (perhaps something ought to be said about different forms of withdrawal and their different meanings. In fact, one might predict similar “outcomes” to those reported in your Chinese data,
for N. American solitary-constructive/exploratory types). Thus, we predicted that
internalizing behaviors might not be related to social and school difficulties in Chinese
children.

How do children who display internalizing behaviors (the word “internalizing”
suggests that a problem exists. However, as you have noted in your own work, in China,
“shyness” cannot be equated with “problems” … especially of an internalizing nature.
Thus, should you be labeling shyness as “internalizing”. The latter has much to do with
anxiety, depression, phobias, negative self-regard. You argue that the former has
adaptational meaning in China. And, indeed, if you report that aggressive children have
negative self esteem, you are suggesting that they have internalizing problems. Does this
mean they are also shy? I don’t think so. Consequently, somewhere in your writings, you
must begin to tackle this issue of “labels.”) perceive and feel about themselves in China? Do
they experience socio-emotional distress like their Western counterparts? An examination of
these issues is important for us to understand the nature of internalizing behaviors in Chinese
culture. Evidence on the correspondence between manifested internalizing behaviors (a
“manifested internalizing behavior” in China might include lip-biting, hair pulling,
automanipulatives, crying and whimpering .. but not shyness …. So why call shyness a
manifested internalizing behavior? The story you have been telling is 10 years old.
Certainly you, as a leader in this area, must begin to alter some of the “nomenclature.”)

and children’s emotional experiences is essential for the establishment of the conceptual validity
of the internalizing construct in the context. According to the Western literature (e.g.,
Achenbach & Edelbrock, 1981), internalizing behaviors may indicate underlying psychological
disturbance that is directed at the self. Children with internalizing problems are likely to
experience internal fearfulfulness and lack of self-confidence and develop negative feelings about
themselves. Based on the Western literature, it was posited in this study that internalizing
behaviors would be associated with self-reports of emotional difficulties including feelings of
loneliness, depression and negative perceptions of self-worth. It should be noted that although internalizing problems, as often assessed by parents or teachers, are associated with children’s self-perceptions and self-feelings in Western children, the associations are generally weak in magnitude (e.g., Rubin et al., 1995). Thus, an examination of the relations between internalizing behaviors and self-reported psychological functioning in the present study might help us understand not only the adaptational “meanings” of internalizing behaviors in Chinese culture, but also the nature of the phenomenon in general.

Finally, it has been reported that there is substantial overlap or “comorbidity” between externalizing and internalizing behaviors (e.g., Cicchetti & Cohen, 1995). Thus, we sought to examine their unique as well as common contributions to social and psychological adjustment. Moreover, the comorbidity suggests that some children may display both externalizing and internalizing behaviors. It is possible that these children are at heightened risk for adjustment problems (Achenbach, 1995). Alternatively, given the different nature of externalizing and internalizing behaviors, the two types of behaviors may serve to buffer each other on their relations with adjustment. For example, the relations between externalizing behaviors and social and school adjustment problems may be moderated by internalizing behaviors. Specifically, whereas externalizing behaviors are associated with social and school problems in general, the associations may be weaker in children with higher scores on internalizing behaviors. This may be particularly the case in Chinese children given the cultural acceptance of internalizing functioning (you see, herein lies a problem … a true conceptual problem. By definition, externalizing and internalizing are terms that refer to psychopathology. Does Chinese culture “accept” such phenomena as depression, anxiety, phobias, somatic problems? It may ignore or neglect such difficulties … but I doubt that such difficulties are accepted. In fact, we know that Chinese mothers of preschoolers are less than happy when they are confronted by their children behaving in a solitary manner. They tell us that they are concerned, angry, embarrassed … and that the behavior must be changed.
And this is a finding reported not for depression, etc… (i.e. “true” internalizing problems”) but rather for social solitude when in the company of peers. Obviously, the meanings of RCP “shyness” and internalizing problems are not equivalent. Thus, I would suggest dropping the word “internalizing” to describe “shyness.” As for one problem buffering another … its actually quite silly …I know that Vitaro makes this argument, but in reality, its really, really dumb to “argue” that if you have an externalizing disorder, you will be “buffered” or “protected” from having an internalizing disorder. This would suggest that if one wants to protect a child from developing depression, make certain that he is aggressive, cruel, etc…) The cumulative and buffering effects of externalizing and internalizing behaviors were explored through examining their interactions in the present study.

Method

Participants

The data for this study were drawn from a larger longitudinal project (e.g., Chen et al., 1992; Chen et al., 2002). The project, initiated in early 1990s, was about social and emotional development in Chinese children and adolescents. The original sample comprised all children in sixth and eighth grades (289 boys and 234 girls) in two ordinary junior high schools in Shanghai, P. R. China. Unlike the small number of “key” schools in China, in which students were often selected from different areas based on the school performance, students in our sample mostly came from the area where the school located.

The mean ages of the children in sixth and eighth grades were 12 years, 1 months ($SD = 9$ months) and 14 years, 2 month ($SD = 10$ months) respectively. There were six classes in the sixth grade and five classes in the eighth grade, with approximately 50 students (roughly equal numbers of boys and girls) in each class. A sub-sample of the children ($N=165$ and 145 in sixth and eighth grades respectively) had complete data concerning externalizing and internalizing behaviors from both parents. Other parents did not complete the measure or filled it
incompletely. A follow-up study was conducted two years later in the original sixth grade children. Of the 165 children who had parental data in the original study, 147 participated in the follow-up study and thus were kept for longitudinal analyses. Nonsignificant differences were found between children who had parental data and children who did not on child adjustment variables and family demographic variables, indicating a lack of selection biases resulting from participant attrition. Follow-up data were not collected from children in the original eighth grade because they graduated from the junior high school and went to many different schools and/or venues after the ninth grade, which is normal in China.

Seventy-three percent of the children were from families in which parents were workers or peasants; most of them had an educational level of high school or below high school. Twenty-seven percent of the children were from professional families in which one or both of the parents were teachers, doctors or officials; their educational levels ranged mainly from college to university graduate. Ninety percent of the children were only children in the family and 10% of the children had one or more than one sibling. These demographic data were virtually identical to those reported by the China State Statistics Bureau concerning urban population in China in 1990s (“The People’s Daily”, 1994, October, 12). Thus, the sample was representative of school-aged children in urban China.

Procedure

At Time 1, the children were administered a sociometric nomination measure and requested to complete measures of loneliness (Asher, Hymel, & Renshaw, 1984), depression (Kovacs, 1992) and perceived self-worth (Harter, 1985). Teachers completed a rating scale for each participant concerning his/her school-related competence and learning problems (Hightower et al., 1986). Parents of the children were requested to complete the CBCL (Achenbach, 1991), a measure of internalizing and externalizing behaviors. Data concerning children's leadership and academic achievement were obtained from the school administrative records. The same information on adjustment was re-collected two years later (Time 2).
The Western-based measures such as the CBCL, the T-CRS and the CDI were carefully translated and back-translated to ensure comparability with the English versions. These measures have proved appropriate and valid in Chinese as well as other cultures (e.g., Chen & Rubin, 1994; Chen et al., 1995b). The administration of all measures was carried out by a group of psychology teachers and graduate students at Shanghai Teachers' University.

**Measures**

**Sociometric nominations.** Children were asked to nominate three classmates with whom they most liked to be and three classmates with whom they least liked to be (positive and negative playmate nominations). In addition, children were asked to nominate the three classmates who were their best friends. The nominations received from all classmates were totaled and then standardized within each class to permit appropriate comparisons. The positive playmate nominations and positive friend nominations were found to be significantly correlated ($r_s = .71$ and $r_s = .63$, $p < .001$, at Time 1 and Time 2, respectively); consequently they were summed to provide a single index of peer acceptance. The negative playmate nominations received from peers provided an index of peer rejection. Test-retest reliability of positive and negative sociometric nominations in a separate study was $.74$ and $.95$ respectively. Following Coie, Dodge and Coppotelli’s procedure (1982), an index of social preference, which indicates how well a child is liked by peers, was formed by subtracting negative nomination scores from the positive nomination scores.

**Teacher ratings.** In Chinese schools, one teacher is usually in charge of a class. This head instructor often teaches one major course, such as Chinese language or mathematics; he or she also takes care of the various political, social, administrative, and daily activities of the class. The head teacher usually instructs the same group of children over several years; thus, he or she is very familiar with the students. In this study, the head teacher was asked to rate each child in his/her class on the 20 items of school-related competency and the 6 items of learning
problems in the T-CRS. Teachers were asked to rate, on a 5-point scale, how well each of these items described each child, ranging from 1 (not at all) to 5 (very well).

The items in the original competence measure (e.g., "participates in class discussion,") involved four highly overlapping areas including frustration tolerance, assertive social skills, task orientation, and peer social skills. Factor analyses of the data in the Chinese sample revealed that the 20 items comprised a single competence factor. Thus, only a global score of school-related competence was calculated in this study. The internal consistency of this score was .96 and .93 at Times 1 and 2, respectively. The 6 items in the learning problems scale tapped children’s difficulties in academic performance (e.g., “underachieving,” “poorly motivated to achieve,”). The internal consistency was .92 and .83 at Times 1 and 2 respectively.

Loneliness and social dissatisfaction. Children’s feelings of loneliness and social dissatisfaction were assessed by using a self-report measure. Following procedures outlined by Asher et al. (1984), children’s responses to the 16 self-statements included in this scale were summed, with higher scores indicating greater feelings of loneliness and social dissatisfaction. Internal consistency in the Chinese sample was .96 and .93 at Time 1 and Time 2, respectively.

Depression. Children’s depression was measured by administering a Chinese version of the Childhood Depression Inventory (CDI, Kovacs, 1992). Each of the 27 items provides three alternative responses from which the participant must choose the one that best describes her/him in the past 2 weeks. The items center on a given thought, feeling, or behavior associated with depression, including sadness, self-deprecation, loneliness, reduced social interest, anhedonia, self-hate, self-blame, sleep disturbance, fatigue, somatic concerns, and reduced appetite. The items were scored 0, 1, or 2 with a higher score indicative of greater depression. Following the procedure outline by Kovacs (1992), a total score was computed by summing all item scores, with higher scores indicative of greater depression. Internal consistency of this measure was .84 and .80 at Times 1 and 2, respectively, in the present study.
Self-perceptions of general self-worth. Children’s self-perceptions of general self-worth were assessed by a Chinese version of The Self-Perception Profile for Children (Harter, 1985). The original scale taps children’s perceptions of their own competence in specific social, cognitive and physical domains and general self-worth. Only the general self-worth subscale, consisting of 6 items, were of interest in the present study. The items were summed to form the scores of perceived general self-worth, with higher scores indicating more positive self-perceptions. Internal consistency of the scale was .65 and .68 at Times 1 and 2 respectively.

Leadership. In Chinese schools, there are various formal and informal student organizations that are often hierarchical in structure. "Leaders" of these organizations, elected by peers and teachers, are usually believed to be good students, especially in aspects of behavior and morality. Data on student leadership were collected from school administrative records in the present study. Leadership was coded as follows: Students who were group leaders within the class received a score of 1; students who held leadership positions at the class level and at the school and/or municipal level received scores of 2 and 3, respectively. Students who did not hold leadership positions were given a score of 0.

Academic achievement. Information concerning academic achievement in Chinese and mathematics was obtained from the school records. The scores of academic achievement were based on objective examinations conducted by the school. Maximum scores for Chinese and mathematics were 100; a test score of 60 is usually considered the cut-off between a pass and a failure in a course. In the present study, scores on each of Chinese and mathematics were summed to form a single index of academic achievement (possible range = 0 to 200).

Parent reports of externalizing and internalizing behaviors. A Chinese version of The Child Behavior Checklist (CBCL, Achenbach, 1991) was used to assess children’s externalizing and internalizing behaviors. The measure consisted of 113 items that described a variety of behavioral symptoms. Parents were requested to rate, on the 3-point scale (0=“not true”;
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1=“somewhat or sometimes true”; and 2= “very true or often true”), each item according
to how well they described their children. In the original measure (Achenbach,1991), the
Externalizing category included Aggressive behavior and Delinquent behavior subscales, and
Internalizing category include Withdrawn behavior, Anxious/Depressed behavior, and Somatic
Complaints. Given the focus of the present study on the broad-band externalizing and
internalizing categories, factor analyses of the Chinese data were conducted using a two-factor
solution. The results indicated that all Internalizing items as described by Achenbach (1991)
loaded clearly on the corresponding factor. Thus, scores of Internalizing behaviors were
computed following the procedure described by Achenbach’s (1991). Among the Externalizing
items, items 27 (“Easily jealous”) and 105 (“Uses alcohol or drugs for non-medical purposes”)
did not load on any factor, and item 63 (“Prefers being with older kids”) loaded on Internalizing
factor. Consequently, these items were not included in the calculation of the final Externalizing
scores used herein. Internal consistency of Externalizing and Internalizing variables in the
Chinese sample was .86 and .88 for mothers, and .83 and .86 for fathers respectively. Mother
and father assessments were significantly correlated, $r = .60$ and $.50$, $p < .001$, for Externalizing
and Internalizing variables respectively. Thus, scores of mother and father assessments were
summed to form a single index of Externalizing and Internalizing behaviors.

Results

Descriptive data

There were nonsignificant differences between the two grades on externalizing and
internalizing behaviors. Thus, the data were combined across grades. The mean scores of
externalizing behaviors were 6.90 ($SD = 5.06$) and 5.29 ($SD = 4.39$), for boys and girls
respectively, $t = 2.96$, $p < .01$. The mean scores of internalizing behaviors were 6.47 ($SD =
5.06$) and 7.05 ($SD = 4.84$), for boys and girls respectively, $t = -1.02$, $p > .05$. The correlation
between externalizing and internalizing variables was .58, which was similar to that reported in
Western cultures (e.g., Achenbach, 1991).
Concurrent relations between externalizing and internalizing behaviors and adjustment variables

Concurrent correlations are presented in Table 1. The results indicated that externalizing behaviors were significantly and negatively correlated with social preference, teacher-rated school competence, leadership, academic achievement and perceived general self-worth. Moreover, externalizing behaviors were significantly and positively correlated with teacher-rated learning problems and self-reported depression. Internalizing behaviors were positively correlated with loneliness and depression, and negatively correlated with teacher-rated school competence, academic achievement and perceived general-self-worth.

A series of multiple regression analyses was conducted mainly to examine unique contributions of externalizing and internalizing behaviors and their interaction to adjustment. In all analyses, we entered sex and grade into the equation in the first and second steps to partial out sex and grade effects. Externalizing and internalizing behaviors were entered simultaneously in the third step, controlling for their overlap. The analyses for the eight adjustment variables were conducted separately. Finally, a series of two-way and three-way interactions between sex, grade and externalizing and internalizing behaviors was entered hierarchically in the following steps.

Sex and grade effects. Sex was significant in predicting peer preference, \( \beta = .16, R^2_{ch} = .03, p < .01 \); leadership, \( \beta = .28, R^2_{ch} = .08, p < .001 \); teacher-rated social competence, \( \beta = .22, R^2_{ch} = .05, p < .001 \); teacher-rated learning problems, \( \beta = -.20, R^2_{ch} = .04, p < .001 \); and academic achievement, \( \beta = .23, R^2_{ch} = .05, p < .01 \). Boys had significantly higher scores on teacher-rated learning problems, and lower scores on the other variables than girls. There were nonsignificant grade effects.

Prediction of concurrent adjustment variables based on externalizing and internalizing behaviors. The analyses first revealed that the commonality of externalizing and internalizing behaviors had significant contributions to teacher-rated competence, \( R^2_{ch} = .02, F_{ch} = 5.03, p < \)
Children’s externalizing behaviors negatively predicted social preference, academic achievement and perceived self-worth, and positively predicted teacher-rated learning problems, after sex, grade and the commonality or overlap between externalizing and internalizing behaviors were controlled. Internalizing behaviors uniquely and positively predicted self-reported loneliness, depression, and negatively predicted perceived general self-worth. In addition, internalizing behaviors positively predicted social preference. The results concerning the unique contributions of externalizing and internalizing behaviors are presented in Table 2.

In addition to the main effects, significant interactions were found between externalizing behaviors and internalizing behaviors in predicting (1) teacher-rated school competence, $\beta = .38$, $R^2_{ch} = .02$, $F_{ch} = 5.76$, $p < .05$, (2) teacher-rated learning problems, $\beta = -.34$, $R^2_{ch} = .02$, $F_{ch} = 4.63$, $p < .05$, and (3) academic achievement, $\beta = .37$, $R^2_{ch} = .02$, $F_{ch} = 6.23$, $p < .01$.

To understand the nature of the interactions, we examined simple slopes of the regression of the adjustment variable on one predictor at a high value and a low value (one standard deviation above and one standard deviation below the mean) of the other predictor, as described by Aiken and West (1991). The regression lines are shown in Figure 1. (In the figure, all values are standardized scores and refer to portions of standard deviations of the variable.) Since the predictors were continuous variables, the significance of the difference between the simple slopes was equivalent to that of the corresponding interaction term.

As indicated in the figure, externalizing behaviors were negatively associated with teacher-rated school competence and significantly and positively associated with teacher-rated learning problems for children with low internalizing scores; the associations were nonsignificant for children with high internalizing scores. Externalizing behaviors were significantly and negatively associated with academic achievement for children with both low
and high internalizing scores. However, the magnitude of the association for children with high internalizing scores was weaker than that for children with low internalizing scores.

We also examined the relations between internalizing behaviors and the adjustment at high and low values of externalizing behaviors. The slope of the regression based on internalizing behaviors was -.02 and -.30, \( p > .05 \) and \( p < .01 \), for teacher-rated competence, -.09 and .08, \( ps > .05 \), for teacher-rated learning problems, and .06 and -.13, \( ps > .05 \), for children with high and low externalizing scores, respectively. Since the information is contained in Figure 1, the regression lines are not plotted in separate graphs. In general, the results suggested that, whereas children with low externalizing and low internalizing scores were likely to adjust well in school academic performance, children with high externalizing scores and low internalizing scores were likely to have learning problems. Thus, although externalizing behaviors might be a risk factor for school difficulties, internalizing behaviors might serve to buffer children who displayed externalizing behaviors from developing school difficulties. (I still think that this is a silly argument to pursue. You have shown above that kids with internalizing problems – as rated by parents – also indicate themselves, that they have problems. Right? So what are you trying to convey – that internalizing is “good” for kids who are otherwise “bad” [i.e., aggressive, cruel, attention deficit disordered, oppositional])

Predictive relations between externalizing and internalizing behaviors and adjustment variables

Predictive correlations are presented in Table 3. Externalizing behaviors at Time 1 were correlated negatively with social preference, leadership, teacher-rated competence and academic achievement, and positively with teacher-rated learning problems at Time 2. (Remember now … that CBCL Externalizing factor includes items about “learning disabilities”. Thus, one could argue that this is a study in which you are assessing the correspondence between parent and teacher reports. Right?) Internalizing behaviors at Time 1 were correlated positively with loneliness and depression, and negatively correlated with perceived general self-worth at Time
2. (on the other hand, here you are reporting correspondence between parent and child
reports … which is actually quite a bit more interesting!)

Multiple regression analyses were conducted to examine unique contributions of Time 1
externalizing and internalizing behaviors and their interaction to Time 2 adjustment. Child sex
was into the equation in the first step. The corresponding Time 1 adjustment variable was
entered in the second step to control for stability. Externalizing and internalizing behaviors
were entered simultaneously in the third step, controlling for their overlap. Finally, a series of
two-way and three-way interactions between sex, grade and each of the Time 1 variables was
taken hierarchically in the following steps.

**Sex effects.** Sex was significant in predicting Time 2 leadership, \( \beta = .13, \quad R^2_{ch} = .02, \quad p < .05 \); teacher-rated learning problems, \( \beta = -.28, \quad R^2_{ch} = .08, \quad p < .001 \); and academic
achievement, \( \beta = .14, \quad R^2_{ch} = .02, \quad p < .05 \). Boys had higher scores on teacher-rated learning
problems, and lower scores on leadership and academic achievement than girls.

**Stability of adjustment variables.** Stability was significant for social preference, \( \beta = .51, \quad R^2_{ch} = .25, \quad p < .001 \); leadership, \( \beta = .42, \quad R^2_{ch} = .17, \quad p < .001 \); teacher-rated competence, \( \beta = .49, \quad R^2_{ch} = .23, \quad p < .001 \); teacher-rated learning problems, \( \beta = .55, \quad R^2_{ch} = .29, \quad p < .001 \); academic
achievement, \( \beta = .69, \quad R^2_{ch} = .47, \quad p < .001 \); loneliness, \( \beta = .34, \quad R^2_{ch} = .13, \quad p < .001 \); depression,
\( \beta = .31, \quad R^2_{ch} = .10, \quad p < .001 \); and perceived self-worth, \( \beta = .22, \quad R^2_{ch} = .05, \quad p < .05 \). (very nice,
but really depressing findings!!)

**Prediction of Time 2 adjustment variables based on Time 1 externalizing and
internalizing behaviors.** First, the results indicated that the commonality of Time 1 externalizing
and internalizing behaviors contributed nonsignificantly to the prediction of Time 2 adjustment
variables. Concerning unique contributions of externalizing and internalizing behaviors, it was
found that children’s externalizing behaviors significantly and negatively predicted Time 2
academic achievement and depression, and marginally and negatively predicted teacher-rated
school-related social competence, after sex, grade, stability and the overlap between
externalizing and internalizing behaviors were controlled. Internalizing behaviors uniquely and positively predicted Time 2 self-reported loneliness and depression. The results of regression analyses concerning the unique contributions of externalizing and internalizing behaviors to the prediction of Time 2 adjustment variables are presented in Table 4.

There was a significant interaction among Time 1 academic achievement, externalizing behaviors and internalizing behaviors in predicting Time 2 academic achievement, $\beta = -.82$, $R^2_{ch} = .02$, $F_{ch} = 5.70$, $p < .01$. To understand this interaction, we examined the simple slope effects of the regression of Time 2 academic achievement on externalizing behaviors at the high and low values (+1 SD and –1 SD of the mean) of internalizing behaviors and Time 1 academic achievement. The slopes are shown in Figure 2. It was found that for children with high Time 1 academic achievement, Time 1 externalizing behaviors were negatively associated with Time 2 academic achievement. Time 1 externalizing behaviors were also negatively associated with Time 2 academic achievement for children with low Time 1 academic achievement and low internalizing scores. However, the association was nonsignificant for children with low Time 1 academic scores and high internalizing scores. Taking a different perspective, we examined the relations between Time 1 internalizing behaviors and Time 2 academic achievement at high and low Time 1 externalizing behaviors and at high and low Time 1 academic achievement. It was found that the slope of all four regression lines was nonsignificant, $b = .16, .07, .34$ and $.34$, $p_s > .05$, for children with high Time 1 academic achievement and high externalizing scores, high Time 1 academic achievement and low externalizing scores, low Time 1 academic achievement and high externalizing scores, and low Time 1 academic achievement and low externalizing scores, respectively. Taken together, the results suggested that, consistent with the interactions between externalizing and internalizing behaviors on concurrent school adjustment, internalizing behaviors might be a buffering factor against negative effects of externalizing behaviors and initial academic difficulties on later school adjustment.
Discussion

Many researchers have now recognized that human behavioral functions are complex phenomena which cannot be understood completely and accurately without taking cultural factors into account (e.g., Super & Harkness, 1986). Culture not only affects the production and exhibition of various behaviors, but also imparts meanings to behaviors by providing norm and value systems as a frame of reference for social judgment and evaluation (Bornstein, 1995; Chen, 2000). Whereas the findings concerning the prevalence of behaviors in different cultures are interesting, it is important to examine the “meaning” of the behavioral symptoms, that is, how they are relevant to social and emotional adjustment, in the cultural context. Nevertheless, it is the case that there is little systematic research on this issue so far. As a result, it is largely unknown how the conceptualization and the findings concerning the nature of externalizing and internalizing behaviors can be generalized to other cultures. Thus, the present study constituted a significant contribution to the field.

The primary purpose of the present study was to investigate whether externalizing and internalizing behaviors were associated with social, emotional and academic adjustment in Chinese children. The Achenbach CBCL (1991), a Western-based standardized measure, was chosen so that the results could be compared with the Western literature. This measure has been widely used in cross-cultural studies, mainly due to the fact that the measure consists of items concerning a variety of externalizing and internalizing behaviors (e.g., Auerbach et al.,1996). Based on our knowledge of the Chinese culture and of previous studies by other researchers (e.g., Luk, Leung, Bacon-Shone, & Lieh-Mak, 1991; Zhang, 1996), we believed that the items in the CBCL tapped relevant externalizing and internalizing behaviors in Chinese children.

It was first found that there were gender differences in parental reports of child externalizing behaviors. Specifically, boys had higher scores on externalizing behaviors. This was consistent with the findings from many Western and Chinese studies (e.g., Luk et al., 1991). Gender differences in externalizing behaviors might be due to the fact that, in both Chinese and
Western cultures, parents might pressure girls to control their aggressive and acting-out behaviors in socialization because they are expected to behave in a more compliant and disciplined manner (Keenan & Shaw, 1997).

The Western literature (e.g., Achenbach, 1991) has indicated that girls are more likely than boys to display internalizing behaviors, particularly in late childhood and adolescence. It has been argued that, as a result of socialization, girls may gradually learn to channel their early problems into behaviors of a predominantly internalizing type during development (Keenan & Shaw, 1997). In contrast to the Western literature, nonsignificant gender differences were found for internalizing behaviors in Chinese children. Since girls were found to be more competent than boys in social and academic areas, it is possible that social and school competence might have served to hinder the development of internalizing behaviors in Chinese girls. Obviously, further investigation is needed on this issue.

We hypothesized that, consistent with the Western literature (e.g., Coie et al., 1995), externalizing behaviors would be associated with social and school adjustment difficulties. These hypotheses were supported in the study. It was found that externalizing behaviors were negatively associated with, and predictive of, peer social preference, teacher-rated school related social competence, leadership and academic achievement. Moreover, externalizing behaviors made significant and unique contributions to the prediction of later social and school adjustment, after the stability effects of adjustment variables and the overlap between externalizing and internalizing behaviors were controlled. These results clearly demonstrated the maladaptive nature of externalizing behaviors in Chinese children.

It has been found in Western cultures that, due to their inaccurate self-perceptions and ego defensiveness, children with externalizing problems may not report emotional distress such as loneliness and depression (e.g., Boivin et al., 1989). Inconsistent with these findings, our results indicated that externalizing behaviors were correlated positively with self-reported depression and negatively with perceived general self-worth in Chinese children. Moreover, the
negative association between externalizing behaviors and perceived self-worth was significant even after the overlap between externalizing behaviors and internalizing behaviors was controlled. As we argued earlier, the negative self-perceptions and self-feelings of children with externalizing problems might be related to the public evaluation processes in Chinese schools. Thus, whereas children with externalizing problems in Western cultures may be incompetent mainly in the social and academic areas, their counterparts in Chinese culture experience pervasive difficulties including social and school maladjustment and emotional problems.

The predictive relations between externalizing behaviors and later emotional adjustment were found to be different from the concurrent ones. First, it was found that the correlations between Time 1 externalizing behaviors and Time 2 indexes of emotional distress were nonsignificant. Furthermore, after control for their overlap with internalizing behaviors, externalizing behaviors negatively predicted later depression. These rather interesting results suggested that, although children with externalizing problems were likely to think and feel negatively about themselves at the same time, due to the social conditions in Chinese schools, externalizing behaviors might not be a direct causal factor for emotional difficulties from a developmental perspective. The negative unique contributions of externalizing behaviors to the prediction of later depression indicated that externalizing behaviors might be distinct, in nature, from internalizing behaviors in both Western and Chinese children.

Parental reports of child internalizing behaviors, including social withdrawal, somatic complaints and fearful actions, were found to be significantly correlated with, and predictive of, children’s reports of negative social feelings and negative self-perceptions of self-worth. Further, the predictive relations between internalizing behaviors and later self-reported loneliness and depression were significant after the stability of child self-reports was controlled. In general, these results demonstrated concurrent and predictive validities of parental reports on the CBCL in assessing underlying psychological distress in Chinese children. Given the
limitations of behavioral observations and other techniques in assessing children’s internalizing problems, valid parental reports are important for the understanding and diagnosis of internalizing symptoms. (you have argued that shyness is not a risk factor for Chinese kids. What would happen if you took the CBCL Withdrawal factor and re-analyzed the data? Would withdrawal not be associated with negative outcome, but anxiety, somatic complaints, etc… be positively associated with self-reported internalized angst?)

In Western cultures, children who display internalizing behaviors are found to display difficulties in social interactions and school achievement (e.g., Hymel, 1990). It has been argued that internalizing behaviors may reflect a lack of social confidence and assertiveness, both of which are highly valued in individualistic cultures. Given the cultural tolerance and acceptance of internalizing behaviors in Chinese culture, we argued that these behaviors might result in few social reactions from peers and adults and, thus, might not lead to social and school difficulties in Chinese children. Consistent with this argument, we found that internalizing behaviors were nonsignificantly associated with, and predictive of, peer acceptance, leadership, and teacher-rated school competence and learning problems in Chinese children. Internalizing behaviors were concurrently and negatively correlated with academic achievement. However, this negative correlation was mainly due to the overlap between internalizing and externalizing behaviors. After the overlap was partially out, the correlation was nonsignificant (r = .03). Furthermore, it was found in regression analysis that internalizing behaviors were positively associated with peer preference after their overlap with externalizing behaviors was controlled. These findings are consistent with previous reports concerning positive association between shy-inhibited behavior and peer acceptance in Chinese children (e.g., Chen et al., 1992). (so the kids are accepted but miserable … is that the message? Shall I be confused? You seem to be arguing that having internalizing problems is okay … yet the kids with these problems are telling you that they are lonely and depressed. Who cares if they’re accepted if they don’t actually feel that way! This is a central message that you must begin to convey in your research.
The truth is that “its often the perception that matters most.” Many depressed people are thoroughly liked by their friends, confidantes, peers. But they feel that they’re disliked … and it’s the feeling … the emotion … the dysregulated emotion that matters most. And that’s why depressed people sometime act on their depression and attempt suicide. All of which is to say that its time that you present a more even-handed perspective on this problem. Read the next paragraph in which you state “although children who displayed internalizing behaviors in China were emotionally distressed, they might not suffer from social difficulties or develop school problems”. Its as if you are downplaying the emotional problems because the kids are not doing poorly in school. It’s the very same problem in North America where “pushy, well-educated, middle class parents” ignore their children’s personal angst and misery and focus solely on the child’s academic competence. Ultimately, there are serious costs for child and parent and parent-child relationships.

There were significant interactions between internalizing and externalizing behaviors in predicting concurrent and later school adjustment. Specifically, it was found that externalizing behaviors were negatively associated with teacher-rated school competence and academic achievement and positively associated with learning problems for children who had low scores on internalizing behaviors; these associations were weaker or nonsignificant for children who had high scores on internalizing behaviors. Similarly, it was found that externalizing behaviors predicted later academic difficulties for children who had low internalizing scores, but not for children who displayed a high level of internalizing behaviors. Children with high externalizing scores and low internalizing scores were more likely than others to have school problems. Thus, internalizing behaviors appeared to be a buffer against the negative effects of externalizing problems on academic achievement. The results concerning the buffering effects of internalizing behaviors were not consistent with the argument in the Western literature that the combination of externalizing and internalizing behaviors may be associated with increased adjustment difficulties (e.g., Achenbach, 1995; Garbar, Quiggle, Panak, & Dodge, 1991).
Taken together, the results of the present study indicated that, although children who displayed internalizing behaviors in China were emotionally distressed, they might not suffer from social difficulties or develop school problems. The buffering effects of internalizing behaviors on the relations between externalizing behaviors and concurrent and later school adjustment might represent another feature of behavioral functioning in Chinese children. It should be noted that the analyses of the interactions between externalizing and internalizing behaviors were mainly exploratory. Caution must be taken in interpreting the interactions until the results are replicated in future research.

We believe that the investigation of behavioral functioning in different cultures would help us understand the involvement of cultural context in human adaptive and maladaptive development. Findings from non-Western cultures concerning the patterns of relations between externalizing and internalizing behaviors and adjustment that are similar to, or different from, those in the Western literature may be interesting, and important for the establishment of a “culture-inclusive” data base. The present study represented the first step in the exploration of the developmental significance of externalizing and internalizing behaviors for social, emotional and school adjustment in Chinese children. The focus of the present study was on the understanding of the “within-culture” relations between externalizing and internalizing behaviors and adjustment in Chinese children; the results were compared mainly with the Western literature (e.g., Cicchetti & Cohen, 1995). The analysis on common, unique, and interactive contributions of externalizing and internalizing behaviors to social, school and emotional adjustment, particularly from a developmental perspective, proved to be a useful approach to the understanding of the joint and distinctive characteristics of the behaviors. Finally, it should be noted that behavioral systems operate and develop in social context. For example, behavioral problems and adjustment difficulties may both resulted from, and affected by, contextual factors such as maladaptive parenting and family dysfunctions (Caspi, & Moffitt,
The relations between behavioral problems and adjustment should be investigated in a broader context in the future.

In summary, the results of the present study suggested that externalizing and internalizing behaviors were important phenomena in social and psychological adjustment in Chinese children. Externalizing behaviors were associated with, and predictive of, social and school difficulties. Internalizing behaviors were mainly associated with later emotional distress including loneliness and depression, but might serve as a buffering or protective factor in school adjustment for children who had externalizing problems.
Externalizing and Internalizing Behaviors

References


Author note

Xinyin Chen and Mowei Liu, Department of Psychology; Kenneth H. Rubin, Department of Human Development; Dan Li, Zhenyun Li, Guozhen Cen and Boshu Li, Department of Psychology.

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Correspondence should be addressed to Xinyin Chen, Department of Psychology, University of Western Ontario, London, Ontario, Canada N6A 5C2.
Footnote

1 Similar analyses were conducted for the subscales of externalizing and internalizing problems. The patterns of the results concerning sex and grade effects were virtually identical to those reported herein.
Table 1.

Concurrent correlations between externalizing and internalizing behaviors and adjustment variables at Time 1 (N=310)

<table>
<thead>
<tr>
<th></th>
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<th>Internalizing</th>
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</thead>
<tbody>
<tr>
<td>Social Preference</td>
<td>-.22***</td>
<td>.01</td>
</tr>
<tr>
<td>Leadership</td>
<td>-.20***</td>
<td>-.09</td>
</tr>
<tr>
<td>Teacher-rated Competence</td>
<td>-.15**</td>
<td>-.12</td>
</tr>
<tr>
<td>Teacher-rated Learning Problems</td>
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<td>.09</td>
</tr>
<tr>
<td>Academic Achievement</td>
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<td>-.16**</td>
</tr>
<tr>
<td>Loneliness</td>
<td>.11</td>
<td>.21***</td>
</tr>
<tr>
<td>Depression</td>
<td>.27***</td>
<td>.35***</td>
</tr>
<tr>
<td>Perceived general self-worth</td>
<td>-.33**</td>
<td>-.34***</td>
</tr>
</tbody>
</table>

** p < .01     *** p < .001
Table 2.
Unique contributions of externalizing and internalizing behaviors in predicting concurrent adjustment variables

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Externalizing</th>
<th>Internalizing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>ΔR²</td>
</tr>
<tr>
<td>Social Preference</td>
<td>-.27</td>
<td>.04</td>
</tr>
<tr>
<td>Leadership</td>
<td>-.11</td>
<td>.01</td>
</tr>
<tr>
<td>Teacher-rated competence</td>
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<td>.00</td>
</tr>
<tr>
<td>Teacher-rated learning prob.</td>
<td>.27</td>
<td>.05</td>
</tr>
<tr>
<td>Academic achievement</td>
<td>-.31</td>
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</tr>
<tr>
<td>Loneliness</td>
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<td>.00</td>
</tr>
<tr>
<td>Depression</td>
<td>.10</td>
<td>.01</td>
</tr>
<tr>
<td>Perceived self-worth</td>
<td>-.23</td>
<td>.04</td>
</tr>
</tbody>
</table>

Note. Externalizing and internalizing behaviors were entered into equation after child sex, grade, and overlap between externalizing and internalizing behaviors were controlled.

* p < .05    ** p < .01    *** p < .001
Table 3.

Predictive correlations between externalizing and internalizing behaviors at Time 1 and adjustment variables at Time 2 (N=147)

<table>
<thead>
<tr>
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<tr>
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</tr>
<tr>
<td>Teacher-rated Competence</td>
<td>-.20**</td>
<td>-.10</td>
</tr>
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<td>Teacher-rated Learning Problems</td>
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<tr>
<td>Depression</td>
<td>-.02</td>
<td>.21**</td>
</tr>
<tr>
<td>Perceived general self-worth</td>
<td>-.11</td>
<td>-.23**</td>
</tr>
</tbody>
</table>

* p < .05     ** p < .01     *** p < .001
Table 4.

Unique contributions of externalizing and internalizing behaviors in predicting Time 2 adjustment variables

<table>
<thead>
<tr>
<th>Outcomes</th>
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<th></th>
<th></th>
<th>Internalizing</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>ΔR²</td>
<td>Fch</td>
<td>β</td>
<td>ΔR²</td>
<td>Fch</td>
</tr>
<tr>
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<td>.00</td>
<td>.03</td>
<td>-.15</td>
<td>.02</td>
<td>2.86</td>
</tr>
<tr>
<td>Leadership</td>
<td>-.04</td>
<td>.00</td>
<td>.17</td>
<td>.01</td>
<td>.00</td>
<td>.05</td>
</tr>
<tr>
<td>Teacher-rated competence</td>
<td>-.17</td>
<td>.02</td>
<td>2.95+</td>
<td>.11</td>
<td>.01</td>
<td>1.28</td>
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<tr>
<td>Teacher-rated learning prob.</td>
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<td>.01</td>
<td>2.32</td>
<td>-.02</td>
<td>.00</td>
<td>.14</td>
</tr>
<tr>
<td>Academic achievement</td>
<td>-.16</td>
<td>.02</td>
<td>3.97*</td>
<td>.11</td>
<td>.01</td>
<td>2.12</td>
</tr>
<tr>
<td>Loneliness</td>
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<td>.01</td>
<td>1.12</td>
<td>.20</td>
<td>.03</td>
<td>4.02*</td>
</tr>
<tr>
<td>Depression</td>
<td>-.24</td>
<td>.04</td>
<td>6.02**</td>
<td>.23</td>
<td>.03</td>
<td>5.22*</td>
</tr>
<tr>
<td>Perceived self-worth</td>
<td>.05</td>
<td>.00</td>
<td>.14</td>
<td>-.15</td>
<td>.02</td>
<td>2.00</td>
</tr>
</tbody>
</table>

Note. Externalizing and internalizing behaviors were entered into equation after child sex, grade, stability of outcome variables, and overlap between externalizing and internalizing behaviors were controlled.

+ * ** *** p < .10  * p < .05 ** p < .01 *** p < .001