Affiliation With Aggressive Peer Groups, Autonomy, And Adjustment In Chinese Adolescents

Abstract
Affiliating with an aggressive peer group has various negative implications for individual development and adjustment, and adolescents are particularly vulnerable to negative peer influence. It is crucial to identify factors that serve to protect adolescents who are members of aggressive peer groups. Autonomy is an important individual characteristic worth exploration because it captures adolescents’ differences in navigating their group experiences and it is closely related to their developmental tasks during this period. Moreover, autonomy has become increasingly important in Chinese society in recent years during the rapid social change. The purpose of the present study was to examine the relations between group-level aggression and social, behavioral, school, and psychological adjustment, as well as the moderating role of individual autonomy in shaping these associations in a sample of Chinese adolescents.

Participants included 1742 students (821 boys) in Grade 7 (mean age = 13.40 years, SD = .58) and Grade 10 (mean age = 16.32 years, SD = .54) from six regular public schools in China. Data were collected from multiple sources. The participants completed a measure of peer group networks and self-report measures of autonomy, depression, loneliness, and problem behaviors. In addition, peer nominations and teacher rating were used to assess adolescents’ social competence, learning problems, aggression, and externalizing problems. Information on academic achievement was obtained from school records. The results showed that group-level aggression was positively related to maladjustment in social, behavioral, and academic domains and that the positive relation of group-level aggression and deviancy and the negative relation of group-level aggression and academic functioning were moderated by individual autonomy. Group-level aggression was associated with deviancy and academic functioning to a lesser extent among adolescents who were higher on autonomy. These results have implications for parents, educators, and professionals who aim to help adolescents affiliated with aggressive peer groups.

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AFFILIATION WITH AGGRESSIVE PEER GROUPS, AUTONOMY, AND ADJUSTMENT IN
CHINESE ADOLESCENTS

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I dedicate this dissertation to the memory of my father, from whom I learned humility, patience, and the value of hard work. Even though you passed away 15 years ago, you always live in my heart and influence my life every day.
ABSTRACT

Lingjun Chen
Xinyin Chen

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Affiliation with Aggressive Peer Groups, Autonomy, and Adjustment in Chinese Adolescents

Chapter 1: Introduction

The peer group is an important socialization agent that may have a profound impact on adolescent development (Rubin, Bukowski, & Bowker, 2015). In empirical studies on this topic, the aggressive peer group has received most attention (Brechwald & Prinstein, 2011). There are two main lines of research: the first focused on aggression contagion and the mechanisms behind it, and the second focused on the impact of aggressive peer groups on adjustment outcomes, such as social and academic functioning. Since adolescents are at a developmental stage particularly vulnerable to negative peer influence, it is crucial to identify protective factors for affiliating with aggressive peer groups. Autonomy is an important individual characteristic worth exploration because it not only captures adolescents’ active roles in their group experiences, but also is closely related to their developmental task at this age. Due to the self-governing capacity possessed by autonomous adolescents, they may be more able to navigate their social experience when they are affiliated with aggressive peer groups, and thus are less affected. However, no studies have examined the potential moderating effects of individual autonomy on associations between aggressive group functioning and individual adjustment outcomes. In the current study, I explored the main effects of group-level aggression on adolescent social, school, and psychological adjustment, as well as the role of individual autonomy in moderating these associations in a Chinese sample. In the following sections of the introduction, I first review research on
implications of affiliating with aggressive peer groups. Next, I provide a review of the conceptualization and measurement of autonomy and discuss the significance of autonomy for adolescents to navigate their peer group experiences. Then, I discuss the meanings of autonomy in Chinese society and in peer groups in contemporary China. Finally, I elaborate the contribution of the current study with specific hypotheses about how group-level aggression is associated with social, school, and psychological adjustment in Chinese adolescents and how individual autonomy may moderate these associations.

**Socialization of Deviancy in Aggressive Groups**

Aggression contagion occurs in both intervention-based peer groups and naturally-formed peer groups. Research showed that interventions (e.g. ATP studies and the CSYS study) aiming to reduce adolescent problem behaviors and prevent future crimes through peer group activities had reliable negative effects longitudinally. In intervention programs, at-risk youths were identified, aggregated, and engaged in discussions of various social issues in a group setting. The results showed that adolescents who received group interventions were found to be more delinquent over time, due to the mutual influence of the group members on deviant behaviors (Dishion & Dodge, 2005; Dishion & Tipsord, 2011). In naturally-formed aggressive peer groups, socializations of deviancy were also empirically found. For example, after controlling for individual baseline of bullying and fighting, group-level bullying and fighting were predictive of individual-level aggressive behaviors 6 months later (Espelage, Holt, & Henkel, 2003). Similarly, peer group aggression in both physical and relational forms was associated with individual aggression one year later after controlling for group and
individual factors such as caring behaviors and attitudes toward bullying (Low, Polanin, & Espelage, 2013). In a study on Italian adolescents, researchers reported that participants became more similar to their friends in bullying over time (Sijtsema, Rambaran, Caravita, & Gini, 2014).

Socialization of aggression in peer groups may start from frequent contact and synchronized interactions among group members (Cairns, 1979; Shi & Xie, 2012), a phenomenon called “deviancy training” that was first observed in boys’ dyadic friendships (Dishion, Spracklen, Andrews, & Patterson, 1996). Dishion and his colleagues (1996) found that compared to nondelinquent dyads that usually ignored deviant talks and focused on normative talks, delinquent dyads reacted positively to deviant talks by laughing and reciprocating the conversations. These contingent positive reactions to rule-breaking discussions were defined as “deviancy training.” The discussions longitudinally predicted substance use, delinquency, and violence (Dishion, Capaldi, Spracklen, & Li, 1995; Dishion, Eddy, Haas, Li, & Spracklen, 1997; Dishion et al., 1996). “Deviancy training” was also demonstrated in peer groups. That is, members of antisocial groups usually positively responded to each other’s antisocial attitudes and disruptive behaviors; thus, these groups became the major training ground for delinquent acts (Hanish, Martin, Fabes, Leonard, & Herzog, 2005).

In addition to this direct reinforcement through daily conversations and social interactions, other processes may explain the socialization of aggression within a peer group. According to social learning theory (Bandura, 1971), observing valued social referents such as adolescents’ familiar peers displaying certain behaviors increases the likelihood to engage in those behaviors. Adolescents may increase antisocial behaviors by
observing other group members exhibiting antisocial behaviors. This imitation/modeling process can take a relatively abstract form as well. Adolescents may adapt their own behaviors in concordance with social norms in their minds, namely, their perceptions of behaviors that are prevalent, accepted, or desired among their valued peers (Cialdini & Trost, 1998). Moreover, within a group, there may be adolescents who actively encourage and press other members to engage in certain activities (Van de Bongardt, Reitz, Sandfort, & Deković, 2015), making it hard to resist the group norm. These processes may occur at the same time to increase the delinquency level within a group.

In short, adolescents affiliated with aggressive groups may become more aggressive and deviant in several manners. First, they often get positive attention and responses through deviant conversations and interactions with their peers in the group. Second, compared to other adolescents, they have more opportunities to observe their peers being aggressive and may perceive deviancy as the norm, which, in turn, affects their own behaviors. Finally, they may be directly urged by their peers in the group to perform certain aggressive acts.

**Negative Implications of Affiliating with Aggressive Groups for Adjustment**

Another line of studies has focused on the negative implications of affiliating with an aggressive group for various adjustment outcomes. It was found that memberships of aggressive groups not only increased one’s own antisocial behaviors, but also negatively contributed to concurrent and later social adjustment and school functioning (Chung-Hall & Chen, 2010; Farmer et al., 2003). Adolescents who belonged to a peer group that contained aggressive members had elevated rates of school dropout compared to those who did not (Farmer et al., 2003). Chung-Hall and Chen (2010) found that group-level
aggression was positively related to an individual’s peer rejection and learning problems, and negatively related to school competence and behavioral self-perceptions. The consequences of affiliating with aggressive groups also include potential harm to their own and others’ lives. For example, in a study focusing on male students in low-SES schools in the U.S., aggressiveness in peer networks predicted weapon carrying one year later (Dijkstra et al., 2010).

There are several reasons why aggressive groups are detrimental to adolescent development and adjustment. As group members support and reinforce each other’s aggressive and deviant behaviors (Shi & Xie, 2014), the behaviors may disrupt and endanger other peoples’ well-being and elicit negative evaluations and dislike from peers and teachers (Boivin, Dodge, & Coie, 1995; Brendgen, Wanner, & Vitaro, 2006). Consequently, the adolescents may establish negative social reputations for the whole group (Rodkin, Farmer, Pearl, & Van Acker, 2006). Adolescents in aggressive groups may be judged negatively by others according to the reputation of the groups with which they affiliate (Hymel, Bowker, & Woody, 1993). Out-group peers may treat those who belong to aggressive groups less friendly and irritate them (Kindermann & Gest, 2018), which may further lead them to display more externalizing problems (Wolff & Ollendick, 2006). Peer dislike and rejection based on group reputations may also lead to psychological problems such as depression and loneliness (French, Conrad, & Turner, 1995; Ferguson & Zimmer-Gembeck, 2014; Lansford et al., 2007; Platt, Kadosh, & Lau, 2013; Roy, Hartman, Veenstra, & Oldehinkel, 2015). In addition, the norms in aggressive groups center on deviancy and rebelliousness, and this orientation discourages academic motivations and learning activities, and reinforces disruptive behaviors in the classroom.
environment (Schwartz, Gorman, Dodge, Pettit, & Bates, 2008). Therefore, affiliating with aggressive groups may also harm adolescents’ academic functioning.

**Moderators of Relations between Affiliating with Aggressive Groups and Adjustment Outcomes**

Adolescents are at a developmental stage that is particularly vulnerable to negative peer influence (Brendgen, Vitaro, & Bukowski, 2000). Starting from adolescence, children care more about peers’ opinions and spend more unsupervised time with peers than before (Brown, 1990). Unsupervised peer activities have been found to be a context for displaying deviant behaviors (Osgood, Wilson, O’Malley, Bachman, & Johnston, 1996). Compared with other types of peer groups such as prosocial groups and academically oriented groups (e.g., Chen, Chang, Liu, & He, 2008; Chung-Hall & Chen, 2010; Ellis & Zarbatany, 2007), aggressive peer groups are likely to have extensive negative implications on adolescent development. Therefore, it is crucial to further study adolescents’ experiences within aggressive peer groups and identify key protective factors that could potentially buffer the negative influence.

In previous research, scholars have identified group status, group cohesion, group ethnic composition, and individual status within a group as moderators of peer group influence (Shi & Xie, 2012; 2014; Ellis & Zarbatany, 2007). Compared to structural factors of the peer group, individual personal characteristics as moderators of peer group influence have not been adequately studied. According to the contextual-developmental perspective, adolescents play an active role in their socialization processes and respond differently to social influence (Chen, 2012). Adolescents are not passive participants of peer influence. For example, when a group member proposes an activity, adolescents may
wait to see other members’ reactions and assent to the majority, decide not to participate, or propose an alternative activity. Adolescents’ reactions in group dynamics are likely to be related to their adjustment outcomes. Investigation of personal characteristics in the group socialization process may help us understand the role that adolescents play in individual development.

Although there are few studies directly examining how individual characteristics moderate peer group influence, previous research on moderators of peer influence in general or from dyadic friendships may provide helpful guidance. For example, researchers have explored individual susceptibility to peer influence, a personal characteristic that shows the extent to which adolescents change their initial decisions or answers after knowing opinions from their friends or peers (Brechwald & Prinstein, 2011; Prinstein, Brechwald, & Cohen, 2011). It has been found that compared to other participants, adolescents highly susceptible to peer influence are more strongly affected by friend deviancy over time (Allen, Porter, & McFarland, 2006; Monahan, Steinberg, & Cauffman, 2009; Prinstein et al., 2011).

Another individual characteristic, which may be related to susceptibility, is autonomy. Whereas susceptibility is mainly concerned with adolescents’ firmness in their own opinions and plans facing different voices from peers, autonomy represents a broader construct tapping adolescents’ capacities in “self-governing” at both the cognitive and behavioral level. In the literature on adolescent development, theorists and researchers have traditionally been interested in the phenomenon of autonomy (Erikson, 1950). Compared to susceptibility, the concept of autonomy is more comprehensive and theoretically meaningful. Susceptibility may reflect one of the functions of autonomy
development according to Allen and colleagues (2006). Individuals low on autonomy may have difficulty resisting direct peer influence and thus may be more susceptible to peer influence (Brechwald & Prinstein, 2011), but individuals low on susceptibility may not necessarily be autonomous; a highly autonomous individual may either agree or disagree with the views of others in the group, depending on whether the views are consistent with his or her own views. Low susceptibility to peer influence and high autonomy may even lead to the opposite behaviors in certain situations (Koestner et al., 1999). For example, when a group member encourages others to engage in an interesting and educational event, adolescents high on autonomy may make their decision based on their own goals, values, and interests, rather than simply rejecting (or agreeing) to the proposal because it comes from another group member (Deci & Flaste, 1995). Susceptibility to peer influence is largely “other-oriented” under external pressure (e.g., go along with friends or group peers to keep them happy, Steinberg & Monahan, 2007). Focusing on resisting or accepting direct social influence may not capture the important agentic nature of autonomy in adolescents’ social interactions. Research on individual autonomy in the peer group context may help us better understand how this personal characteristic guide adolescents to navigate their peer group experiences and to play an active role in their development.

The Conceptualization and Measurement of Autonomy in Adolescent Studies

There are various definitions of autonomy in the literature. As suggested by Zhao and Chen (2015), autonomy may be understood from three major perspectives. The first perspective, rooted in psychoanalytic and neo-analytic theoretical backgrounds, conceptualizes autonomy as “independence from parents” or “separation from parents”
This perspective focuses on interpersonal distance between adolescents and parents, as this distance is often regarded as a marker of social maturity (Steinberg & Silverberg, 1986). The second perspective comes from motivational theories, defining autonomy as volition, agency, and self-endorsed functioning (Chen, Vansteenkiste, Beyers, Soenens, & Van Petegem, 2013). To act in a self-endorsed way means that one engages in behaviors that are based on personally endorsed values, goals, and interests (Ryan & Deci, 2000). The third perspective focuses on the overlap between independence in general and self-endorsed functioning. Accordingly, scholars with this perspective consider autonomy as an integrated capacity to engage in independent thinking and self-directing (Brechwald & Prinstein, 2011; Kansky, Ruzek, & Allen, 2017). In the following section, I review each of these perspectives, and indicate the advantage of adopting a more integrated perspective when studying adolescents’ peer group experience.

The “independence” perspective is related to the separation-individuation theory proposed by Blos (1979). According to this perspective, individuation and detachment from parents are necessary for adolescents to reduce their reliance on parents, develop their capacity for independence, and therefore prepare them to move out the family and form relationships with others in later stages of life. From this perspective, Steinberg and Silverberg (1986) proposed the concept of “emotional autonomy” and developed a corresponding measure. However, research in this area has focused more on adolescents’ family disengagement (difficult family relationships such as low family cohesion and high parental rejection) than on adolescents’ characteristics (Parra, Oliva, & Sánchez-Queija, 2015; Ryan & Lynch, 1989). Another important concept, “independence in family decision making,” also focuses on “independence” from family members (Dornbusch,
Ritter, Mont-Reynaud, & Chen, 1990). Research has shown that freedom in decision making alone, especially at early adolescence, often indicates absence of proper parental monitoring and management (Dishion, Nelson, & Bullock, 2004; Dishion, Poulin, & Skaggs, 2000). As such, it is not surprising that autonomy in these studies has been found to be positively related to psychological, academic, and behavioral maladjustment, such as depression, low life satisfaction, and low self-perceived lovability, low academic achievement, and higher deviancy both concurrently and longitudinally (Haase, Tomasik, & Silbereisen, 2008; Lo Coco, Ingoglia, Zappulla, & Pace, 2001; Parra et al., 2015; Ryan & Lynch 1989; Smetana, Campione-Barr, & Daddis, 2004). In Blos (1979)’s separation-individuation theory, adolescent independence or self-reliance does not necessarily mean cutting ties with parents. However, studies based on this theory seem to use a simplistic approach of viewing independence as decision made alone, mixing interpersonal distance with non-dependency, thus inevitably reflecting the effects of problematic parent-child relationships.

The “self-endorsement” perspective, based on the self-determination theory (SDT, Ryan & Deci, 2000), emphasizes the extent to which one acts based on self-endorsed values, goals, and interests (Zimmer-Gembeck, van Petegem, & Collins, 2018). Individuals high on autonomy initiate and regulate their behaviors toward their personally identified goals and interests, instead of external demands from others and internal fear of negative social judgements (Knee, Hadden, Porter, & Rodriguez, 2013). Highly autonomous individuals also experience themselves as authors of their own behaviors and the reason behind their actions as their own standards and beliefs (Weinstein, Przybylski, & Ryan, 2012). Since self-endorsement involves cognitive processes, autonomy in this
perspective is related to high levels of self-reflection (Thomsen, Tønnesvang, Schnieber, & Olesen, 2011). Autonomy can also be understood as agency (Kagitcibasi, 2005), which is defined as motivated action toward a desired outcome with a sense of efficacy (Bandura, 1989). Since acting willingly cannot co-exist with feeling coercion, scholars consider these two concepts, agency and autonomy, as overlapping (Beyers, Goossens, Vansant, & Moors, 2003; Kagitcibasi, 2005). According to SDT, autonomous individuals are likely to have better adjustment because autonomy is one of the basic psychological needs of human beings (Deci & Ryan, 2000). In accordance, autonomy based on this approach has been found to be positively associated with prosocial behaviors, intimacy felt in close relationships, subjective well-being, and academic achievement and negatively associated with problem behaviors (Black & Deci, 2000; Gagné, 2003; Olesen, Thomsen, & O’Toole, 2015; Van Petegem, Beyers, Brenning, & Vansteenkiste, 2013).

The integrative perspective on autonomy (Kagitcibasi, 2017; Kansky et al., 2017) emphasizes the similar cognitive processes in the other two perspectives, including having a sense of self as unique, self-exploration, and evaluating values and consequences of certain behaviors to oneself (Beckert, 2007; Ryan & Deci, 2000; Weinstein et al., 2012). Behaviorally, self-reliance or independence involves setting up one’s own goals through independent thinking and using self-agency to realize them, which is concerned with self-endorsed functioning. Likewise, people behave according to their values and interests are likely to make independent decisions and rely more on their internal resources. Associations between independence and self-endorsement have been shown in a study (Beyers et al., 2003). In the study, the researches included a general
self-reliance measure of non-excessive dependency on unidentified others and a sense of control of one’s own life (Greenberger, Josselson, Knerr, & Knerr, 1975) and a typical agency measure called Adolescent Autonomy Questionnaire that assesses listing options and making a choice among them, confidence in defining goals independent of wishes of parents and peers, and achieving one’s goals by self-regulation (Noom, Deković, & Meeus, 2001). Factor analyses showed that the two measures were highly correlated and loaded on one factor (Beyers et al., 2003).

Based on the previous discussion, an integrative approach to conceptualize and assess autonomy, which captures both independence and self-direction, may provide information about more comprehensive aspects of autonomy. This approach may also help control for potential confounding factors such as difficult family relations or lack of proper parental monitoring in research. Therefore, along with researchers (Allen, Chango, Szwedo, Schad, & Marston, 2012; Beckert, 2007; Keller, 2012), I used this approach in the present study.

**Individual Autonomy and Peer Group Experience Among Adolescents**

The development of autonomy is important for social, academic, and psychological adjustment. Learning and practicing autonomy is an important developmental task during adolescence (McElhaney, Allen, Stephenson, & Hare, 2009). Adolescents develop autonomy mostly through their interactions with peers (Collibee, LeTard, & Aikins, 2016). Adolescents go through a series of changes, such as puberty featuring physical maturity and rapid brain development (Casey, Giedd, & Thomas, 2000; Marceau, Ram, Houts, Grimm, & Susman, 2011). They spend less time with parents and more time with peers, and rely more on peers for guidance and support (Repinski &
Zook, 2005; Scholte & Van Aken, 2006). Being more able to think abstractly and reason complicatedly, adolescents are more prone to practice their skills with peers in relatively egalitarian relationships (Fuligni & Eccles, 1993). The feedback from peers in interactions helps adolescents develop self-perceptions of competence (Harter, 1999). Interacting with peers also helps adolescents understand and internalize societal and cultural values (Chen, 2012; Collins, Gleason, & Sesma, 1997).

On the other hand, adolescents low on autonomy may suffer from negative consequences, especially when affiliating with deviant peers. For example, researchers found that an extreme orientation towards peers (i.e., high concern about peer acceptance and reliance on peers for advice and support) predicted involvement in deviant peer groups, problem behaviors, and low academic achievement over time among adolescents (Fuligni & Eccles, 1993; Fuligni, Eccles, Barber, & Clements, 2001). Low autonomy was also concurrently and longitudinally associated with substance use and depression (Allen et al., 2006; Oudekerk, Allen, Hessel, & Molloy, 2015).

Peer groups are the most common social context where social interactions occur during adolescence (Rubin et al., 2015). Peer groups provide extensive opportunities for adolescents to practice asserting autonomy and internalizing self-regulations (Collins et al., 1997). However, adolescents function differently in this context because they need to maintain a balance between pursuing their own goals and establishing connections with peers. Adolescents face multiple choices either voluntarily or involuntarily, such as with whom in the group to interact, which group activities to join, and whether to keep their current group affiliations or not (Echols & Graham, 2016; Merten, 1996). These decisions may have an impact on adolescents’ adjustment outcomes. The norm and social
environment of academic or prosocial groups are generally positive, and thus those
groups tend to have pervasive positive influence on adolescents’ adjustment in different
domains. However, when adolescents are affiliated with aggressive peer groups,
individual autonomy may play an evident role in moderating the group effects.
Adolescents high on autonomy are more likely than others to think independently
according to their goals, values, and interests. Their independent thinking and exploration
beyond the group may help them understand and appreciate the social standards and
expectations in the larger contexts such as the school, community, and the society, which
in turn may affect their views, attitudes, and actions in peer groups. If group activities do
not fit with their own goals or values, they may consider the group less important to them
and reduce their group involvement or adopt behavioral norms from other groups to
prepare for group membership change. As such, the influence of aggressive groups may
be less strong on adolescents high on autonomy than on adolescents low on autonomy
who are likely to comply with the group norms (Kiesner, Cadinu, Poulin, & Bucci, 2002;
Berger & Rodkin, 2012). In short, the association between aggressive group functioning
and individual adjustment may vary, depending on the level of individual autonomy.

Peer Group Affiliation and Individual Autonomy in China

The cultural values in a society are often related to its subsistence styles
(Thomson et al., 2018). Tight labor coordination is required in the traditional agricultural
Chinese society (Talhelm et al., 2014). In this context, people form highly interdependent
relationships and focus on regularities and social obligations to guide their lives and help
each other (Goldschmidt, 1971). In accordance, cultural values in China have
traditionally emphasized harmonious interpersonal relationships defined by hierarchies
and duties (Zhang, Lin, Nonaka, & Beom, 2005). This general cultural context may affect
the negative influence of aggressive groups on adolescents. First, the perception of
aggression and the social reputation of aggressive groups may be more negative in China
than in Western societies because displaying aggressive behaviors threatens social
harmony and shows lack of personal control (Bergeron & Schneider, 2005). Thus,
aggressive peer groups may be more likely to obtain social reputations in China than in
Western societies. Due to the reputation effect, Chinese adolescents belonging to a peer
group high on aggression may face negative evaluations and judgments from peers and
teachers (Zhao, Chen, Ellis, & Zarbatany, 2016), and therefore have difficulties
interacting with peers and learning from teachers, which further harms their social
competence and academic functioning. Second, in collectivistic societies, there may be
great pressure to conform to the group norm (Chen & French, 2008). Adolescents in
aggressive groups in China may experience the discrepancy between the behavioral
norms of their groups and the general social standards outside of their groups (Unger et
al., 2001), which may contribute to adjustment difficulties.

Given the evident negative implications of affiliation with aggressive groups, it is
interesting to examine the role of individual characteristics such as autonomy in shaping
the relations between the group experiences and adjustment. Individual autonomy, which
emphasizes independence and self-direction, may be in conflict with the group
orientation in Chinese society because pursuing autonomy may disrupt familial or
societal harmony (Rothbaum & Trommsdorff, 2007). Therefore, the traditional
collectivistic culture in China encourages controlling personal desires and attending to
others’ needs and discourages individual autonomy that focuses on personal interests and
goals (Tamis-LeMonda et al, 2008).

In the last four decades, China has been going through a rapid social change. There is a large-scale transition from a centrally planned command economy to a market economy. Large numbers of state-owned enterprises were transformed into private enterprises (Zheng & Yang, 2009). Meanwhile, a rapid urbanization is happening in China. Whereas only 20% of the national population was classified as urban in the late 1970s, it is now over 50% according to China’s 2010 Population Census (Shin, 2015). Along with this economic reform and urbanization trend, the total number of stable jobs with steady income has largely decreased. Individuals face more opportunities as well as competition in choosing jobs in the labor market (Knight & Yueh, 2004). The rapid social change in China mirrors a global sociodemographic trend wherein traditional societies have been transformed into more modernized ones featuring urban residence, economic development, and high-technology (Greenfield, 2009). The ecological shifts may facilitate changes of cultural values, which in turn affect human development (Greenfield, 2016).

Research has shown that since the dramatic social change from the early 1980s, autonomy has become more and more adaptive and emphasized in Chinese society (Chen, Bian, Xin, Wang, & Silbereisen, 2010). In a study analyzing the frequencies of several key words from millions of digitized books from 1970 to 2008, Zeng and Greenfield (2015) found that although the frequency of the word “obedience” remained stable, the frequency of the word “autonomy” changed from one-third to three times the frequency of “obedience”. Autonomy is crucial to achieve success in the market.
economy. Autonomous individuals are more active in searching for jobs suitable for
themselves including self-employment and taking more initiatives to win promotions and
rewards in those jobs (Lee, 2007; Li, Liang, & Crant, 2010). The large-scale economic
changes in China may affect children and adolescents through shaping parental beliefs
and practices (Yoshikawa, Way, & Chen, 2012). Chinese parents have begun to list
autonomy as an important childrearing goal (Tamis-LeMonda et al., 2008). A qualitative
study of parenting practices of Chinese mothers of middle school students showed that
autonomy has become the key theme in participating mothers’ narratives; these mothers
indicated that they attempted to hold a “no-forcing” principle when they interact with
their children and actively foster autonomy in their children by encouraging them to think
for themselves and make their own choices (Way et al., 2013). Consistent with this
finding, Chinese grandmothers perceived an intergenerational increase in child autonomy,
with their grandchildren displaying the higher levels of autonomy than themselves (Zhou,
Yiu, Wu, & Greenfield, 2018). Studies with Chinese children and adolescents also
indicated that those who were more autonomous in their learning behaviors or received
more autonomy support from their teachers or parents had more positive learning
attitudes, higher academic achievement, and better personal well-being (Chen et al.,

Given this background, it seems reasonable to argue that autonomy may serve as a
protective factor for adolescents affiliating with aggressive groups in the contemporary
China. When facing peer pressure, such as being urged by peers from the aggressive
group to conduct a deviant act, autonomous adolescents may be more likely than others
to resist those demands (Brechwald & Prinstein, 2011; Kagitcibasi, 2005). Adolescents
high on autonomy may be more capable of maintaining a balance between their own needs and group requirements (Allen et al., 2006) and coping with the discrepancy between the norms of their peer groups and general social expectations and standards in the society. For example, these adolescents may interact with other group members to have fun in the school, and but choose to work on academic tasks rather than go out with peers to avoid potential dangers outside the school environment (Kiesner, Poulin, & Nicotra, 2003). This selective use of the aggressive peer group may reduce their own deviant behaviors and contribute to academic adjustment. In short, individual autonomy has become an increasingly valued characteristic in Chinese society, and it may serve as an important factor in shaping how group-level aggression is associated with individual adjustment outcomes.

**The Present Study and Hypotheses**

The primary goal of the present study was to examine relations between group-level aggression and individual adjustment and the moderating effects of autonomy in Chinese adolescents. To achieve this goal, I collected data on peer group affiliation, autonomy, and their various adjustment outcomes in a sample of adolescents in China. The study might help us better understand the experiences and adjustment outcomes of affiliation with aggressive groups and the increasingly important role of autonomy in the contemporary Chinese context.

In the study, the indicators of adolescents’ social competence included prosociality, leadership position, and teacher-rated school competence. Deviancy was indexed by teacher-rated externalizing problems and problem behaviors. Academic functioning was indexed by teacher-rated learning problems and academic achievement
from school records. Indicators of psychological adjustment included depression and loneliness.

In accordance with the theoretical discussion, I first examined the main effects of group-level aggression on social, school, and psychological adjustment. I expected that group-level aggression would be positively associated with negative adjustment outcomes, and negatively associated with positive adjustment outcomes. Second, I explored how autonomy would moderate the relations between group-level aggression and adolescents’ adjustment outcomes. Based on the discussions above, I expected that autonomy would reduce the effect of group-level aggression on deviancy and academic functioning. Below are specific hypotheses.

_Hypothesis 1._ Group-level aggression would be negatively and significantly associated with individual-level social competence after controlling for individual-level aggression.

_Hypothesis 2._ Group-level aggression would be positively and significantly associated with individual-level deviancy after controlling for individual-level aggression.

_Hypothesis 3._ Group-level aggression would be negatively and significantly associated with individual-level academic functioning after controlling for individual-level aggression.

_Hypothesis 4._ Group-level aggression would be positively and significantly associated with individual-level psychological problems after controlling for individual-level aggression.
Hypothesis 5. Autonomy would moderate the association between group-level aggression and individual-level deviancy after controlling for individual-level aggression. The association would be weaker in individuals high on autonomy than in individuals low on autonomy.

Hypothesis 6. Autonomy would moderate the association between group-level aggression and individual-level academic functioning after controlling for individual-level aggression. The association would be weaker in individuals high on autonomy than in individuals low on autonomy.

Chapter 2: Method

Participants

The data for the proposed study were drawn from a larger project concerning adolescents’ social, psychological, and school adjustment in China. The participants in the present study were recruited from six schools in two cities in Southeastern China. The six schools were regular public schools that served students in their geographic area, and the students came from the residential area near the schools. The sample included 1742 students (821 boys) in Grade 7 (mean age = 13.40 years, SD = .58) and Grade 10 (mean age = 16.32 years, SD = .54). In the sample, 76.6% of the fathers and 80.4% of the mothers had a high school or lower education, and 23.4% of the fathers and 19.6% of the mothers had a college or higher education. Based on a scale of monthly family income ranging from 1 (5000 yuan or below) to 10 (above 40,000 yuan), the mean monthly family income was 3.69 (approximately 12,575 yuan or US $1,983, SD = 2.28). Most of the participants (94%) were from intact families. Due to the “one-child-per-family”
policy that was implemented in the late 1970s, 92% of the participants were the only child in the family; others had one or more siblings.

**Procedures**

The data were collected in June 2016. The participants completed a measure of peer group networks and self-report measures of autonomy, depression, loneliness, and problem behaviors. In addition, the participants were group-administered peer assessment measures of prosociality and aggression. Teachers were asked to evaluate each participant in the class on his or her school-related social competence, externalizing problems, and learning problem, and report his or her leadership status. Data on academic achievement were obtained from the school records. Extensive explanations were provided to participants during the collection of data. This study was approved by the institutional review board (IRB) of the University of Pennsylvania. Participants were recruited through the school. Informed consent or assent was obtained from all individual participants included in the study. The participation rate was 88%.

**Measurement**

**Peer groups.** The Social Cognitive Map procedure (SCM) developed by Cairns, Gariepy & Kindermann (1991) was used to identify participants’ naturally existing peer groups. Participants were asked: “Do you have a group that you often hang out with in your class? Who are these people you hang around with?” They also were asked to report other groups of students in their class who hung out together. Reports from all participants were aggregated to construct a co-occurrence matrix that contained the number of occasions that any two children were nominated into the same group. Each participant’s group membership was determined by the frequencies of nominations with
every other student in the class. Then, a cut-off point of .40 for the correlation was employed to determine whether group-membership profiles of the two participants were similar and whether they should be assigned to the same group. Participants who were affiliated with more than one group were assigned to the group for which they received the most nominations. The SCM has been shown to be a valid procedure in identifying observed peer associations in previous research (e.g., Zhao et al., 2016). In the present study, the SCM procedure identified 288 groups, with sizes ranging from 3 to 16 members ($Mean = 5.82, SD = 2.36$). There were 116 all-boy groups, 152 all-girl groups, and 19 mixed-gender groups. Consistent with the procedure used in previous studies (e.g., Chung-Hall & Chen, 2010), group-level depression was calculated by averaging depression scores of the group members.

**Aggression.** Participants’ aggression was assessed using a peer assessment measure adapted from the revised class play (RCP, Masten, Morison, & Pellegrini, 1985). Participants nominated up to three classmates who could best play the role if they were to direct a class play. Subsequently, nominations received from all classmates were used to compute each item score for each student. Both same-sex and cross-sex nominations were allowed. Item scores were standardized within the class to adjust for differences in the number of nominators. The measure has been shown to be reliable and valid in Chinese adolescents (Chen, Huang, Chang, Wang, & Li, 2010). The measure consisted of five items on aggression (“Gets into a lot of fights,” “Picks on other kids,” “Loses temper easily,” “Too bossy,” and “Is naughty and disrupt others”). The internal reliability of the measure on aggression was .87 in the present study.
Autonomy. Participants’ autonomy was assessed by a self-designed measure adapted from several existing autonomy measures (Kagitcibasi, Cemalcilar, Baydar & Aydinli-Karakulak, 2017; Chen, Wang, & Liu, 2012). This measure consisted of 10 items assessing various aspects of autonomy (e.g., “Even if I consider the opinions of others around me, my decisions are my own,” “I like to behave in my own ways,” “I enjoy being different and unique from others in many aspects,” and “I have my own principles”). Adolescents used a 5-point scale to report their own autonomy level. The internal reliability of the measure was .78.

Prosociality. Four peer nomination items were used to assess prosociality (Chen, Rubin, & Sun, 1992). Participants were asked to nominate up to three classmates to fit each descriptor (e.g., “Helps others when they need it” and “Is kind to others”). Nominations received from all classmates were used to compute each item score for each participant. The item scores were summed and standardized within the class to form an index of prosociality. The measure has been shown to be reliable and valid in Chinese adolescents (Chen, Rubin, & Sun, 1992). The internal reliability of the measure was .77 in the present study.

Leadership. There are various formal student organizations in Chinese schools. Leaders of these organizations, elected by peers and/or appointed by teachers, are usually believed to be good students in social and behavioral aspects. Leadership at a higher level such as school level is considered as indicating greater competence than that at a lower level such as the class or within class group level. Data on student leadership was reported by teachers. Leadership was coded as follows: Students who were leaders of small teams within the class received a score of 1; students who held leadership positions
at the class level (e.g., class committee member) and at the school level received scores of 2 and 3, respectively. Students who did not hold leadership positions were given a score of 0. Leadership scores were standardized within the class and then used in the analyses. This information has been shown to be a useful indicator of social competence in Chinese students (e.g., Chen, Cen, Li, & He, 2005).

**Teacher ratings.** The head teachers for the class were asked to rate each participating student in their responsible class on a 5-point scale (1 = not at all, 5 = very well) about how well each item described the student. The items come from the Teacher-Child Rating Scale [T-CRS] (Hightower et al., 1986) and measures participants’ school-related social competence (e.g., “Participates in class discussion,” “Copes well with failure”), externalizing problems (e.g., “Is disruptive in class,” “Gets into a lot of fights with others”), and learning problems (e.g., “Has difficulties in learning academic subjects,” “Is poorly motivated to achieve”). The teacher rating scores were standardized within the class to control for the teacher’s response style and to allow for appropriate comparisons. The T-CRS has proved to be reliable and valid in Chinese adolescents (e.g., Chen, Liu, Ellis, & Zarbatany, 2016). Internal reliabilities were .90, .79, and .82 for school competence, externalizing problems, and learning problems, respectively, in the present study.

**Problem behaviors.** Participants reported their engagement in 16 problem behaviors during the prior year using an approach developed by Elliot, Huizinga, and Ageton (1985). In addition to using tobacco and alcohol, these included behaviors that were considered problematic by adults but not illegal (e.g., lying to parents, fighting). These behaviors were selected for inclusion based on the judgments of Chinese faculty
and graduate students that Chinese adolescents typically exhibit these behaviors and would likely report them. Consequently, behaviors such as sexual activity and drug use were not included, whereas viewing of pornography, considered a common youth problem behavior in China, was included. Adolescents used a 5-point scale (never to almost every day) to indicate their frequency of engaging in these behaviors. The internal reliability of this measure was .82 in the present study.

**Academic achievement.** Information on academic achievement in three main subjects, Chinese, mathematics, and English, was obtained from the school records. The scores of academic achievement were based on objective examinations conducted by the school. Grades in these subjects have been shown to be a valid measure of academic achievement in adolescents (Liu et al., 2018). In the present study, scores on Chinese, mathematics, and English were moderately correlated ($r = .33 - .50, ps < .01$) and were summed to form a single index of academic achievement. The scores of academic achievement were standardized within the class.

**Loneliness.** Participants’ loneliness and social dissatisfaction were assessed by a self-report measure, adapted from Asher, Hymel, and Renshaw (1984). Children were requested to respond to self-statements (e.g., “I have nobody to talk to,” “I feel lonely,” and “I don’t have anybody to play with at school”) using a 5-point scale from 1 (not at all true) to 5 (always true). The average score of the responses was calculated, with higher scores indicating greater loneliness. The measure has been used and proved reliable and valid in previous studies in Chinese children (e.g., Chen, He, De Oliveira, et al., 2004). Internal reliability was .86 in the present study.
Depression. Participants’ depression was assessed by administering a 13-item Chinese version of the Children’s Depression Inventory (CDI; Kovacs, 1992; Liu et al., 2015). Items center on a given thought, feeling, or behavior associated with depression, such as self-deprecation, reduced social interest, anhedonia, fatigue, and self-blame. Following the procedure outlined by Kovacs (1992), the average score of depression was computed, with higher scores indicative of greater depression. This measure has been shown to be reliable and valid in Chinese adolescents (Liu et al., 2015). The internal reliability of this measure was .80 in the present study.

Chapter 3: Result

Descriptive Analyses

A multivariate analysis of variance (MANOVA) was conducted to examine the effects of gender and grade (middle school versus high school) on aggression, autonomy, and adjustment variables. The analysis indicated that there were significant main effects of gender, Wilks’ $\Lambda = .79$, $F(11, 1454) = 35.14, p < .001$; grade, Wilks’ $\Lambda = .96$, $F(11, 1454) = 6.01, p < .001$; and a significant interaction effect of gender and grade, Wilks’ $\Lambda = .98$, $F(11, 1454) = 2.18, p < .05$. No significant effects of family demographic information were found on aggression, autonomy, and adjustment variables.

The means and standard deviations of the variables for boys and girls in middle school and high school are presented in Table 1. The analyses of the gender differences showed that compared to boys, girls had higher scores on prosociality, leadership, school competence, academic achievement, loneliness, and depression, and lower scores on aggression, autonomy, externalizing problems, problem behaviors, and learning problems, $F(1, 1464) = 6.00$ to 237.89, $ps < .05$. The analyses of the grade differences
showed that compared to middle school students, high school students had higher scores on problem behavior, loneliness, and depression, $F(1, 1464) = 10.28$ to $47.33$, $ps < .01$. The analyses of the gender and grade interaction showed that middle school girls had higher scores in school competence and leadership than middle school boys; there was no significant difference on school competence and leadership between boys and girls in high schools in this study.

Inter-correlations among aggression, autonomy, and adjustment outcome variables are presented in Table 2. As shown in the table, the correlations among the variables were low to moderate, suggesting that the measures tapped different but related aspects of social, school, and psychological adjustment. Aggression was positively related to problem behaviors, externalizing problems, and learning problems, and negatively related to prosociality, school competence, and academic achievement. Autonomy was positively correlated with prosociality, leadership, school competence, academic achievement, aggression, and externalizing problems, and negatively related to problem behaviors, learning problems, loneliness, and depression.
Table 1

*Means and Standard Deviations of Aggression, Autonomy, and Adjustment Variables in Middle and High School*

<table>
<thead>
<tr>
<th></th>
<th>Middle School</th>
<th>High School</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>Girls</td>
</tr>
<tr>
<td>Aggression</td>
<td>.24 (.21)</td>
<td>-.27 (.52)</td>
</tr>
<tr>
<td>Autonomy</td>
<td>3.67 (.65)</td>
<td>3.62 (.60)</td>
</tr>
<tr>
<td>Prosociality</td>
<td>-.23 (.73)</td>
<td>.22 (1.10)</td>
</tr>
<tr>
<td>Leadership</td>
<td>.36 (.68)</td>
<td>.63 (.85)</td>
</tr>
<tr>
<td>SR social competence</td>
<td>-.19 (.95)</td>
<td>.19 (.97)</td>
</tr>
<tr>
<td>Externalizing problems</td>
<td>.39 (1.08)</td>
<td>-.43 (.61)</td>
</tr>
<tr>
<td>Problem behaviors</td>
<td>1.44 (.43)</td>
<td>1.28 (.28)</td>
</tr>
<tr>
<td>Academic achievement</td>
<td>-.12 (1.03)</td>
<td>.16 (.89)</td>
</tr>
<tr>
<td>Learning problems</td>
<td>.25 (1.00)</td>
<td>-.29 (.87)</td>
</tr>
<tr>
<td>Loneliness</td>
<td>1.77 (.63)</td>
<td>1.96 (.76)</td>
</tr>
<tr>
<td>Depression</td>
<td>.39 (.26)</td>
<td>.46 (.33)</td>
</tr>
</tbody>
</table>

*Note.* Standard deviations are in parenthesis; SR = school-related
Table 2

*Correlations among Aggression, Autonomy, and Adjustment Variables for the whole sample*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
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<th>4</th>
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<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Aggression</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Autonomy</td>
<td>.11**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Prosociality</td>
<td>-.07**</td>
<td>.13**</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4. Leadership</td>
<td>-.03</td>
<td>.11**</td>
<td>.22**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5. SR social competence</td>
<td>-.08**</td>
<td>.24**</td>
<td>.38**</td>
<td>.24**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6. Externalizing problems</td>
<td>.42**</td>
<td>.07**</td>
<td>-.14**</td>
<td>-.11**</td>
<td>-.19**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Problem behaviors</td>
<td>.33**</td>
<td>-.05*</td>
<td>-.08**</td>
<td>-.09**</td>
<td>-.13**</td>
<td>.31**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Academic achievement</td>
<td>-.17**</td>
<td>.09**</td>
<td>.26**</td>
<td>.23**</td>
<td>.25**</td>
<td>-.23**</td>
<td>-.21**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Learning problems</td>
<td>.22**</td>
<td>-.08**</td>
<td>-.25**</td>
<td>-.19**</td>
<td>-.40**</td>
<td>.59**</td>
<td>.28**</td>
<td>-.47**</td>
<td></td>
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<tr>
<td>10. Loneliness</td>
<td>.00</td>
<td>-.24**</td>
<td>-.13**</td>
<td>-.03</td>
<td>-.25**</td>
<td>-.06**</td>
<td>.16**</td>
<td>-.07**</td>
<td>.08**</td>
<td></td>
</tr>
<tr>
<td>11. Depression</td>
<td>.02</td>
<td>-.27**</td>
<td>-.10**</td>
<td>-.03</td>
<td>-.21**</td>
<td>.00</td>
<td>.23**</td>
<td>-.11**</td>
<td>.14**</td>
<td>.66**</td>
</tr>
</tbody>
</table>

* p < .05 ** p < .01; SR = school-related
The Main Effects of Group-level Aggression on Adjustment Outcomes

To answer the main research questions, multilevel structural equation modeling (MSEM) was used to examine (1) the main effects of group-level aggression on social, behavioral, school, and psychological adjustment, and (2) the moderating effects of individual autonomy on the group effects. The advantage of MSEM is that it simultaneously models relations between predictors and the latent adjustment variables in a multilevel manner. This technique also reduces measurement errors and probabilities of Type I errors. Four MSEM models were estimated using Lavaan 0.6-3 with latent constructs of social competence, deviancy, academic functioning, and psychological problems as outcome variables, respectively. The measurement models were first tested before estimating the full models. Latent constructs were formed based on observed variables: social competence (peer-assessed prosociality, leadership, and teacher-rated school-related social competence), deviancy (teacher-rated externalizing problems and self-reported problem behaviors), academic functioning (academic achievement/grades and the reversed scores of teacher-rated learning problems), and psychological problems (loneliness and depression). The models had adequate model fit: $CFI = 1.00$, $TLI = 1.00$, $RMSEA = .00$, $SRMR = .00$ to .09, suggesting that the observed indicators represented the latent constructs acceptably (Brown, 2006).

Next, full models including predictors were estimated. Individual autonomy, individual aggression, the interaction of individual aggression and group-level aggression, and the interaction of individual autonomy and group-level aggression were entered as within-level predictors. As suggested by Hofmann and Gavin (1998), individual aggression and autonomy were group mean centered. Group gender, group
grade, group-level aggression, interaction terms between group-level aggression and group gender and grade were included in the models as between-level predictors. Following Chen, Chang, He, & Liu’s (2005) procedure, the 19 mixed-gender groups were coded according to the predominance of the gender in the group (8 male groups, 11 female groups). In preliminary analyses, the associations between all group members’ aggression, high-status members’ aggression, and low-status members’ aggression and an individual member’s adjustment were compared. The results showed that the effects of all group members’ aggression were most evident. Therefore, the average of all group members’ aggression scores was used as the indicator of group-level aggression in the present study, which was consistent with the practice used by other researchers (e.g., Ellis, Chung-Hall, & Dumas, 2013). All models had adequate model fit: \( \chi^2(20) = 36.73, p < .05, CFI = .98, TLI = .96, RMSEA = 0.03, SRMR = 0.08 \) for predicting latent social competence; \( \chi^2(9) = 12.66, p > .05, CFI = 1.00, TLI = .99, RMSEA = 0.02, SRMR = 0.03 \) for predicting latent deviancy; \( \chi^2(9) = 15.44, p > .05, CFI = .99, TLI = .98, RMSEA = 0.02, SRMR = 0.05 \) for predicting latent academic functioning; \( \chi^2(9) = 19.43, p < .05, CFI = .99, TLI = .98, RMSEA = 0.03, SRMR = 0.07 \) for predicting latent psychological problems.

The effects of the predictors in the models on latent adjustment outcomes are presented in Table 3. For within-group associations, individual aggression was positively related to deviancy and psychological problems, and negatively related to academic functioning; individual autonomy was positively associated with social competence and academic functioning, and negatively related to psychological problems.

The main effects of group-level aggression on latent adjustment outcomes showed
that after controlling for group gender, group grade, individual aggression, individual autonomy, and relevant interaction terms, group-level aggression negatively predicted social competence and academic functioning, and positively predicted deviancy. No significant relations were found between group-level aggression and psychological problems. The results showed that the membership of an aggressive peer group was associated with increased adjustment difficulties in social, behavioral, and academic domains. I also conducted traditional HLM analyses using observed variables as dependent variables and the results were virtually the same (Appendix A).
Table 3

Effects of Predictors and Interactions in Predicting Adjustment Outcomes

<table>
<thead>
<tr>
<th>Adjustment Outcome</th>
<th>Effect (b)</th>
<th>SE</th>
<th>z value</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social competence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual aggression</td>
<td>-.02</td>
<td>.03</td>
<td>-.68</td>
<td>(-.07, .03)</td>
</tr>
<tr>
<td>Individual autonomy</td>
<td>.29</td>
<td>.04</td>
<td>7.04***</td>
<td>(.21, .37)</td>
</tr>
<tr>
<td>Grp agg*ind auto</td>
<td>.03</td>
<td>.05</td>
<td>.48</td>
<td>(-.08, .13)</td>
</tr>
<tr>
<td>Grp agg*ind agg</td>
<td>-.03</td>
<td>.03</td>
<td>-.90</td>
<td>(-.09, .03)</td>
</tr>
<tr>
<td>Gender</td>
<td>.29</td>
<td>.07</td>
<td>4.09***</td>
<td>(.15, .43)</td>
</tr>
<tr>
<td>Grade</td>
<td>.01</td>
<td>.05</td>
<td>.18</td>
<td>(-.09, .11)</td>
</tr>
<tr>
<td>Group-level aggression</td>
<td>-.32</td>
<td>.08</td>
<td>-3.85***</td>
<td>(-.48, -.16)</td>
</tr>
<tr>
<td>Grp agg*gender</td>
<td>.44</td>
<td>.16</td>
<td>2.72**</td>
<td>(.12, .75)</td>
</tr>
<tr>
<td>Grp agg*grade</td>
<td>.34</td>
<td>.10</td>
<td>3.41***</td>
<td>(.15, .54)</td>
</tr>
<tr>
<td><strong>Deviancy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual aggression</td>
<td>.27</td>
<td>.04</td>
<td>7.43***</td>
<td>(.20, .34)</td>
</tr>
<tr>
<td>Individual autonomy</td>
<td>-.02</td>
<td>.04</td>
<td>-.49</td>
<td>(-.09, .05)</td>
</tr>
<tr>
<td>Grp agg*ind auto</td>
<td>-.20</td>
<td>.07</td>
<td>-2.95**</td>
<td>(-.34, -.07)</td>
</tr>
<tr>
<td>Grp agg*ind agg</td>
<td>.01</td>
<td>.04</td>
<td>.37</td>
<td>(-.06, .08)</td>
</tr>
<tr>
<td>Gender</td>
<td>-.39</td>
<td>.05</td>
<td>-7.12***</td>
<td>(-.50, -.28)</td>
</tr>
<tr>
<td>Grade</td>
<td>.04</td>
<td>.04</td>
<td>1.06</td>
<td>(-.04, .13)</td>
</tr>
<tr>
<td>Group-level aggression</td>
<td>.57</td>
<td>.07</td>
<td>8.02***</td>
<td>(.43, .71)</td>
</tr>
<tr>
<td>Grp agg*gender</td>
<td>.21</td>
<td>.13</td>
<td>1.65</td>
<td>(-.04, .47)</td>
</tr>
</tbody>
</table>
### Academic functioning

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>SE</th>
<th>t-value</th>
<th>CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group-level aggression</td>
<td>-.03</td>
<td>.08</td>
<td>-.38</td>
<td>(-.19, .13)</td>
</tr>
<tr>
<td>Individual aggression</td>
<td>-.10</td>
<td>.04</td>
<td>-2.61**</td>
<td>(-.18, -.03)</td>
</tr>
<tr>
<td>Individual autonomy</td>
<td>.16</td>
<td>.04</td>
<td>3.81***</td>
<td>(.08, .24)</td>
</tr>
<tr>
<td>Group agg*individual autonomy</td>
<td>.30</td>
<td>.08</td>
<td>3.71***</td>
<td>(.14, .45)</td>
</tr>
<tr>
<td>Group agg*individual aggression</td>
<td>-.05</td>
<td>.04</td>
<td>-1.11</td>
<td>(-.13, .04)</td>
</tr>
<tr>
<td>Gender</td>
<td>.30</td>
<td>.08</td>
<td>3.92***</td>
<td>(.15, .44)</td>
</tr>
<tr>
<td>Grade</td>
<td>-.04</td>
<td>.06</td>
<td>-.73</td>
<td>(-.16, .07)</td>
</tr>
<tr>
<td>Group-level aggression</td>
<td>-.45</td>
<td>.09</td>
<td>-4.79***</td>
<td>(-.63, -.26)</td>
</tr>
<tr>
<td>Group agg*gender</td>
<td>-.07</td>
<td>.18</td>
<td>-.41</td>
<td>(-.42, .27)</td>
</tr>
<tr>
<td>Group agg*grade</td>
<td>.29</td>
<td>.11</td>
<td>2.54*</td>
<td>(.07, .51)</td>
</tr>
</tbody>
</table>

### Psychological problems

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>SE</th>
<th>t-value</th>
<th>CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group-level aggression</td>
<td>.03</td>
<td>.01</td>
<td>2.78**</td>
<td>(.01, .06)</td>
</tr>
<tr>
<td>Individual aggression</td>
<td>-.13</td>
<td>.01</td>
<td>-8.85***</td>
<td>(-.15, -.10)</td>
</tr>
<tr>
<td>Individual autonomy</td>
<td>.01</td>
<td>.02</td>
<td>.42</td>
<td>(-.04, .06)</td>
</tr>
<tr>
<td>Group agg*individual autonomy</td>
<td>-.02</td>
<td>.01</td>
<td>-1.45</td>
<td>(-.04, .01)</td>
</tr>
<tr>
<td>Group agg*individual aggression</td>
<td>.04</td>
<td>.02</td>
<td>2.52*</td>
<td>(.01, .08)</td>
</tr>
<tr>
<td>Gender</td>
<td>.06</td>
<td>.01</td>
<td>4.63***</td>
<td>(.03, .09)</td>
</tr>
<tr>
<td>Grade</td>
<td>.01</td>
<td>.02</td>
<td>.39</td>
<td>(-.03, .05)</td>
</tr>
<tr>
<td>Group-level aggression</td>
<td>.01</td>
<td>.02</td>
<td>.06</td>
<td>(-.07, .07)</td>
</tr>
<tr>
<td>Group agg*gender</td>
<td>-.01</td>
<td>.02</td>
<td>-.51</td>
<td>(-.06, .03)</td>
</tr>
</tbody>
</table>

Grp = group-level, ind = individual, agg = aggression, auto = autonomy
Note. *p < .05   ** p < .01   *** p < .01
Moderating Effects of Individual Autonomy, Gender, and Grade

Significant interaction effects were found between group-level aggression and individual autonomy in predicting latent deviancy and latent academic functioning. Simple slope figures (Figures 1 and 2) were plotted for latent deviancy and latent academic functioning by regressing the adjustment variables on group-level aggression at a high and low value (one SD above and below the mean) of autonomy (Aiken, & West, 1991). The simple slope tests showed that 1) the positive relation between group-level aggression and latent deviancy was stronger in adolescents low on autonomy, \( b = .67, SE = .08, t = 8.53, p < .001 \), than adolescents high on autonomy, \( b = .47, SE = .08, t = 5.94, p < .001 \); 2) the negative relation between group-level aggression and latent academic functioning was stronger in adolescents low on autonomy, \( b = -.59, SE = .10, t = -5.87, p < .001 \), than adolescents high on autonomy, \( b = -.30, SE = .10, t = -2.97, p < .01 \).

Group gender and group grade both moderated the relations between group-level aggression and social competence. Group grade moderated the relations between group-level aggression and academic functioning. To understand the nature of these significant interactions, simple slope figures (Figures 3-5) were plotted and simple slope tests were conducted separately for boys and girls, as well as for middle school students and high school students. The results indicated that group-level aggression was only negatively related to social competence for boys’ groups, \( b = -.32, SE = .08, t = -3.85, p < .001 \), or groups in middle school, \( b = -.32, SE = .08, t = -3.85, p < .001 \); but not for girls’ groups, \( b = .12, SE = .15, t = .79, p > .05 \), or groups in high school, \( b = .03, SE = .08, t = .33, p > .05 \). Group-level aggression was negatively associated with academic functioning.
only for groups in middle schools, $b = -.45, SE = .09, t = -4.79, p < .001$, but not for groups in high schools, $b = -.16, SE = .09, t = -1.77, p > .05$. 
Figure 1. Interaction between group-level aggression and individual autonomy in predicting deviancy
Figure 2. Interaction between group-level aggression and individual autonomy in predicting academic functioning.
Figure 3. Interaction between group-level aggression and gender in predicting social competence

$b = -0.32^{***}$ for boys and $b = 0.12$ for girls.
Figure 4. Interaction between group-level aggression and grade in predicting social competence
Figure 5. Interaction between group-level aggression and grade in predicting academic functioning
Chapter 4: Discussion

It has been consistently found that aggressive peer groups have negative implications for adolescents affiliated with them (Chung-Hall & Chen, 2010; Farmer et al., 2003; Low et al., 2013). However, adolescents play an active role in creating their own group experiences (Chen, 2012), which further affects their development and adjustment. Previous research mainly focused on group-level moderators or factors related to group structure, such as group size, group status, and group cohesion (Shi & Xie, 2014; Ellis & Zarbatany, 2007), with little attention paid to the role of individual personal characteristics, such as autonomy. As China is going through a rapid social change, autonomy has become more and more important in the society today (Yoshikawa et al., 2012). Yet, no study has been conducted to explore the functional meaning of autonomy in adolescents through the perspective of peer group experience. The primary goal of the current study was to fill that research gap by examining the relations between group-level aggression and adolescents’ social, behavioral, school, and psychological adjustment among Chinese adolescents, as well as how these relations are moderated by individual autonomy.

In general, the results of the study showed that, first, group-level aggression was positively related to maladjustment in social, behavioral, and academic domains. Second, individual autonomy significantly moderated the positive relation of group-level aggression with deviancy, and the negative relation of group-level aggression with academic functioning. Group-level aggression was associated with deviancy and academic functioning to a lesser extent among adolescents who were higher on autonomy. Third, there were three group-level interactions that predicted adjustment
outcomes: gender and group-level aggression and grade and group-level aggression in predicting social competence, and grade and group-level aggression in predicting academic functioning. These findings are further discussed in the following sections.

**Affiliating with Aggressive Groups and Adjustment Outcomes**

The results of the present study showed that affiliating with aggressive groups was associated with increased adjustment difficulties in social, behavioral, and academic domains. Specifically, group-level aggression was negatively related to social competence and academic functioning, and positively related to deviancy. There were no significant associations between group-level aggression and psychological problems. The main effects of group-level aggression on deviancy were consistent with those found in previous studies on the connections between deviant peer affiliations and individual deviancy (Espelage et al., 2003; Low et al., 2013). Underlying these associations, there might be several socialization mechanisms. First, members of the aggressive peer group respond positively to each other and mutually support each other to talk about deviancy and conducting deviant behaviors (Hanish et al., 2005). Not only do these members of the aggressive peer group observe more aggressive behaviors, but they also observe and receive more positive reinforcement for these aggressive behaviors (Dishion et al., 1996). Behavioral reinforcement and learning observations are powerful socialization mechanisms (Cairns, 1979; Bandura, 1971), which lead to long-term increases in various problem behaviors (Dishion et al., 1995; 1996; 1997). Second, adolescents affiliated with aggressive peer groups are more likely to perceive anti-authority and rebellion as the group norm and therefore, use this norm to guide their own behaviors and interactions with others (Cialdini & Trost, 1998). Finally, adolescents in aggressive groups may be
directly urged by their peers in the same group to perform certain delinquent acts (Van de Bongardt et al., 2015). The latter two mechanisms may be particularly salient in China because individuals often face high pressures to conform to the group norm in collectivistic cultures (Chen & French, 2008). Chinese adolescents in aggressive groups may feel great pressure to display deviant behaviors to show loyalty and commitment to the group. As a result, they may increase their disruptive behaviors in classrooms and delinquent behaviors outside schools to be consistent with the behavior of other group members, which can explain their high levels of deviancy compared to that of other students.

In addition to deviant socialization, the negative link between group-level aggression and social and academic adjustment may indicate that group influence could occur across domains. The results concerning the negative association between group-level aggression and social competence were consistent with the findings of a study in Canada (Chung-Hall & Chen, 2010). Adolescents belonging to aggressive peer groups may receive negative judgements from less aggressive peers for their behaviors and negative group reputations (Hymel et al., 1993). These adolescents are likely to be viewed by others as low in social competence. Moreover, due to the group reputation effect, adolescents in aggressive groups may have limited opportunities to interact with peers outside of their groups and to learn appropriate social behaviors and skills from them (Zhao et al., 2016). The results on academic functioning were consistent with previous studies that found affiliating with a peer group containing highly aggressive members increased individuals’ learning problems and school drop-out rates (Chung-Hall & Chen, 2010; Farmer et al., 2003). The group norm on deviancy is against respecting
teachers’ instructions and school expectations (Schwartz et al., 2008). When members of aggressive groups follow the group norm, their attentions are likely to be devoted to non-learning and even against-learning activities, which may decrease their academic motivation and study time (Kindermann, McCollom, & Gibson, 1995). In addition, belonging to a highly aggressive group may elicit negative attitudes from teachers, which may further harm adolescents’ academic functioning and achievement (Vollet et al., 2017).

Inconsistent with my hypothesis, the main effects of group-level aggression on adolescents’ psychological problems were not significant. According to a model proposed by Capaldi (1992), aggressive behaviors likely elicit peers’ negative attitudes and rejection, which aggressors may experience as failure. Perceptions of failure may lead aggressive individuals to develop more psychological problems (Capaldi & Stoolmiller, 1999). This theory is supported by findings across cultures (Blain-Arcaro & Vaillancourt, 2017; Coie, Terry, Lenox, Lochman, & Hyman, 1995; Yang et al., 2014) and the results in the present study regarding the associations between aggression and psychological problems at the within-group level. However, this theory focuses on associations at the individual level. The mechanism of group functioning on individual psychological problems may be different and more complicated. Although peer rejection and dislike based on the negative reputation of aggressive groups may create negative experiences for members of aggressive groups (Hymel et al., 1993), they are likely to occur in a mild form that may not be perceived by members as failure, thus attenuating the associations between group-level aggression and psychological problems. Contrastively, individual aggression usually causes direct harm to other people, which may elicit harsh peer
rejection and dislike in an obvious form and contribute to the development of psychological problems (Capaldi & Stoolmiller, 1999). Since the present study was the first to explore the relations between group-level aggression and psychological problems indicated by depression and loneliness, the reasons provided above are speculative in nature. More studies are needed to further clarify and explore this issue, ideally with longitudinal designs.

It should be noted that in the present study the connections between aggression and adjustment outcomes were significant at both the group and individual levels for deviancy and academic functioning. The results indicate that individual differences among adolescents in their academic functioning or deviancy could be explained partly by the individual differences on aggression within the peer group, and partly by group differences on aggression. In other words, group and individual factors both contribute to deviancy and academic functioning beyond each other’s effect (Espelage et al., 2003; Vollet et al., 2017). Therefore, when designing intervention programs aiming to improve aggressive adolescents’ behavioral and academic adjustment, researchers and professionals should consider both individual characteristics and group settings.

The Moderating Role of Individual Autonomy

As expected, significant interactions between group-level aggression and individual autonomy were found in predicting deviancy. Specifically, there was a stronger association between group-level aggression and deviancy among adolescents low on autonomy than among adolescents high on autonomy. Autonomy seems to confer protection for adolescents who were affiliated with aggressive groups, since highly autonomous adolescents were less affected by the deviant group norms. Through
independent thinking and exploration, autonomous adolescents may be more likely than others to understand social standards, values, and expectations beyond their own groups. As a result, although in aggressive groups, highly autonomous adolescents may behave more carefully than others to avoid dangerous consequences (Brown et al., 1986; Hartup, 2005). For example, when observing group members being disruptive in class or being urged by others to engage in problem behaviors, adolescents high on autonomy are more likely not to follow through or refuse to do so when they think about the potential consequences, including danger and trouble (Brechwald & Prinstein, 2011; Kagitcibasi, 2005). In addition, relying less on their peers for approval (Soenens & Vansteenkiste, 2005), autonomous adolescents may not perceive as strong peer pressure that they have to follow group peers’ deviant actions as other members (Knee & Neighbors, 2006). Instead, adolescents high on autonomy may plan their time more wisely and use peer groups more selectively. For example, they may gain social support with peer members during school time, but reduce interactions with groups after school to avoid fighting with non-students and other antisocial activities that may bring severe consequences to themselves (Kiesner et al., 2003). Moreover, autonomy is associated with self-regulatory abilities (Noom et al., 2001). The self-regulatory abilities of autonomous adolescents may be a buffering factor that reduces their antisocial behavior and deviancy (Gardner, Dishion, & Connell, 2008).

Another significant interaction effect is that individual autonomy moderated the link between group-level aggression and individual academic functioning. The negative effect of group-level aggression on individual academic functioning was weaker among adolescents high on autonomy. There are several possible reasons for this finding. First,
the deviancy norm is against following teachers’ instructions and engaging in learning activities (Schwartz et al., 2008). Adolescents low on autonomy may be more prone to the deviancy norm and thus withdraw themselves from academic tasks (Knee & Neighbors, 2006), whereas adolescents high on autonomy may not view deviant norm and academic functioning as contradictory and they may still keep learning because they understand its value to their future success and thus protect their own academic functioning. When other group members are disrupting the teacher lecturing during class time, highly autonomous adolescents may not participate in this disruptive activity.

Moreover, when affiliating with aggressive peer groups, Chinese adolescents may face the discrepancy between the norms of their small cliques featuring deviancy and the norms of their majority peers honoring collective harmony and academic achievement (Chen et al., 2003; Chen et al., 2004). Compared to adolescents who lack autonomy, highly autonomous adolescents have more internal resources to navigate their peer group experiences, thus reducing the negative influence (Soenens & Vansteenkiste, 2005). For example, they may actively choose to reduce involvement in the group or even change group membership when they perceive that activities within the peer group do not fit their own interests or values.

The Moderating Role of Gender and Grade

Group-level aggression was a risk factor for the development of low social competence in boys, but not in girls. This finding may be explained in several ways. First, girls in general are more relationship-oriented (Maccoby, 1998) and there is some evidence suggesting girls’ aggression is more concerned with social relationships, which is called “relational aggression” (Crick & Grotpeter, 1995; Kawabata, Crick, &
Hamaguchi, 2010; Nelson, Hart, Yang, Olsen, & Jin, 2006). The assessment of aggression in the present study was mainly about overt aggression, which might not capture the relevant aspects of girls’ aggression. Second, girls display more prosocial and cooperative behaviors and demonstrate higher levels of self-control than do boys in China (Chen et al., 2012; Yang et al., 2014), which may affect the group dynamics of female groups. In an intervention study aiming to reduce aggressive behaviors for participants, the percentage of girls in a group positively contributed to members’ increase of prosocial behaviors (Lavallee, Bierman, Nix, & the Conduct Problems Prevention Research Group, 2005). To accommodate both the group and gender norms, it is possible that members of aggressive female groups display both higher levels of antisocial and prosocial behaviors and use bi-strategies in maintaining group functioning (Hawley, 2014). This group dynamic in female groups may buffer against the negative effects of group-level aggression on social competence. Since these reasons are speculative, more research is needed to examine these potential mechanisms.

There was also a grade by group-level aggression interaction in predicting academic functioning and social competence; group-level aggression was negatively associated with academic functioning and social competence in middle school students, but not in high school students. As adolescents gradually develop an autonomous self with age, they may be less likely to value group affiliation and less likely to be constrained by group norms (Erikson, 1986; Newman & Newman, 1976). At the same time, they can maintain a better balance between their individual needs and group demands (Rubin et al., 2015). Some empirical studies demonstrated adolescents’ increased tendency to resist peer influence in general as they grow older (Steinberg & Monahan, 2007; Sumter, Bokhorst,
Steinberg, & Westenberg, 2009). In addition, adolescents’ self-regulatory abilities in planning and inhibiting impulsivity increase from childhood to adolescence (Steinberg et al., 2018). Thus, as adolescents become more mature socially and biologically, they may be less influenced by their peer groups (Rubin et al., 2015; Sumter et al., 2009), thus protecting their academic and social functioning from being affected negatively by aggressive peer groups.

**Limitations and Future Directions**

Several limitations and weaknesses in the current study should be noted. First, this study used a cross-sectional design to explore the relations between group-level aggression and adjustment outcomes, and the role individual autonomy played in these relations. The data did not allow us to make causal inference. Longitudinal studies should be conducted in the future, which may help us understand the significance of group-level aggression for adjustment in different domains, and the function of individual autonomy in peer group experiences by better elucidating the temporal order of development and the change process. Another advantage of the longitudinal research is that it can better handle the selection effect, a potential confounding mechanism (Van Zalk, Kerr, Branje, Stattin & Meeus, 2010). Highly autonomous adolescents may choose to affiliate with a peer group that they perceived as less influential on them or its group members. Therefore, with a cross-sectional design, it is difficult to model the “pure” peer group influence. The findings on weaker association between group-level aggression and deviancy and academic functioning can also be explained by adolescents’ autonomous characteristics leading them to choose a less influential peer group. Since it is difficult to accurately measure the complicated motivations of adolescents for affiliating with a peer group
(Rubin et al., 2015), a longitudinal design is more practical in ruling out the alternative explanation. Longitudinal studies can show the group influence in a clearer manner because the changes in adjustment outcomes between two waves happen after the group affiliations are formed. Modeling the changes with group-level aggression at Time 1 and its interaction with individual autonomy as predictors may yield a more solid argument on individual autonomy’s buffering effect on negative group influence.

Second, I used the average scores of group members’ aggression behaviors as the indicator of group-level aggression, as suggested by other researchers (Ellis et al., 2013). This method may not fully capture the group dynamics in aggressive peer groups. The group processes are highly complex beyond the prevalence of aggressive behaviors in the group (Dishion, Poulin, & Burraston, 2001). For example, it has been found in an intervention program that, compared to the group average levels of prosocial and aggressive behaviors, peers’ attention to a child’s disruptive behaviors during sessions was a more evident predictor of intervention gains of this child (Lavallee et al., 2005). Behavioral observations of aggressive groups will likely provide valuable information on how members in these groups interact with each other and how peer experiences contribute to individual development, thus helping us better understand the mechanism of group influence.

Third, this study focused on aggressive peer groups, it is unclear whether individual autonomy may affect adolescents’ adjustment outcomes in other types of peer groups the same way as it did in aggressive peer groups. For positively functioning peer groups such as groups high on prosociality or academic achievement, the group influence tends be beneficial for adolescents’ various adjustment outcomes (e.g., Chen, Chang, Liu,
& He, 2008; Chung-Hall & Chen, 2010; Ellis & Zarbatany, 2007). Thus, adolescents in those groups may not need independence from other group members to protect themselves as much, leaving individual autonomy’s moderating effects less clear.

Another possibility is that the socialization mechanisms in aggressive peer groups slightly differ from other peer groups. For example, it is likely that the direct urge from other members to conduct a certain behavior is strongest among aggressive peer groups, which may render individual autonomy to become more important in those groups (Ellis, Zarbatany, Chen, Kinal, & Boyko, 2018). Empirical studies on the role individual autonomy plays in other peer groups may not only clarify whether individual autonomy’s attenuating effect on group influence is specific or pervasive, but also help us to better understand the socialization process within adolescent peer groups.

Fourth, the socialization experience in peer groups does not occur in isolation, but often in combination with other social factors such as family and classroom climates (e.g., Chen et al., 2005; Vollet et al., 2017). Supportive parenting may serve to buffer against the negative effects of aggressive peer groups (Vitaro, Brendgen, & Tremblay, 2000). Family and school are crucial in shaping adolescents’ development of autonomy (Allen et al., 2012) and affecting how individual autonomy plays a role in peer groups (Hare, Szwedo, Schad, & Allen, 2015). Thus, it will be important to investigate how peer groups, family, and school factors jointly predict adolescents’ social, psychological, and school adjustment.

Fifth, the study was conducted in China. It is unclear whether the results, such as those concerning the moderating effects of autonomy, would be similar in other countries. It seems reasonable to argue that autonomous adolescents in Western or other societies
can also use their independent thinking and self-directing abilities to navigate peer group experiences (Soenens & Vansteenkiste, 2005). However, how autonomy affects group experiences and their impact on adjustment in various domains may be distinct in different cultural contexts. For example, China is going through a rapid social change. Adolescents high on autonomy at this historical time may possess personal traits that are beyond autonomy (e.g., courage). Therefore, it will be important to conduct research on aggressive peer groups and autonomy in other societies, including Western societies.

Despite the limitations, the present study revealed that group-level aggression was associated with individual social, school, and behavioral adjustment in Chinese adolescents. Moreover, individual autonomy, as a general independent thinking and self-governing characteristic, shaped the implications of group-level aggression for behavioral and academic functioning. The present study represented the first attempt to explore the moderating effects of individual autonomy on the associations between peer group functioning and individual adjustment, and the results indicated the role of this individual characteristic in protecting adolescents from engaging in dangerous behaviors and developing academic problems. The protective function of individual autonomy for those adolescents affiliated with aggressive peer groups should merit the attention of parents, educators, and professionals in designing prevention and intervention programs. This study also helped us to understand the specific role autonomy played in Chinese adolescents today as China is going through rapid social change. Finally, the existing studies have focused mainly on adolescent autonomy from the family perspective (e.g., Way et al., 2013). The present study explored autonomy in the context of adolescent peer
groups, which represented an additional contribution to our understanding of interactions between individual characteristics and social-contextual factors.
Appendix A:

Table: Effects of Predictors and Interactions in Predicting Observed Adjustment Outcomes

<table>
<thead>
<tr>
<th>Adjustment Outcome</th>
<th>Effect (b)</th>
<th>SE</th>
<th>z value</th>
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<tr>
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<td>.07</td>
<td>5.81***</td>
<td>(.28, .57)</td>
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<tr>
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<td>.06</td>
<td>-.22</td>
<td>(-.12, .10)</td>
</tr>
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<td>(-.38, -.02)</td>
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<td>(-.31, .05)</td>
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<td>(-.16, .03)</td>
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<tr>
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<td>.17</td>
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<tr>
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<td>.11</td>
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<td>(-.05, .39)</td>
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<td>Leadership</td>
<td></td>
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<td>.06</td>
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<td>(.07, .28)</td>
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<td>.08</td>
<td>2.25*</td>
<td>(.02, .34)</td>
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<tr>
<td>Grade</td>
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<td>.06</td>
<td>-.07</td>
<td>(-.13, .12)</td>
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<tr>
<td>Group-level aggression</td>
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<td>.10</td>
<td>-2.64**</td>
<td>(-.47, -.07)</td>
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56
<table>
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<tr>
<th>interaction</th>
<th>coef1</th>
<th>coef2</th>
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### School-related social competence

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<td>.05</td>
<td>8.33***</td>
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<td>.06</td>
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### Externalizing problems

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<td>-1.32</td>
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<td>3.03**</td>
<td>0.05, 0.25</td>
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<td>2.02*</td>
<td>0.01, 0.48</td>
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<tr>
<td></td>
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<td>C4</td>
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**Loneliness**

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<td>.04</td>
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<td>(.13, .28)</td>
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<td>.36</td>
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**Depression**

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<th>C4</th>
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<td>.02</td>
<td>2.08*</td>
<td>(.00, .07)</td>
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<td>(-.07, .07)</td>
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Grp = group-level, ind = individual, agg = aggression, auto = autonomy

*Note. *p < .05   **p < .01   ***p < .01
Appendix B: Peer Relationships

Do you have a group that you often hang out with in your class? A. Yes  B. No

If yes, who are these people you hang around with? Please write down their ID numbers.


Are there other groups hang out together in your classroom? If yes, please write down each group including the group members’ ID numbers. Please just report what you know.

Group 1:

Group 2:

Group 3:

Group 4:
Appendix C: Revised Class Play

Instruction: We are going to pretend to have a class play. There are a number of roles in the play. As the director, you need to find the person who can best play each of the roles. When you find this person, write down his/her number in the space after the role. If you think several people can play the same role, write the ID numbers of these people (up to three). If you feel a person can play more than one role, that is fine. If you cannot find anybody to play a role, just leave the spaces blank. Please do not discuss your answers with others, even after the study is over.

(Aggression items)
1. A person who gets into a lot of fights
2. A person who loses temper easily
3. A person who is rude and bossy
4. A person who picks on others
5. A person who always disrupts other children

(Prosocial items)
1. A person who you can trust
2. A person who console others when they are feeling sad
3. A person who is polite
4. A person who likes helping others
Appendix D: My View and Behavior (autonomy)

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<th>Not at All</th>
<th>A Little</th>
<th>Moderately Well</th>
<th>Well</th>
<th>Very Well</th>
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<tbody>
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<td>1. When I disagree with others, I will say it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Even if I consider the opinions of others around me, My decisions are my own</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I enjoy being different and unique from others in many aspects</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I have my own principles</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I like to behave in my own ways</td>
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<td>2</td>
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</tr>
<tr>
<td>6. I rely on myself most of the time, rarely rely on others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. I like to express my own opinions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. I have many thoughts about my own future</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. It is important for a person to have his or her own features</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. I make my own decisions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Appendix E: Teacher-Child Rating Scale (T-CRS)

Instruction: Please circle the number which indicates how well each statement describes the child:

(School-related social competence items)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Not at All</th>
<th>A Little</th>
<th>Moderately Well</th>
<th>Well</th>
<th>Very Well</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is a leader in the school</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Sticks to one’s own opinion</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Does everything proactively</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Expresses ideas willingly</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Actively participates in social activities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Solve problems by themselves, not relying on others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Has a lot of friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Likes to play with others rather than alone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Can make friends easily</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Is well liked by other children</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. Other children like to be with him/her</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. Is active in making friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. Doesn’t care about others’ teasing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Tolerates frustration</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. Doesn’t feel upset when fail</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. Copes well with failures</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17. Kind to peers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
18. Takes care of others  
19. Follows classroom discipline  
20. Willing to help others  

(Externalizing problems items)  
1. Disruptive in class  
2. Fidgety, difficulty sitting still  
3. Disturbs others while they are working  
4. Picks on others  
5. Always seeks other’s attentions  

(Learning problems items)  
1. Learning potential has not been realized  
2. Looks around during class, hyperactivity  
3. Difficulty following teacher’s directions  
4. Poorly motivated to achieve  
5. Has difficulty learning academic subjects
Appendix F: How I Feel (loneliness)

On the next few pages, there are several statements which may be true about you or not true about you. Read each sentence and decide whether or not the sentence is always true about you or not at all true about you or somewhat in between. Then circle the number that tells me your answer. There are no right or wrong answers, just what you think.

<table>
<thead>
<tr>
<th></th>
<th>Not at All</th>
<th>A Little</th>
<th>Moderately Well</th>
<th>Well</th>
<th>Very Well</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have nobody to talk to</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. I am good at working with others</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. It’s hard for me to make friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I feel lonely</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I don’t have any one to play with</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I feel left out of things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. There’s nobody I can go to when I need help</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. I don’t get along with other kids</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. I am alone</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. I don’t have any friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Appendix G: How I Feel (depression)

Students sometimes have different feelings and ideas. This form lists the feelings and ideas in groups. From each group of three sentences, pick one sentence (only one) that describes you BEST for the past two weeks. There is no right or wrong answer. Just pick the sentence that best describes the way you have been recently.

1. ___ I am sad once in a while
   ___ I am sad many times
   ___ I am sad all the time

2. ___ Nothing will ever work out for me
   ___ I am not sure if things will work out for me
   ___ Things will work out for me OK

3. ___ I do most things O.K.
   ___ I do many things wrong
   ___ I do everything wrong

4. ___ I think about bad things happening to me once in a while
   ___ I worry that bad things will happen to me
   ___ I am sure that terrible things will happen to me

5. ___ I hate myself
   ___ I do not like myself
   ___ I like myself

6. ___ I feel like crying everyday
   ___ I feel like crying many days
   ___ I feel like crying once in a while

7. ___ Things bother me all the time
   ___ Things bother me many times
   ___ Things bother me once in a while
8. ___ I look OK
   ___ There are some bad things about my looks
   ___ I look ugly

9. ___ I am tired once in a while
   ___ I am tired many days
   ___ I am tired all the time

10. ___ I do not feel alone
    ___ I feel alone many times
     ___ I feel alone all the time

11. ___ I never have fun at school
     ___ I have fun at school only once in a while
     ___ I have fun at school many times

12. ___ I have plenty of friends
    ___ I have some friends but I wish I had more
    ___ I do not have any friends

13. ___ I can never be as good as other kids
    ___ I can be as good as other kids if I want to
    ___ I am just as good as other kids

14. ___ Nobody really loves me
     ___ I am not sure if anybody loves me
     ___ I am sure that somebody loves me
Appendix H: Problem Behavior Checklist

Please answer each question by choosing the option that best describes you. There is no correct or incorrect answer. Your answer will be confidential. No one will have access to your answer except the research staffs.

1. During the past twelve months, how often did you smoke cigarettes?
   1 = never  2 = occasionally (once in a month or less)  3 = sometimes (2-3 times a month~1-2 times a week)  4 = often (3-5 times a week)  5 = always (nearly every day)

2. During the past twelve months, how often did you drink beer, wine, or liquor?
   1 = never  2 = occasionally (once in a month or less)  3 = sometimes (2-3 times a month~1-2 times a week)  4 = often (3-5 times a week)  5 = always (nearly every day)

3. During the past twelve months, how often did you get drunk?
   1 = never  2 = occasionally (once in a month or less)  3 = sometimes (2-3 times a month~1-2 times a week)  4 = often (3-5 times a week)  5 = always (nearly every day)

4. During the past twelve months, how often did you do something dangerous because you were dared to?
   1 = never  2 = occasionally (once in a month or less)  3 = sometimes (2-3 times a month~1-2 times a week)  4 = often (3-5 times a week)  5 = always (nearly every day)

5. During the past twelve months, how often did you lie to your parents or guardians?
1 = never  
2 = occasionally (once in a month or less)  
3 = sometimes (2-3 times a month~1-2 times a week)  
4 = often (3-5 times a week)  
5 = always (nearly every day)  

6. During the past twelve months, how often did you skip school without an excuse?  
1 = never  
2 = occasionally (once in a month or less)  
3 = sometimes (2-3 times a month~1-2 times a week)  
4 = often (3-5 times a week)  
5 = always (nearly every day)  

7. During the past twelve months, how often did you view pornographic pictures/movies?  
1 = never  
2 = occasionally (once in a month or less)  
3 = sometimes (2-3 times a month~1-2 times a week)  
4 = often (3-5 times a week)  
5 = always (nearly every day)  

8. During the past twelve months, how often did you go to places your parents do not want you to go?  
1 = never  
2 = occasionally (once in a month or less)  
3 = sometimes (2-3 times a month~1-2 times a week)  
4 = often (3-5 times a week)  
5 = always (nearly every day)  

9. During the past twelve months, how often did you associated with people with whom your parent would not approved?  
1 = never  
2 = occasionally (once in a month or less)  
3 = sometimes (2-3 times a month~1-2 times a week)  
4 = often (3-5 times a week)  
5 = always (nearly every day)  

10. During the past twelve months, how often did you copy others’ homework?  
1 = never  
2 = occasionally (once in a month or less)  
3 = sometimes (2-3 times a month~1-2 times a week)  
4 = often (3-5 times a week)  
5 = always (nearly every day)
11. During the past twelve months, how often did you lie to your teacher?

1 = never  
2 = occasionally (once in a month or less)  
3 = sometimes (2-3 times a month~1-2 times a week)  
4 = often (3-5 times a week)  
5 = always (nearly every day)

12. In the past twelve months, how often have you gotten into a physical fight with someone?

1 = never  
2 = 1-2 times  
3 = 3-5 times  
4 = 6-7 times  
5 = above 7 times

13. In the past year, how often did you cheat in exams?

1 = never  
2 = 1-2 times  
3 = 3-5 times  
4 = 6-7 times  
5 = above 7 times

14. In the past twelve months, how often have you engaged in sneaking out from the house without permission?

1 = never  
2 = 1-2 times  
3 = 3-5 times  
4 = 6-7 times  
5 = above 7 times

15. In the past twelve months, how often have you taken money from parent without permission?

1 = never  
2 = 1-2 times  
3 = 3-5 times  
4 = 6-7 times  
5 = above 7 times

16. In the past twelve months, how many cigarettes have you smoked?

1 = never  
2 = 1-4  
3 = 5-19  
4 = 20-99  
5 = 100 or more


https://doi.org/10.1016/J.ADOLESCENCE.2004.06.005


Handbook of peer interactions, relationships, and groups (pp. 84-105). New York: Guilford.


https://doi.org/10.1111/j.1467-8624.2004.00749.x


https://doi.org/10.1111/desc.12532


