School climate and adolescent aggression: A moderated mediation model involving deviant peer affiliation and sensation seeking

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ABSTRACT

There is a large gap in knowledge of the potential mediators by which school climate is associated with aggression and the potential moderators that exacerbate or attenuate this association. The current study examined the mediating and moderating mechanisms underlying the relation. A sample of 1401 adolescents participated in this study and completed anonymous questionnaires. Structural equation models showed that deviant peer affiliation mediated the association between school climate and adolescent aggression. As expected, sensation seeking moderated the direct association between school climate and adolescent aggression; lower-quality school climate was associated with more adolescent aggression under the condition of higher sensation seeking. Additionally, the first pathway of the indirect effect was significantly moderated by sensation seeking; the association between school climate and deviant peer affiliation was particularly stronger for adolescents with higher sensation seeking. The present study contributes to our understanding of key mechanisms underlying the association between school climate and adolescent aggression.

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1. Introduction

School climate has been defined as the norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structure in the school environment (Cohen, McCabe, Michelli, & Pickeral, 2009; Jia et al., 2009). Low-quality school climate has been shown to decrease the sense of connection and belonging to the school (Loukas, Suzuki, & Horton, 2006). According to the stage-environment fit perspective (Eccles & Roeser, 2009), if schools do not provide developmentally appropriate educational environments for adolescents, the relation between changes in the developmental needs of adolescents and changes in the school becomes unbalanced, which can result in negative developmental changes including low self-esteem, depression and delinquent problems. Several studies have identified the association between school climate (e.g., teacher-student relationship, peer support) and adolescent aggression (Espelage, Low, & Jimerson, 2014; Meehan, Hughes, & Cavell, 2003). However, we know little about the mediation processes by which school climate is associated with aggression, and the potential moderators that exacerbate or attenuate the association.

1.1. Deviant peer affiliation as a mediator

Deviant peer affiliation refers to the selective affiliation of adolescents who show serious problem behaviors (e.g., cheating, substance abuse and aggressive behavior) (Fergusson & Horwood, 1999; Zhu et al., 2016). Based on stage-environment fit theory and social learning theory (Bandura, 1977; Eccles & Roeser, 2009), the current study tested whether deviant peer affiliation would mediate the relationship between school climate and adolescent aggression. According to the stage-environment fit perspective (Eccles & Roeser, 2009), adolescents in the school with negative climate may experience more peer rejection and social isolation, leading to a mismatch between their developmental needs (e.g., security, support, and intimacy) and the level of need that their school grants. Rudolph et al. (2014) found that loneliness and social helplessness contributed to subsequent association with deviant peers. In this context, those adolescents may voluntarily affiliate with deviant peers who have similar experience as social outcasts, and expect deviant peers can satisfy their needs of intimacy, security and support (Sijtsma, Lindenberg, & René, 2010; Zhu et al., 2016). Some empirical studies have further identified the predictive role of school climate on deviant peer affiliation. For example, using a three-wave longitudinal study, Wang and Dishion (2012) found that when students’ positive perceptions of school climate decreased, there were subsequent increases in deviant peer affiliation over time. Another study also reported a negative association
between school climate and deviant peer affiliation in China (Bao et al., 2015).

Furthermore, consistent with social learning theory (Bandura, 1977) emphasizing that deviant behaviors usually take place in a social context and can be acquired through adolescents’ observation and imitation of deviant peers, aggression may be influenced by deviant peer affiliation. Adolescents who affiliate with deviant peers have been shown to be more accessible to aggressive attitudes, values, and behaviors than other children on account of an atmosphere supportive of delinquency (Dishion, Spracklen, Andrews, & Patterson, 1996). Accordingly, several studies have demonstrated that higher initial levels of deviant peer affiliation predicted increases in subsequent aggression (Laible, Carlo, Davis, & Karahuta, 2016; Snyder et al., 2005). To date, two studies have demonstrated that school climate could exert an indirect effect on broad delinquency or internet addiction via deviant peer affiliation (Bao, Li, Zhang, & Wang, 2015; Li, Zhou, Li, & Zhou, 2016). The question here is whether deviant peer affiliation could mediate the association between school climate and adolescent aggression.

1.2. Sensation seeking as a moderator

Sensation seeking as a form of difficult temperament refers to “the seeking of varied, novel, complex and intense sensations and experiences” (Zuckerman, 1994). Prior research has indicated that sensation seeking is a critical risk factor associated with increases in externalizing problems such as aggression and substance use (Romer & Hennessy, 2007; Wilson & Scarpa, 2011). Based on the diathesis-stress model (Monroe & Simons, 1991), adolescents with biological vulnerabilities (e.g., sensation seeking) are at a considerable risk to show maladjustment (e.g., aggression, deviant peer affiliation) when subjected to environmental risk (e.g., negative school climate). The moderating role of sensation seeking in amplifying the impact of environmental risk has been articulated in previous literature. For example, adolescents with higher sensation seeking might show more substance use in the presence of stressful life events compared to adolescents with lower sensation seeking (Ye, Li, Chen, & Wang, 2011). Eklund and Fritzell (2014) found that adolescents with higher sensation-seeking traits had more delinquency if they attended more disadvantaged schools. No research to date has examined the moderating effect of sensation seeking in the association between school climate and adolescent aggression. According to diathesis-stress model, we hypothesized that youth with higher (compared to lower) sensation seeking would be more likely to show aggression in the context of a low-quality school climate.

The present study is also the first to test whether sensation seeking may modify the indirect path of interest (i.e., school climate → deviant peer affiliation → aggression). Longitudinal data indicated that youth sensation-seeking in 6th grade contributed to an increase in the number of friends who engaged in risky behaviors in 7th grade (Wang et al., 2016). Furthermore, Ye et al. (2011) reported that sensation seeking interacted with stressful life events to predict deviant peer affiliation. Specifically, adolescents with higher sensation seeking tend to perceive that they have more deviant peers in the context of higher stressful life events (e.g., negative school climate). Based on the diathesis-stress model, it is also plausible that we would find an interaction between sensation seeking and school climate, which could be related to deviant peer affiliation. Meanwhile, we asked whether sensation seeking could moderate the second stage of the mediational pathway. That is, does the association between deviant peer affiliation and aggression vary as a function of sensation seeking? Two studies supported this possibility. Mann, Kretsch, Tackett, Harden, and Tucker-Drob (2015) revealed that these high sensation-seekers may be more susceptible to influence from deviant peers, which further exacerbates the possibility of developing delinquency. Another study on drug use also found that sensation seeking moderated the association between deviant peer affiliation and drug use (Ye, Yang, & Hu, 2012). Therefore, we hypothesized that adolescents with higher sensation seeking would display more aggression in the face of deviant peer affiliation.

1.3. The present study

In the current study, we shed light on “how” and “for whom” school climate is associated with adolescent aggression (see Fig. 1). Based on stage-environment fit theory and social learning theory, we examined deviant peer affiliation as a mediator between school climate and aggression. Grounded on the diathesis-stress perspective, we tested whether both the direct and indirect pathways between school climate and adolescent aggression were stronger among adolescents with higher levels of sensation seeking, as compared to adolescents with lower levels of sensation seeking. Identifying processes by which school climate is associated with adolescent aggression has important implications for theory and prevention.

2. Method

2.1. Participants

We recruited participants from four junior middle schools in the southern Chinese province of Guangdong through stratified and random cluster sampling. The sample consisted of 1401 early adolescents (50.2% male) ranging from 11 to 14 years of age (mean age = 12.46, SD = 0.61). Reflecting the demographics of the region, 21.3% came from rural areas, 24.2% from county seats, 27.8% from small-medium cities, and 26.6% from metropolitan areas. The sample contained a range of family per capital monthly income, with most students (71.7%) falling between ¥ 1000 and ¥ 4000. Moreover, 81.3% of participants’ fathers and 82.3% of their mothers had less than a junior college education. The sample characteristics in our study were close to those reported in the latest (sixth) census of Guangdong province, so our participants could be seen as a representative sample of the population of the targeted geographic area.

2.2. Measures

2.2.1. School climate

School climate was measured by using the 26-item Chinese version of perceived school climate questionnaire used in prior research (Bao et al., 2015). The adolescents were asked to indicate their experiences with teacher support, student–student support and opportunities for autonomy in the school during the past six months (e.g., “My teachers make me feel good about myself”; “Students get to help decide some of the rules”; “Students fight a lot”). All items were rated on a 5-point scale ranging from 1 (never) to 5 (all the time). The responses were averaged across the 26 items, with higher scores indicating higher quality of school climate. In the current study, the Cronbach’s alpha was 0.91.

2.2.2. Deviant peer affiliation

We used the 12-item Chinese version of deviant peers questionnaire used in Zhu et al.’s (2016) research. The adolescents were asked to indicate how many of their friends during the past six months displayed deviant behaviors (e.g., “How many of your friends got involved in fights during the past six months?”). All items were rated on a 5-point scale
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