



Articles

Three Pathways From Anger Dysregulation to Lower Social Status Among Chinese Boys

Hui Zhang*^a, Charles Matthew Stapleton^b, Yeh Hsueh^c, Robert Cohen^d

[a] Department of Psychological Science, Kennesaw State University, Kennesaw, USA. [b] Department of Psychological Science, University of North Georgia, Gainesville, USA. [c] Department of Counseling, Educational Psychology and Research, University of Memphis, Memphis, USA. [d] Department of Psychology, University of Memphis, Memphis, USA.

Abstract

During middle childhood, Chinese boys are particularly at risk to develop both externalizing (e.g., overt aggression) and internalizing behavioral problems (e.g., social withdrawal). A possible contributor to these problems is that boys cannot regulate their anger very well. Inability to manage anger may cause a particular social challenge for Chinese boys. Open expression of anger may be prohibited by prevailing Chinese cultural norms, because it emphasizes individuality over harmony. But anger is a socially disengaging emotion which works against social harmony. This situation requires Chinese boys to manage and express anger appropriately in social interactions. Based on the hierarchical model of social relationships and the three trends of human interactions, this study examined three pathways—aggression, social withdrawal, and sociability-leadership—that lead from Chinese boys' anger dysregulation to their lower social status among peers at school. Participants of this study were 267 boys in Grades 3-6 from an elementary school in urban China. A self-report questionnaire of anger dysregulation was used to evaluate how often Chinese boys express their anger in dysregulated ways (e.g., attacking things or people). Peer nominations were used to measure children's overt aggression (moving against peers), social withdrawal (moving away from peers), and sociability-leadership (moving toward peers). Social status was assessed by a sociometric measure which evaluates the degree to which children were liked by their classmates. Results showed that boys' anger dysregulation was negatively associated with their social status. Moreover, aggression, social withdrawal, and social skills fully mediated this association. This study enriches our understanding of the mechanisms linking anger dysregulation to lower social status and provides practical implications to help Chinese boys improve social and emotional functioning in middle childhood.

Keywords: Chinese culture, boys, anger dysregulation, aggression, sociability-leadership, social withdrawal, social status

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*Corresponding author at: Department of Psychological Science, Kennesaw State University, 1000 Chastain Road, Kennesaw, GA 30144, USA. E-mail: huizhang923@gmail.com



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Understanding how children deal and cope with feelings of anger is a matter of great concern for educators and parents worldwide. Feelings of anger create a significant social challenge for children. Children often meet this challenge in three possible ways: Some children do not regulate their anger adaptively and they attack peers around them, i.e., *move against peers* (Zeman, Cassano, Perry-Parrish, & Stegall, 2006). Other children recoil and withdraw from peer interactions, isolating themselves from others, i.e., *move away from peers* (Eisenberg et al., 2007; Li & Han, 2016; Rubin, Coplan, Fox, & Calkins, 1995). The most socially successful children may express their anger strategically to meet their social goals, make friends, and lead peer groups, i.e., *move toward peers* (Kwon, Willenbrink, & Hanrahan, 2018; Young, 2001).

Cultural values and norms shape how Chinese boys regulate their anger. Overt displays of anger may emphasize children's individuality and their social disengagement with their peer group (Kitayama, Mesquita, & Karasawa, 2006). Children can become angry with friends because they do not like their friends' ideas or do not want to do the activities that their friends are doing. In such a case, the display of anger is, in part, a sign that the child is willing to stand alone and in disagreement with their peer group. However, the open expression of anger is inconsistent with prevalent Chinese cultural norms of maintaining relational harmony. In addition, in comparison to European and North American cultures, peer relations during childhood play a unique role in Chinese society. Consider that from 1980 to 2013, China implemented a one-child policy, meaning that most children's interactions with other children took place at school. This meant that the loss of a friendship at school was more costly for Chinese boys than it was for their counterparts in other areas of the world. Even if Chinese boys experience dysregulated anger, expressing it openly may be too costly because of cultural prohibitions against it. Thus, it is of importance to examine how Chinese children's anger dysregulation affects their peer relations.

Moreover, it is important to have culturally informed models of boys' anger because anger is one emotion that Chinese boys consistently report experiencing more often and more intensely than girls (Eisenberg et al., 2007). During middle childhood, boys are particularly at risk to develop externalizing behavioral problems. For instance, compared to girls, boys typically exhibit more overt aggressive behaviors (Cook, Williams, Guerra, Kim, & Sadek, 2010) and less developed social skills (Chen, Cen, Li, & He, 2005; You, 2006). In response to anger, boys are more likely than girls to engage in direct physical or verbal aggression (Averill, 1982; Saarni, 1999).

As can be seen from this brief review, it is well documented that anger dysregulation impairs boys' peer relations (e.g., Eisenberg et al., 2007; Kwon et al., 2018; Li & Han, 2016; Rubin et al., 1995; Young, 2001; Zeman et al., 2006). However, the influencing mechanism of anger dysregulation on social status is unclear, particularly for boys living in Chinese societies. This study aims to examine the mechanisms that mediate the association between anger dysregulation and social status among Chinese boys in middle childhood. We predicted that three trends in boys' peer interactions (over aggression, social withdrawal, and sociability-leadership) mediate this association. In what follows, we present more details about the theoretical basis for this prediction.

Anger Dysregulation and Social Status

Anger regulation is defined as processes of monitoring, evaluating, and modifying feelings of anger to accomplish goals (Thompson, 1994). In contrast, anger dysregulation refers to an inability or unwillingness to change or modify the outward expression of anger. Anger dysregulation typically includes behaviors such as attacking others, shouting, and hitting things.

When conceptualizing the process of anger experience and anger dysregulation, and their influence on social functioning, we began with Hinde's hierarchical model of social relationships (1987) (Figure 1). According to Hinde's (1987) model, children's peer relations can be described at six levels. These levels include physiological factors, individual experiences, interactions between individuals, relationships between two individuals, group status, and the society in which the relationships are lived out. Each level should be understood on its own terms and not explained away using the concepts from another level. Moreover, each level is influenced by cultural values and the physical environment. Most importantly, these six levels influence each other, often indi-

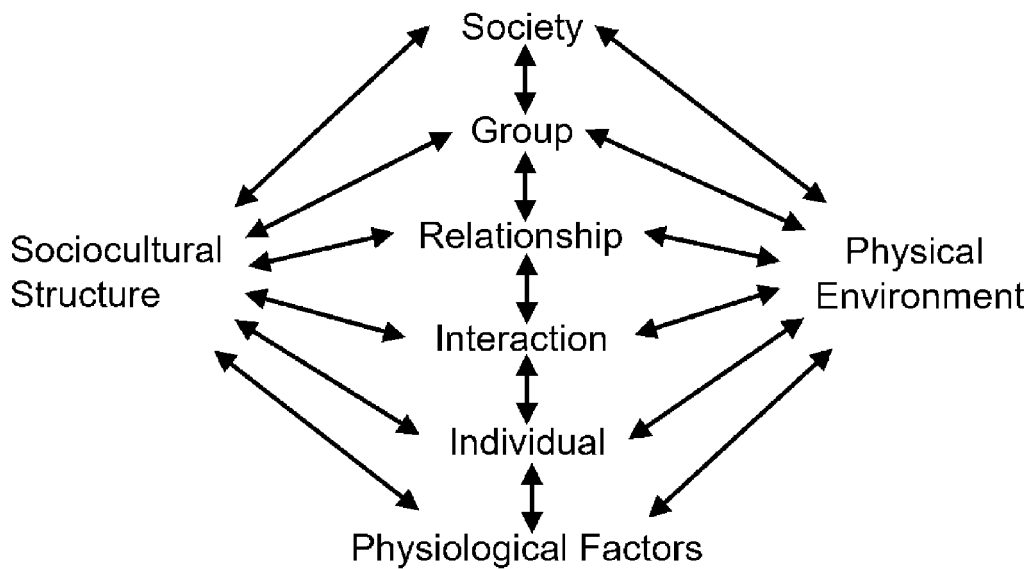


Figure 1. Hinde's hierarchical model (1987) of social relationships.

rectly. Hinde's model, for instance, implies that the association between an individual's characteristics and their social standing at the group level is mediated by the individual's interactions and relationships. This study aimed to understand anger dysregulation in Chinese boys by looking at how their individual subjective experiences, peer interactions, group status, and cultural values intersect. Based on this framework, we expected that boys' individual characteristics (e.g., boys' self-reported experience of anger dysregulation) would be directly associated with their peer interactions (e.g., overt aggression, social withdrawal, sociability and leadership), and indirectly associated with their group social status.

The experience of anger dysregulation can be understood by contrasting it with the adaptive and appropriate expression of anger. Hinde's model and other evolutionary models suggest that the function of emotions is to provide solutions to social problems (Campos, Frankel, & Camras, 2004; Frijda, 2000; Saarni, Campos, Camras, & Witherington, 2006). Each emotion—including anger—has been retained at the societal level because it provides some adaptive value. Emotions coordinate appraisals of situations, appraisals of persons within the situations, communication with others, physiological responses, and responses to situations to provide solutions to the problems faced within society. For instance, it has been found that within Chinese society, anger involves the cognitive appraisal that other people, such as friends, enemies, and peers, are the cause of negative circumstances (Yang & Tong, 2010). When anger is adaptively and appropriately experienced, it helps members of Chinese society problem solve. For instance, if a child notices that another child is repeatedly stealing their lunch, then it is adaptive to be angry and prevent this from happening in the future. It is only when anger is overregulated or underregulated—when it is experienced out of time, out of place, and out of proportion—that it is a maladaptive response. Maladaptive, in this instance, means that the emotional response gets in the way of attaining another social goal.

An important social goal for Chinese boys is the acquisition and maintenance of social status. Social status refers to the positive regard that the group bestows on one of its members. We propose that anger dysregulation can influence Chinese boys' social status through three pathways. To designate these pathways, we use the

shorthand descriptions of social relationships (moving against peers, moving away from peers, and moving toward peers) that have been used in previous literature. [Horney \(1945\)](#) first introduced these three distinct tendencies of social interaction from a family-systems perspective. This perspective has been adopted later in the research of child development. For example, research has shown that children's approach (i.e., moving against) or avoidance (i.e., moving away) tendencies influenced their social interactions and emotional well-being ([Gazelle & Rudolph, 2004](#)). In addition, children's moving against tendency or tendency to be aggressive has been found to be moderately stable from childhood to adulthood. Elementary-school children with temper tantrums (i.e., moving against peers) may continue to show this behavior style later in adulthood ([Caspi, Elder, & Bem, 1987](#)). Next, we review each of these pathways regarding the relation between children's anger dysregulation and social interactions.

First, a boy experiencing dysregulated anger may choose to act aggressively toward others in the classroom. This moving against pathway is the most common sense one. Indeed, it has been found that anger leads to aggression about 10 percent of the time ([Averill, 1982](#); [Kassinove, Sukhodolsky, Tsytsarev, & Solovyova, 1997](#)). Typically, we associate overt aggression and violence with under-controlled anger ([Dickson, Laursen, Valdes, & Stattin, 2019](#); [Garofalo, Gillespie, & Velotti, 2019](#); [Zeman et al., 2006](#)). It is also easy to understand why social status would be harmed by aggression. Each aggressive act is likely to harm an individual relationship or interaction with another member. If the aggression is carried out indiscriminately and not limited to a few targets, then the boy is likely to develop a reputation within the group of being hurtful. Most studies concerning Chinese children have observed a positive association between dysregulated anger and aggressive behavior ([Xu & Zhang, 2008](#); [Zhou, Eisenberg, Wang, & Reiser, 2004](#); [Zhou, Main, & Wang, 2010](#)). But aggression is not the only result of dysregulated anger.

Social withdrawal may also be a consequence of dysregulated anger among Chinese children. When children withdraw socially, this is labeled as moving away from peers. The research literature exploring the connection between anger and social withdrawal is sparse. It is also unclear whether social withdrawal is generally an adaptive or maladaptive response within the context of Chinese society. Research from the early to mid-1990s indicated that children who withdrew or displayed shyness-sensitivity were generally found to have positive social outcomes including high social status among peers ([Chen, Rubin, & Li, 1995](#)). In the socio-cultural context of the mid-1990s China, social withdrawal or shyness-sensitivity can be understood as a positive trait that conveys modesty. In contrast, by the early 2000s, researchers found that Chinese children who withdrew from peers or displayed a shyness-sensitivity had mixed social outcomes ([Chen et al., 2005](#)). Some of these children were rejected and some accepted by their peers. A historical understanding of this reversal is that as Chinese and Western societies grew closer together in terms of their economic and cultural values, social withdrawal and modesty came not to be as highly valued in the urban settings of Chinese societies. Thus, in the context of the mid-2000s and late-2010s, it can be expected that social withdrawal was and will be associated with poor emotional regulation and social outcomes.

Indeed, there are examples in the research literature alluding to the association between poor anger regulation and social withdrawal that post-date the early-2000s. For example, Chinese children's feelings of anger and under-controlled anger expressions were associated with their internalizing symptoms including social withdrawal ([Eisenberg et al., 2007](#)). Similarly, [Sang et al. \(2018\)](#) observed that elementary-school and middle-school students who were unable to control their temper tended to withdraw from peers and avoid social interactions.

These studies imply that while social withdrawal may not be an ideal outcome for Chinese children it may be used by them as a strategy to soften the social damage that dysregulated anger might cause.

It should also be noted that children may simultaneously act aggressively and withdraw because of dysregulated anger depending upon the context. Imagine that a boy acts aggressively toward other children he does not like in his classroom and at the same time withdraws from interacting with peers who he would otherwise prefer to engage with. While in the context of interacting with enemies, a boy may be aggressive, in the context of interacting with potential friends, a boy may withdraw.

In addition to moving against peers (overt aggression) and moving away from peers (social withdrawal), boys who have problems with dysregulated anger may not be as sociable and leader-like. Moving toward peers, such as making friends and serving as group leaders, is also a critical form of peer interaction (Gazelle & Rudolph, 2004). When children express their anger strategically and appropriately, they may gain social status and play the social role of leaders (Kwon et al., 2018; Young, 2001). In contrast, children who inappropriately express their anger may be less likely to act in a friendly, social, and leader-like manner. Within the Chinese context, being a leader of a group should be understood as a way of developing knowledge and as a way of developing the self. Li and her colleagues (Li, 2001) have outlined what they call the Chinese heart and mind for wanting to know, an indigenous model of how Chinese students understand the process of learning. Within that model, being a leader is not associated with exerting power over others, but with being a good exemplar of how one can train and develop the self. There is both qualitative and quantitative data supporting the inclusion of leadership as a component of the indigenous Chinese model of learning. For example, Li (2001) had a group of college students brainstorm concepts related to learning, while a second group was asked to rate how closely each concept was related to learning. A third group sorted these learning concepts into categories. Through this process being a leader emerged as a type of achievement that was highly desired by the students because it required cultivation of the self. The connection between leadership and education within the Chinese socio-cultural context has also been confirmed in quantitative studies. For instance, Chen and his colleagues have found moderate to strong associations between ratings of leadership by peers and teacher ratings of academic competence (Chen et al., 1995; Chen, Rubin, Li, & Li, 1999). In addition, pressure to be a leader or exemplar of moral and educational standards is put more on boys than girls, although girls are also expected to demonstrate leadership. Because of this previous literature confirming the central place of leadership in the Chinese understanding of learning and because learning is thought to confer status within this particular cultural milieu, we believed that among Chinese boys, anger dysregulation might have its greatest influence on social status through its negative impact on leadership abilities.

This study proposes that three trends of peer interactions (moving against peers, moving away from peers, and moving toward peers) mediate the association between anger dysregulation and social status. In other words, Chinese children who express anger in a dysregulated way are more likely to move against peers (overt aggression) and move away from peers (social withdrawal), and less likely to move toward peers (sociability-leadership), and as a consequence, their social status suffers.

Boys and Chinese Culture

To summarize, there are several reasons to focus on Chinese boys' anger dysregulation and how it is related to their social status. First, Chinese boys' dysregulated anger may run counter to the Chinese cultural value of

maintaining relational harmony. There is some evidence that Chinese boys experience anger more often and more intensely than girls at school (Eisenberg et al., 2007). This may create some social challenges for Chinese boys. Anger can be understood as a socially disengaging emotion (Kitayama et al., 2006). Socially disengaging emotions, such as pride and anger, draw attention to the independence and autonomy of the self in terms of personal goals and desires. This may, in turn, lead to separation from others in relationships. Anger as a social disengaging emotion puts boys at odds with the prevalent Chinese cultural norms and values. Thus, the direct, open, and intense expression of anger is more restricted in Chinese culture compared to other cultures. Boys who experience anger more intensely and more frequently than girls in Chinese culture may be particularly at risk. If boys also express their anger in a dysregulated way, this is certain to impact their relationships with friends and peers at school. Second, when Chinese boys do experience anger, they may lack adaptive strategies to regulate their anger and express their anger appropriately. Compared to Chinese girls, boys possess poorer emotional regulation skills in general, in part because they receive less socialization in this area. For example, research suggests that Chinese girls were better than boys at using shifting attention and inhibitory control as strategies to regulate their behaviors than Chinese boys (Wanless et al., 2013). Chinese boys are more likely than girls to use physical or verbal aggression as a tool to get their way and to control the situation. Also, Chinese boys are expected to suppress their emotions and are less likely than girls to share their emotions with their parents or friends.

But the consequences for boys of experiencing dysregulated anger in Chinese society are not as clear as in Western cultures. In Western cultures, boys typically experience more externalizing behavior problems than girls, and girls experience more internalizing problems than boys (Chaplin & Aldao, 2013). That is, we can expect that boys living in Western cultures will be more likely to move against and fight with others than girls, and that girls will be more likely to move away from and withdraw from others. In contrast, some research suggests that Chinese boys experience both more externalizing problems (e.g., aggression) and internalizing problems (e.g., depression) than girls (Chen et al., 2005). Although they are expected to perform better, Chinese boys often have weaker social skills and leadership abilities than girls (Chen, Wang, & Cao, 2011; Li & Wong, 2016). As a result, there may be three pathways from anger dysregulation to poor social status for boys living in Chinese culture: overt aggression, social withdrawal, and deficits in social and leadership skills.

Current Study

Middle childhood is a critical stage for children's social and emotional development. How well children manage their anger plays a significant role in their peer relationships. Compared to girls, boys are in a more vulnerable position in terms of higher levels of inappropriate expressions of anger, externalizing and internalizing behavior problems. Research from Western culture emphasizes the link between anger dysregulation and aggressive behavior, which impair boys' peer relationships. This study aims to investigate whether there are other possible pathways that also contribute to the relation between anger dysregulation and peer relations among boys in Chinese culture. We believe that cultural values and norms shape how displays of anger influence boys' peer relations in specific ways. Based on the theoretical framework and previous studies, we focused on two other possible pathways (withdrawing from peers and being less sociable with peers), in addition to the aggressive pathway.

This study aimed to examine the association between anger dysregulation and social status through three trends of peer interactions (overt aggression, social withdrawal, and sociability-leadership) among Chinese

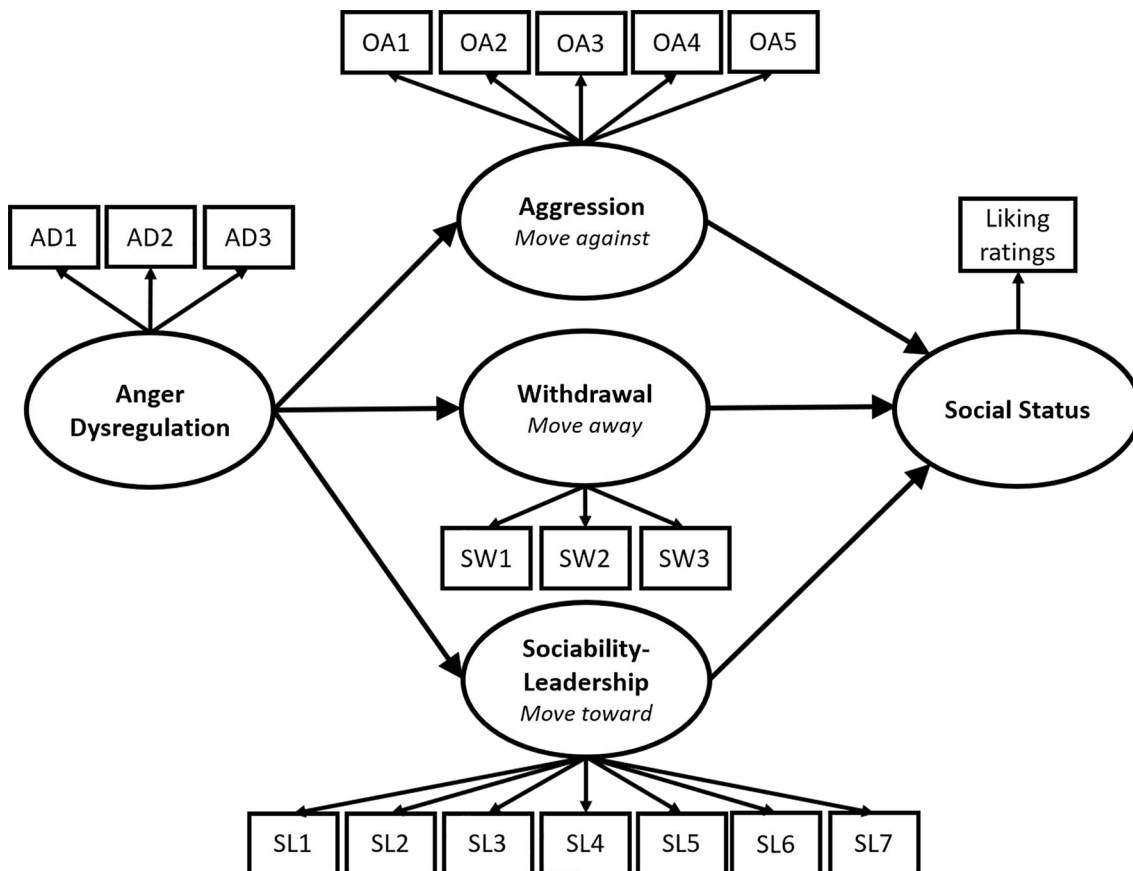


Figure 2. Conceptual model to examine the association between anger dysregulation and social status: Mediating effects of overt aggression, social withdrawal, and sociability-leadership. AD = anger dysregulation; OA = overt aggression; SW = social withdrawal; SL = sociability and leadership.

school-age boys. More specifically, we examined whether overt aggression, social withdrawal, and sociability-leaderships are mechanisms that explain why anger dysregulated boys are more likely to have poor social status. Figure 2 illustrates the conceptual model informing this study. To our knowledge, this is the only study incorporating all three pathways into a model of Chinese boys' anger dysregulation.

Based on theory and previous empirical work, we hypothesized that Chinese boys' peer interactions (overt aggression, social withdrawal, and sociability-leadership) would mediate the association between anger dysregulation and social status. More specifically, anger dysregulation would be positively associated with overt aggression and social withdrawal, and negatively associated with sociability-leadership. In turn, overt aggression and social withdrawal would be negatively associated with social status; whereas sociability-leadership would be positively associated with social status.

The importance of this study is that it draws attention to the less obvious. It is obvious that dysregulated anger leads to aggression. What is less obvious is that dysregulated anger may also lead to social withdrawal and deficits in social and leadership abilities. While educators and parents may be skilled at looking for the tell-tale signs of poor anger regulation, such as fighting and yelling, they may be less skilled at looking for the less visible signs and culturally specific signs of anger dysregulation, such as social withdrawal and deficits in social and leadership skills.

Method

Participants

This study was part of a larger data collection from 477 Chinese children in Grades 3-6 from a university-affiliated elementary school in central urban China. For the purpose of this study, we included self-reports from 267 boys and peer-reports from their classmates. The majority of the participants (> 95%) were of Han ethnicity. This study received approval from the Institutional Review Board of the university and the director of the elementary school.

Measures

Anger Dysregulation

The anger dysregulation subscale from Children's Anger Management Scale (CAMS; Zeman, Shipman, & Suveg, 2002) was used to assess boys' anger dysregulation. This subscale evaluated children's inappropriate expression of anger, including three items. For example, "I attack whatever it is that makes me very angry" or "I say mean things to others when I'm mad". Children were asked to rate items on a 3-point Likert scale, including 1 (*hardly ever*), 2 (*sometimes*), and 3 (*often*). The scale was translated into Chinese and back-translated into English. Previous research (e.g., Zeman et al., 2002) demonstrated acceptable reliability of this scale: the internal coefficient alphas ranging from .62 to .77, and test-retest reliability ranging from .61 to .80. In the current study, scores from the subscale had acceptable internal consistency, with Cronbach's coefficient alpha .60.

Peer Interactions: Aggression, Social Withdrawal, and Sociability-Leadership

Peer interactions including overt aggression, social withdrawal, and sociability-leadership were assessed using peer nominations (Masten, Morison, & Pellegrini, 1985). Children were provided classroom rosters, instructed that they were the directors of a play, and asked to circle the names of classmates who fit each of 15 behavior descriptions. An unlimited number of nominations for each role was allowed; no self-nominations were permitted.

The overt aggression scale measures both physical and verbal forms of aggressive behaviors. Five overt aggression items were taken from Dodge and Coie (1987) and Masten et al. (1985). One example of an item measuring physical aggression was "Someone who gets into fights for little or no reason." One example of verbal aggression was "Someone who threatens people." Social withdrawal scale measures solitary behaviors and included three items such as "A person who would rather play alone than with others." Three social withdrawal items were included from Masten et al.'s study (1985). Sociability-leadership scale assesses children's social and leadership skills. Seven sociability-leadership items were included from Masten et al.'s study (1985). Examples included "A person who makes new friends easily" and "A person who everyone listens to." These items have been used in previous studies with Chinese elementary-school children (Zhao, Zhou, Fan, & Ke, 2009; Zhou, Zhao, Sun, & Ding, 2007). Cronbach's alphas for these scales were .95 for aggression, .81 for social withdrawal, and .97 for sociability-leadership in the current study.

The total number of nominations received was calculated separately for each variable for each student and was standardized as a z-score by the classroom to control for differences in class size. As a result, the average scores of overt aggression, social withdrawal, and sociability-leadership were close to zero. Positive values of

these variables indicated that children were above the average level; negative values of these variables indicated that children were below the average level.

Social Status: Sociometric Liking Ratings

Boys' social status was measured by peer-ratings of how much they were liked by their classmates. Children were provided a classroom roster and asked to rate one item ("*how much do you like each of them?*") on a 6-point Likert scale from 1 (*like very little*) to 6 (*like very much*) for each classmate (Asher, Singleton, Tinsley, & Hymel, 1979). Mean ratings received from peers were calculated for each boy. Previous research (e.g., Asher et al., 1979) has demonstrated satisfactory test-retest reliability, $r = .81$.

Procedures

Data were collected from children who assented to the procedure and whose parents also consented. The data were collected in group sessions conducted in each classroom. The group sessions lasted around 40 minutes. Two or three trained graduate students assisted each classroom and administered the questionnaires. The same instructions were provided to all children regarding how to complete each of the questionnaires. Children had the opportunity to ask questions during the data collection. After children finished answering the questionnaires, graduate students checked children's answers individually to make sure there were no missing answers.

Data Analysis

Structural equation modeling was used to examine the associations between anger dysregulation, peer interactions, and social status. As shown in the conceptual model (Figure 2), anger dysregulation was the independent or exogenous variable, social status was the dependent or endogenous variable, and peer interactions (aggression, social withdrawal, and sociability-leadership) were the mediators. There were no missing data. The bootstrapping technique was conducted in Amos Graphics 24.0.0 (SPSS Inc., Chicago, IL) to examine the mediating effects. The 90% confidence interval (CI) was obtained with 200 samples. Maximum likelihood (ML) was used to estimate the model. To evaluate the goodness-of-fit, the chi-square test (χ^2), Root-Mean-Square Error of Approximation (RMSEA), and Comparative Fit Index (CFI) were used. Values of .08 or less for RMSEA and values of .95 or more for CFI indicated acceptable model fit (Hu & Bentler, 1999; Kline, 2016). The chi-square difference test ($\Delta\chi^2$) was used to assess the change of model fit between nested models (Byrne, 2016).

Results

Descriptive Statistics

Table 1 presents the means and standard deviations of each variable and the correlations between variables. Consistent with our expectations, anger dysregulation scores were positively correlated with overt aggression and social withdrawal, and negatively correlated with sociability-leadership and social status. There was a positive correlation between overt aggression and social withdrawal. Social status was positively correlated with sociability-leadership, and negatively correlated with overt aggression and social withdrawal.

Table 1

Means, Standard Deviations, and Correlations ($n = 267$)

Variable	<i>M</i>	<i>SD</i>	(1)	(2)	(3)	(4)	(5)
(1) Anger Dysregulation	1.43	.49	--				
(2) Overt Aggression	.24	1.21	.14*	--			
(3) Social Withdrawal	.05	1.12	.14*	.18**	--		
(4) Sociability-leadership	-.09	.98	-.14*	.01	-.13*	--	
(5) Social Status	2.99	.69	-.19**	-.33**	-.39**	.52**	--

Note. Peer nominations of overt aggression, social withdrawal, and sociability-leadership were standardized as z-scores to control for class size. For these three variables, positive means indicate boys' scores were above the average of all children including both boys and girls; whereas negative means indicate boys' scores were below the average of all children including both boys and girls.

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

Structural Equation Modeling

A two-step procedure was adopted to test the proposed conceptual model (Figure 2). In the first step, a confirmatory factor analysis (CFA) model was conducted to test the measurement model. In the second step, after an adequate measurement model was established, the structural model was analyzed to test the proposed mediation model. During this process, a full-mediation model was compared to a partial-mediation model to determine the mediating mechanisms.

CFA measurement model

The CFA model consisted of five latent constructs and 19 observed variables. Fit indices for the CFA measurement model supported a reasonable model fit: $\chi^2(143) = 415.48$, $p < .001$, RMSEA = .085, 90% CI [.075, .094], CFI = .944. Modification indices provided by Amos suggested two measurement items of overt aggression should be correlated: (OA1) "someone who gets into fights for little or no reason" and (OA2) "a person who fights when others wouldn't." Because of the similar conceptual meanings of these two items, we accepted the suggestion and added the correlation between the two items. This change significantly improved the model fit ($\Delta\chi^2 = 91.12$, $\Delta df = 1$, $p < .001$). The fit indices for the measurement model supported a good model fit: $\chi^2(142) = 324.36$, $p < .001$, RMSEA = .069, 90% CI [.060, .079], CFI = .963.

Table 2

Correlations Among Latent Variables for the Measurement Model

Latent Variable	(1)	(2)	(3)	(4)	(5)
(1) Anger Dysregulation	--				
(2) Overt Aggression	.22**	--			
(3) Social Withdrawal	.17	.22**	--		
(4) Sociability-leadership	-.18*	.01	-.11	--	
(5) Social Status	-.25**	-.32***	-.43***	.53***	--

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

All the pattern coefficients of the measured variables on the latent constructs were significant. For the Anger Dysregulation factor, standardized regression loadings of the three items were .45, .68, and .52. For the Overt Aggression factor, standardized loadings of the five items ranged from .84 to .96. For the Social Withdrawal factor, standardized loadings of the three items were .82, .77, and .85. For the Sociability-leadership factor,

standardized loadings of the seven items ranged from .77 to .94. Table 2 shows the correlations among the latent variables.

Structural Model

The structural model consisted of one exogenous or independent factor (anger dysregulation), one endogenous or dependent factor (social status), and three constructs (overt aggression, social withdrawal, and sociability-leadership) as mediators. Figure 3 shows the structural model of peer interactions (overt aggression, social withdrawal, sociability-leadership) fully mediating the effect of anger dysregulation on social status.

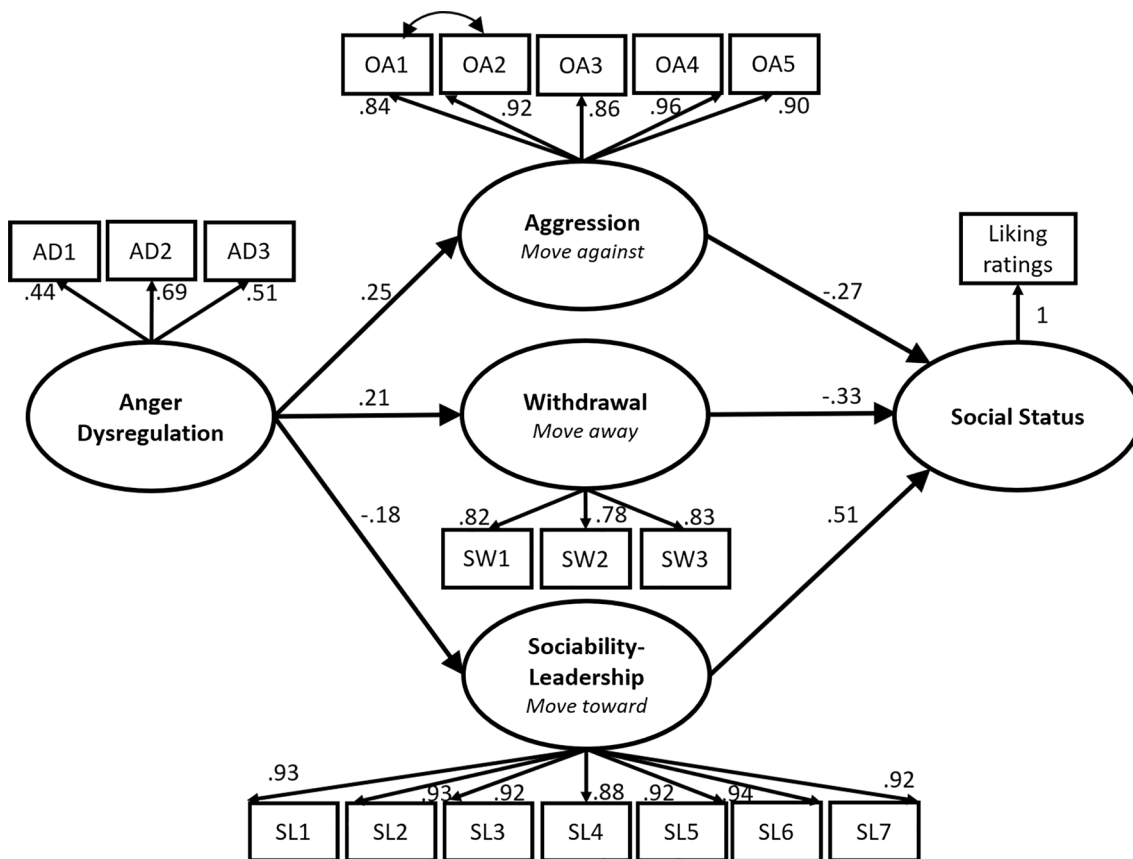


Figure 3. Structural model to examine the association between anger dysregulation and social status: Mediating effects of overt aggression, social withdrawal, and sociability-leadership. All standardized parameters in the model were statistically significant. AD = anger dysregulation; OA = overt aggression; SW = social withdrawal; SL = sociability and leadership.

The examination of the parameter estimates indicated statistically significant path coefficients from Anger Dysregulation to Overt Aggression ($\beta = .25$, $t = 2.80$, $p < .01$), from Anger Dysregulation to Social Withdrawal ($\beta = .21$, $t = 2.34$, $p < .05$), and from Anger Dysregulation to Sociability-leadership ($\beta = -.18$, $t = -2.14$, $p < .05$). Moreover, path coefficients from Overt Aggression to Social Status ($\beta = -.27$, $t = -5.63$, $p < .001$), from Social Withdrawal to Social Status ($\beta = -.33$, $t = -6.35$, $p < .001$), and from Sociability-leadership to Social Status ($\beta = .51$, $t = 10.29$, $p < .001$) were significant. The fit indices for the structural model supported a good model fit: $\chi^2(146) = 334.67$, $p < .001$, RMSEA = .070, 90% CI = (.060, .080), CFI = .961.

Confirming our hypothesis, results of the bootstrap test indicated that the mediating effects of peer interactions (overt aggression, social withdrawal, and sociability-leadership) between self-reported anger dysregulation and peer-reported social status were significant, standardized indirect effect estimate = $-.23$, 90% percentile = $[-.111, -.321]$, $p < .05$. Importantly, sociability-leadership was the strongest mediator of the association between anger dysregulation and social status in the model. Next, the fully mediated model was also compared with the partially mediated model using the $\Delta\chi^2$ test. The partially mediated model differed from the fully mediated model in one respect: there was a direct path from anger dysregulation to social status. The $\Delta\chi^2$ test for the fully ($\chi^2 = 334.67$, $df = 146$) and partially ($\chi^2 = 334.20$, $df = 145$) mediated models showed a non-significant difference in model fit ($\Delta\chi^2 = .47$, $\Delta df = 1$, $p > .05$), indicating that the partially mediated model did not fit the data better than the fully mediated model. Thus, we chose the fully mediated model based on the parsimonious principle of structural equation modeling (Kline, 2016).

Discussion

This study examined the mechanisms that mediate the association between Chinese school-age boys' anger dysregulation and their social status. We found that anger dysregulation among Chinese boys made them more likely to move against peers (i.e., act aggressively) and move away from peers (i.e., withdraw), in addition to making them less likely to move toward peers (i.e., be sociable and leader-like). These three pathways in turn resulted in lower social status. As mentioned earlier, this study focused on Chinese boys as they are particularly at risk for developing both internalizing and externalizing problem behaviors (Chen et al., 2005). One possible contributor is their inability to regulate their anger well. For example, in response to anger, boys are more likely than girls to engage in direct physical or verbal aggression (Saarni, 1999).

Consistent with our expectations, all three trends of peer interactions (moving against, moving away from, and moving toward peers) were significant explanatory mechanisms mediating the negative link between anger dysregulation and social status. Model comparisons also suggest that the mediating effects were full mediations, indicating that Chinese boys' anger dysregulation was indirectly associated with their social status through the three trends of peer interactions. Interestingly, in addition to the well-studied mediator, overt aggression, the other two mediators—social withdrawal and sociability-leadership—play equally, if not stronger, crucial roles in the relations between anger dysregulation and social status. To our knowledge, this is the only study to consider all three mediators in the same model of Chinese boys' anger dysregulation.

Three Pathways from Anger Dysregulation to Lower Social Status

Consistent with data from boys in Western cultures (Casey & Schlosser, 1994; Dickson et al., 2019; Eisenberg et al., 1996; Garofalo et al., 2019; Schoorl, van Rijn, de Wied, van Goozen, & Swaab, 2016; Underwood, Coie, & Herbsman, 1992; Zeman et al., 2006), the effects of anger dysregulation on overt aggression were statistically significant in the present study among Chinese boys. One possible explanation is that boys who are weak anger regulators usually feel frustrated and feel that their goals have been blocked by others. In this undesirable situation, boys tend to blame others for causing the problem and use physical or verbal aggression as a tool to get their way, control the situation, and demand dominance in their peer groups (Kuppens et al., 2003).

The link between anger dysregulation and social withdrawal is a unique phenomenon in Chinese culture. In accordance with previous studies on Chinese children (Eisenberg et al., 2007; Li & Han, 2016; Sang et al., 2018),

this study also indicated the effects of anger dysregulation on social withdrawal among Chinese boys. In Chinese culture, anger is considered a social-disengaging emotion that may hurt harmonious relationships with others (Kitayama et al., 2006). To avoid direct, open, and intense expression of anger, Chinese boys tend to socially withdraw or move away from their peers when they cannot control anger effectively. It is possible that when Chinese boys cannot control their anger, they may also blame themselves for causing the problem and move away from peers. This avoiding mechanism is an issue that can be further explored in future research.

The risks and benefits of social withdrawal and isolation for Chinese boys have changed as the culture in China has changed (for a historical review see Chen et al., 2005). In the early 1990s, the research found that social withdrawal or being shy was not a maladaptive social strategy for Chinese children. Instead, in these early studies, social withdrawal, shyness, and social sensitivity were associated with maturity and social competence. Since that time, the world has become more globalized and interconnected. Chinese boys are expected by society, their parents, and their teachers to be confident, active, and socially competent and, most importantly, participants in the world community. In this climate, social withdrawal or movement away from peers has been devalued. Consistent with this, in contemporary research Chinese boys' social withdrawal is increasingly associated with poor adjustment (e.g., low social status, difficulties in academics, and depression), particularly in urban settings.

Anger dysregulation is not only positively associated with maladaptive peer interactions (overt aggression and social withdrawal), but also negatively associated with adaptive peer interactions (sociability and leadership). If Chinese boys often express their anger inappropriately, it is difficult for them to make friends and be leaders in groups. As a result, a lack of positive social interactions lowers their social status at the group level. The association between children's sociability (e.g., making friends easily or being active in groups) and social status has been well documented in previous research (Rubin, Bukowski, & Parker, 2006; Stotsky & Bowker, 2018). Research that focuses on the implications of anger dysregulation for adaptive social interactions has drawn less attention than those which concentrate on maladaptive social interactions. But as our model demonstrates, it is no less important in understanding how anger dysregulation influences peer social status.

Upbringing of Boys in Chinese Culture

The findings from this study can be related to the socialization process of Chinese boys. In the context of the family, parent-child interactions influence children's emotional and social development. In Western culture, authoritative parenting is associated with positive child outcomes such as high self-esteem and effective emotion regulation skills (Baumrind, 1971). When Western parents use an authoritative style, parents and children explicitly communicate and express their feelings. In contrast, Chinese parenting emphasizes training (*guan jiao*) in which parents are devoted to teaching children to adhere to proper behaviors (Chao, 1994). One of the proper behaviors is to learn how to control anger. This situation is particularly true for boys. Chinese parents usually attempt to control the behavior of their boys more than their girls because boys are expected to provide for and support the family as they grow up (Chen, Kaspar, Zhang, Wang, & Zheng, 2004). In this way, Chinese boys are expected to take responsibility, be obedient to parents, and be self-reliant when experiencing anger. Explicit communication of anger is uncommon in Chinese families. Boys are encouraged to suppress their anger, reflect on themselves, and learn from experience. As a result, Chinese boys may not feel comfortable expressing their anger or seeking help.

Peer relations at school also play a crucial role as a socializing agent. In China children are taught to maintain good relationships with others, to trust and even rely on their friends, and to be part of the group and contribute to the group (Chen, Liu, & Li, 2000). Boys are expected to be kind, competent, and active in social interactions. Peers provide reinforcement and punishment for either conforming to social norms or ignoring them through their acceptance and rejection. For example, previous research has found that when Chinese boys acted like leaders in conformity with social expectation they were accepted by their peers, whereas boys were rejected by peers when they were disruptive and aggressive (Chen et al., 2004).

Limitations, Future Research, and Implications

This study has several limitations. For example, one limitation of this study is the concurrent and correlational design. We collected data regarding children's anger dysregulation and peer interactions at one time. Thus, it was not possible to see the developmental pattern and to determine the directionality between the variables. In other words, it is hard to study the stability or change in Chinese boys' anger dysregulation and how it may affect social relationships in the long term. This study focused on the effects of anger dysregulation on boys' social relationships. It is important to note that boys' social relationships may affect boys' anger dysregulation reciprocally. For example, how friends respond to Chinese boys' anger would affect how they manage anger. Another limitation is the self-report measure of anger dysregulation. Chinese boys may not honestly report their inappropriate expressions of anger due to social desirability. In the future, teachers' and parents' reports can be included to assess children's anger dysregulation.

Despite these limitations, the findings provide substantial theoretical and practical implications. Methodologically, one strength of this study was to use different informants for children's social and emotional functioning. Children's dysregulated expressions of anger were evaluated through self-report. Children's peer interactions and social status were assessed by peer-reports. Using different reporting sources can reduce the potential bias caused by the common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Practically, this study emphasizes the need to help Chinese boys to express their anger in appropriate ways. Middle childhood is a critical time for children's social and emotional development. Boys are usually in the disadvantaged position in terms of their social and emotional competence (Chen et al., 2005; Li & Wong, 2016). It is important to help boys manage their anger well and have good relations with their peers. However, it is more important to help boys in culturally relevant ways. Educators, parents, and practitioners can develop teaching and prevention programs about anger management based on research focused on Chinese children, rather than research that is derived from Western cultures. This study draws attention to the less obvious and less destructive behaviors of anger dysregulated boys. Practitioners, teachers, and parents should not only look for the obvious signs of anger dysregulation (fighting and yelling), but also the less noticeable signs (social withdrawal and deficits in social and leadership skills). These less visible signs are culturally specific among Chinese elementary school children. Moreover, school prevention programs can strategically focus on the skills of anger expression, such as using proper words to express anger, seeking support from adults, and sharing the problems that elicit anger with adults or friends. It is of great importance to examine how boys' anger dysregulation affects their peer relations in Chinese modern society because most children's interactions with peers take place at school due to the one-child policy. Overall, learning about anger dysregulation and peer interactions among Chinese children, living both in Chinese society and abroad, may be a valuable skill for teachers, parents, and practitioners who want to intervene in the social wellbeing of these children.

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Competing Interests

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