# Classroom Climate and Internalizing and Externalizing Problems: The Role of Subjective Well-Being

Yining Long

Department of Educational and Counselling Psychology

McGill University, Montreal

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**Abstract**

This study examined the relationship between classroom climate, subjective well-being, and anxious/depressive symptoms (internalizing problems) and aggressive behaviours (externalizing problems) among elementary school students in China. Two hundred and ninety-five Chinese elementary school students ($M_{age}$ = 10.07, *SD* = .934; 53.2% Boys) participated in the study and completed the What Is Happening in this Class Questionnaire, the 10-item Positive and Negative Affect Schedule for Children, the Satisfaction with Life Scale adapted for Children, and the Youth Self-Report inventory. Structural equation modeling was used to evaluate the mediating role of subjective well-being on the relationship between classroom climate and anxious/depressive symptoms and aggressive behaviours. The results indicated that: (1) classroom climate was negatively associated with both anxious/depressive symptoms and aggressive behaviours; (2) higher levels of subjective well-being were correlated with decreased anxious/depressive symptoms and aggressive behaviours; and (3) subjective well-being fully mediated the association between classroom climate and anxious/depressive symptoms and aggressive behaviours. Limitations, future study directions, and practical implications of these findings are addressed.

*Keywords*: Subjective well-being, internalizing problems, externalizing problems, classroom climate, anxiety, depression, aggressive behaviour

**Résumé**

Cette étude a examiné la relation entre le climat de la classe, le bien-être subjectif et les symptômes anxieux/dépressifs (problèmes d'internalisation) et les comportements agressifs (problèmes d'externalisation) chez les élèves des écoles primaires en Chine. Deux cent vingt-cinq élèves d'écoles primaires chinoises ($M_{âge}$ = 10,07, *ET* = 0,934 ; 53,2 % de garçons) ont participé à l'étude et ont rempli le questionnaire What Is Happening in this Class, le 10-item Positive and Negative Affect Schedule for Children, le Satisfaction with Life Scale adapted for Children, et le Youth Self-Report inventory. La modélisation par équations structurelles a été utilisée pour évaluer le rôle médiateur du bien-être subjectif sur la relation entre le climat de la classe et les symptômes anxieux/dépressifs et les comportements agressifs. Les résultats ont indiqué que: (1) le climat de la classe est négativement associé aux symptômes anxieux/dépressifs et aux comportements agressifs; (2) des niveaux plus élevés de bien-être subjectif sont corrélés à une diminution des symptômes anxieux/dépressifs et des comportements agressifs; et (3) le bien-être subjectif joue un rôle de médiateur complet dans la relation entre le climat de la classe et les symptômes anxieux/dépressifs et les comportements agressifs. Les limites, les orientations des recherches futures et les implications pratiques de ces résultats sont abordées.

*Mots-clés:* Bien-être subjectif, problèmes d'internalisation, problèmes d'externalisation, climat de la classe, anxiété, dépression, comportement agressif

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## Introduction

Internalizing and externalizing problems have a significant negative effect on the development of children worldwide (Carballo et al., 2020; Göbel et al., 2016; Hu et al., 2015; Laukkanen et al., 2002; Lukasik et al., 2019). Children with internalizing and externalizing problems are more likely to develop substance abuse, have elevated health issues, poor academic performance, low social preference, low self-esteem, and engage in risky behaviours (Chen et al., 2003; Farmer et al., 2015; Jamnik & DiLalla, 2019; van Lier et al., 2012; Liu & Tein, 2005). In children and teenagers, depression and anxiety are two common internalizing issues (Morrison et al., 2013; Ogden & Hagen, 2018). The prevalence of emotional and behavioural problems among Chinese children and adolescents has been growing over the last three decades (Cui et al., 2021). As a symptom of externalizing issues, aggressive behaviours have a high prevalence rate among Chinese youth as well (Huang et al., 2017). Thus, understanding and preventing anxiety and depression (internalizing problems) and aggressive behaviour (externalizing problems) for children are critical to assist them to develop in a healthier way.

Students' emotional and behavioural outcomes are related to their early educational environment, which includes classroom climate (Fraser, 2015). At school and in class, youths are susceptible to their interpersonal dynamics (Ryan & Patrick, 2001). According to previous research conducted in Western and Eastern cultural backgrounds, a favourable classroom climate, such as students' perceived teacher support, classmate friendship, helpful learning materials, and clear discipline, correlates with decreased internalizing and externalizing problems (Bao et al., 2015; Liu & Lu, 2012; Milkie & Warner, 2011; Wit et al., 2011; Zhang & Deng, 2013). The mechanism underlying the classroom environment, on the other hand, remains unclear. Based on the extant research (e.g., Bartels et al., 2013; Guess & McCane-Bowling,

2013; Xie et al., 2017; Zhao et al., 2019), this study considers that subjective well-being would probably play a crucial role in mediating the relationship between classroom climate and students' internalizing and externalizing problems.

Youth's subjective well-being is an important aspect of their development (Varela et al., 2019). Young people who devote more time to school and social activities are happier than those who devote less time (Csikszentmihalyi & Hunter, 2014). Numerous studies indicate that a positive school environment is linked to improved subjective well-being in students (Reid & Smith, 2018; Steinmayr et al., 2018; Tan & Zeng, 2007; Zhou et al., 2014). Additionally, Western findings suggest that anxiety, depression and aggressive behaviours are adversely correlated with adolescents' overall subjective well-being (Bartels et al., 2013; Lyons et al., 2014). However, there was less emphasis in existing Chinese studies on the relationship between younger students' subjective well-being and internalizing and externalizing issues.

Previous studies have reported that children with anxious/depressive symptoms and aggressive behaviour problems are not uncommon in China. Therefore, further research is needed to determine the possible causes of these emotional and behavioural issues. There has been little research into the relationships between students' perceived classroom climate, their subjective well-being, and internalizing and externalizing problems together. Due to the longer school day on average in China from primary to secondary school and the different class setting styles, Chinese students have more opportunities to socialize with their classmates and teachers during the school year. For these reasons, researching the critical role that the classroom environment plays in the development of Chinese students is important. Moreover, most studies focused on middle school, high school, or university students across cultures, with few studies on younger populations.

The primary aim of this study was to explore the connections between classroom climate, subjective well-being, and internalizing and externalizing problems. In particular, this study was conducted to explore whether subjective well-being mediates the relationship between classroom climate and children's internalizing and externalizing issues. According to existing literature, the majority of the studies have focused on adolescents from Western societies (e.g., Bartels et al., 2013; Griggs et al., 2016; Somersalo et al., 2002; Suldo & Huebner, 2006; Valois et al., 2006). There were few studies on the current topic among younger Asian populations, including China. As a result, this study was carried out in a Chinese elementary school.

First, in the following literature review section, the potential influences of internalizing and externalizing issues on school-aged children were discussed. Second, the association between classroom climate and students' internalizing and externalizing problems was elaborated. Third, as a potential mediator, the relationships between subjective well-being and classroom climate, as well as internalizing and externalizing problems found in existing studies, were discussed separately. Finally, the importance of middle childhood for the current research was addressed.

## Literature Review

### Internalizing and Externalizing Problems Among School Students

In the classification of children's behaviour, social-emotional and behavioural issues have been conceptualized as internalizing and externalizing problems (Achenbach & Edelbrock, 1978). Internalizing problems are intrapersonal problems. These mainly arise as people attempt to control internal emotions or cognitions excessively, which can often be insufficient. The process of internalizing issues is often categorized with experiences of great internal distress and other conditions such as anxiety, depression, sadness, and social withdrawal (Forns et al., 2011). Externalizing problems are interpersonal problems. These are under-controlled behaviours that are noticeable in the outward actions of a person in response to the external environment. The process of externalizing issues is often categorized with hyperactive behaviours, aggressive behaviours, and conduct problems (Forns et al., 2011).

Research has demonstrated that higher levels of externalizing problems were correlated with higher levels of internalizing problems (Gilliom & Shaw, 2004). Individuals with internalizing and externalizing problems identified early in life are at greater risk of illicit drug dependence, increased health issues, academic underachievement, experiences of peer victimization, and conduct risky behaviours such as substance abuse and suicide behaviours (Farmer et al., 2015; Jamnik & DiLalla, 2019; van Lier et al., 2012; Piqueras et al., 2019; Woodward & Fergusson, 2001). Also, studies point out that individuals with significant internalizing and externalizing problems are more likely to experience difficulties with peer relationships, coping abilities and personal adjustment (Baker et al., 2008; Reijntjes et al., 2010). Moreover, internalizing and externalizing behaviour problems in childhood have been

associated with higher rates of work incapacity, such as sickness absence and disability pension during young adulthood (Narusyte et al., 2017).

According to some Chinese studies, internalizing and externalizing problems were linked to a variety of negative issues. Internalizing and externalizing problems were found to be negatively associated with academic and personal-social competence in students, as well as a connection between externalizing problems and potential career competence (Hu et al., 2015; Liu et al., 2012). In Chinese teenagers, both internalizing and externalizing problems were associated with a significantly increased likelihood of suicidal activity (Liu & Tein, 2005; Liu et al., 2018). A longitudinal study of Chinese children by Chen et al. (2003) report that externalizing behaviours identified by parents were shown to be negatively associated with and predictive of social preference, teacher-rated school performance, and leadership. Internalizing problems were linked to and predicted psychological distress, such as self-reported loneliness and low self-esteem (Chen et al., 2003).

Considering all of this evidence from different cultures, it seems that internalizing and externalizing problems were connected with a number of adverse outcomes, especially during the early stages of individual development.

### *Anxiety and Depression*

Depression and anxiety are two of the most prevalent internalizing disorders in children and adolescents (Morrison et al., 2013; Ogden & Hagen, 2018; Ollendick et al., 2005). Over the past 30 years, the prevalence of emotional and behavioural issues among Chinese children and youths has been increasing (Cui et al., 2021). In a cross-sectional study conducted in China, Yang et al. (2014) report that according to DSM-5 guidelines, 6% of the 9,806 students were diagnosed with anxiety disorders, and 1.3% were diagnosed with depression. A meta-analysis

shows that depressive symptoms were present in around 17% of elementary school students in China (Xu et al., 2020). A study in Henan Province showed that the detection rate of anxiety tendencies among primary and secondary school students was as high as 35% (Li, 2007). Therefore, anxiety and depression are not unusual among Chinese elementary and secondary school students; the co-occurrence rates of anxious and depressive issues were high as well (Su et al., 2006). Like most internalizing problems, many studies have shown that depression and anxiety affect numerous facets of an individual's development, such as physical health, cognitive functioning, social competence, academic achievement, and working capacity (Bierman et al., 2005; Carballo et al., 2020; Haslam et al., 2005; Khesht-Masjedi et al., 2019; Leach & Butterworth, 2020; Lukasik et al., 2019; Ramón-Arbués et al., 2020).

### *Aggressive Behaviours*

As a manifestation of externalizing problems, aggressive behaviour is closely associated with children's development and socialization. Children's physical development, improved bodily strength, expanded social interactions, and the development of cross-gender relationships are all associated with an increase in aggressive behaviours (Liu et al., 2013). According to following studies, aggressive behaviour is a common problem in adolescent development across cultures. In the United States, 22% of high school students report being involved in one or more physical fights during the past year, 17% of adolescents report they have had repeated episodes of severe aggressive behaviour (Coccaro & Lee, 2020; Centers for Disease Control and Prevention, n.d.). In Europe, the average of high school students' self-reported aggressive behaviour is up to 31% among 35 countries (Bucur et al., 2020). In a study assessing 13,495 students across five Chinese provinces, Huang et al. (2017) found that about 24% of Chinese teenagers self-reported have been involved in aggressive behaviours. Adolescents with

aggressive behaviours often have reduced cognitive functioning, unsatisfied peer relationships, poor academic performance, as well as increased risk of alcohol and drug abuse (Fite et al., 2014; Hoaken et al., 2012; Kivimäki et al., 2014). Moreover, aggressive symptoms may persist into adulthood, linked with further psychosocial maladjustment, disciplinary problems, even crime, and antisocial behaviours (Cleverley et al., 2012; Ehrenreich et al., 2016; Huesmann et al., 2002). Furthermore, it is not surprising that aggressive behaviour is related to both anxiety and depression issues (Blain-Arcaro & Vaillancourt, 2017; Chung et al., 2019).

Since it is related to various outcomes that are detrimental to the present and future life, understanding, preventing, and interfering with internalizing and externalizing problems are essential for a child's healthy development. Therefore, in this study, representative anxiety and depressive symptoms in internalizing problems and aggressive behaviour in externalizing problems were investigated separately.

**Classroom Climate**

There is consistent evidence that the early educational environment in childhood, which includes classroom climate, is linked to students' both cognitive and affective outcomes (e.g., Fraser, 2015). Classroom climate is the environment composed of physical, intellectual, social, and emotional factors of the classroom. The physical environment mainly refers to the class layout, seating arrangements, and the abundance of teaching resources, such as whiteboards and teaching-related electronic devices (Higgins et al., 2005). The intellectual environment primarily refers to the teacher's teaching materials, teaching schedule, learning activity plans, overall expectations, goals, and assessment for students (Thompson & Wheeler, 2008). The interacting relationship within the classroom, such as the interaction between faculty and students, teachers and students, and among classmates, determines the social-emotional climate itself (Ambrose et

al., 2010).

One prominent theory, the person-environment (P-E) fit theory, is based on Lewin's idea, which suggests that the relationship between the person and the environment will contribute to one's behaviour, the matching individual and environment will increase the possibility of positive results (Edwards et al., 1998). According to a past study, the student-school fit is indicative of students' perceived school satisfaction and psychological well-being (Gilbreath et al., 2011). Research also demonstrates that a stronger match between the student and the school predicts better teacher-student relationships and peer socialization (Deng & Yao, 2020). It has also been discovered that the fit between an individual and the proximal environment matters more in certain aspects, such as for self-evaluation and life satisfaction, than the fit between an individual and the distal environment (Jiang & Jiang, 2015). Hence, it is possible that student-class proximal fit is more likely than student-school fit to have any positive outcomes. In a study investigating student-classroom fit, Westerman et al. (2002) point out that good fit predicts positive student performance and achievement. Thus, the sound interrelation between students and the classroom environment could lead to favourable results and vice versa (Edwards & Shipp, 2007).

### *Classroom in China*

In China, the basic unit of primary and secondary education is the class, which has certain stability. A class comprises many students, a teacher in charge of the entire class, and several other teachers for the different subjects learned, and it is established from the point students enter school and remains largely unchanged over time (Jiang, 2004). If the instructional environment and interpersonal relationship that students receive in the same class remain

constant year after year, students might experience more cumulative influences during their school year (NICHD Early Child Care Research Network, 2006).

In the context of classroom teaching and united class instruction, classroom studying is the most important way for Chinese students to gain knowledge, and the classroom is the most vital and appropriate place for students to carry out academic practices (Pang, 2009; Zhang et al., 2019). In China, students' daily activities are mostly school-related or extracurricular activities, both focusing on learning (Ren et al., 2020; Stevenson, 1992; Zhang & Tang, 2017). During elementary school, students spend a significant amount of time per day in the same classroom with the same peers and a few regular teachers, learning, playing, and socializing (Jiang, 2004).

Regarding school time, Hu (2019) notes that Chinese elementary school students spend an average of 8.1 hours a day at school, with middle school students spending an average of 11 hours a day at school. Western students spend less time at school than their Chinese counterparts. For instance, in the United States, the average length of a school day for primary and high school students is at most 7 hours (U.S. Department of Education et al., 2017). Furthermore, the typical duration of a school day for primary and high school students in Canada is 7 hours long (EduCanada, 2021a; EduCanada, 2021b). Also, in fifteen European Union countries, the average school day is about 6 hours for primary and secondary schools (Parente, 2020). Therefore, compared with Western countries, Chinese students spend more time in school every day, meaning they have more contact and interaction with their peers and teachers. As a result, besides their families, the classroom becomes the most important developmental environment for youths (Jiang, 2004; Wang et al., 2018). Students’ success is strongly connected to their classroom environment, and has a noticeable effect on their cognitive development, academic progress, and physical and mental well-being (Jia et al., 2009; Wang et al., 2020). The

information reviewed here suggests that the classroom may play a pivotal role in students' social and emotional development, especially in the specific Chinese context.

### *Classroom Climate and Internalizing, Externalizing Problems*

Youths are highly sensitive to their interpersonal dynamics at school and in class (Ryan & Patrick, 2001). The greater the social support and respect among students in a classroom, the greater the engagement in learning and the less the disciplinary violations (Ryan & Patrick, 2001). Previous studies have found that a good teacher-student relationship is associated with children's positive academic achievements and successful school adjustment (Baker et al., 2008; Hajovsky et al., 2017; Hernández et al., 2017). The emotionally supportive classroom environments lead to better academic engagement and lower rates of disruptive behaviours (Brackett et al., 2011).

Furthermore, there is a negative correlation between a positive classroom climate and students' internalizing and externalizing problems. Students' learning, behaviour, emotional issues were also related to the negative classroom climate, for instance, classrooms with fewer material resources, lower academic standards, and the number of peers below standard reading levels (Milkie & Warner, 2011; Pianta et al., 2008; Somersalo et al., 2002). Decreased perceived support from both peers and teachers among high school students was associated with more inadequate self-esteem and depression, and diminished perception of peer support alone was linked with increased social anxiety (Wit et al., 2011). In the school environment, the negative attitudes toward the school, low academic input, insufficient support from classmates and teachers are all related to an individual's further aggressive behaviours (Estévez et al., 2018). Likewise, individuals in a classroom were found to be more likely to develop aggressive

behaviours when their classmates in the classroom exhibited high levels of aggression (Thomas & Bierman, 2006).

Related findings have been observed in Chinese studies as well. Nie et al. (2015) found that high school students' perceived teacher support and closeness has a significant impact on students' both internalizing and externalizing issues. Positive classmate interactions, such as shared trust, directly affect students' internalizing and externalizing problems (Nie et al., 2017). Recent evidence also suggests that adolescent's perceptions of more guidance from teachers and more supportive interactions with peers are associated with their less externalized problem behaviours (Bao et al., 2015; Zhang et al., 2021). In a class of stable fairness and justice, the more harmonious the interaction between teachers and youth, and the relationship between peers, the less aggressive and disruptive actions of students reported by others (Zhang & Deng, 2013; Zhang et al., 2018). Other studies demonstrate that less abusive behaviour and lower level of depression are related to a positive school environment (Li et al., 2015; Xu et al., 2014); teacher-student relationships, classmate connections, consistent rule and discipline, and positive competition in the classroom are negatively linked to depression (Liu & Lu, 2012; Ren et al., 2011). Moreover, Chinese adolescents' reports of conflicts with their teachers and classmates were correlated with increased depressive symptoms, whereas greater perceived social support from school members was related to a decrease in depressive symptoms (He et al., 2019; Jia et al., 2009).

Considering all of this evidence from both Western and Eastern cultural backgrounds, it seems that the educational environment profoundly influences children's social-emotional outcomes (Edwards & Shipp, 2007). However, little is known about the mechanism behind the classroom climate, which has been suggested to be associated with children's internalizing and

externalizing problems (Buyse et al., 2008; Griggs et al., 2016). Therefore, further research into the intermediate process between classroom climate and students' internalizing and externalizing issues is necessary in order to provide more direct reference evidence for intervention practice. Based on a review of the literature, this study considered that subjective well-being would be likely to play an essential role in mediating the relationship between classroom climate and students' internalizing and externalizing problems.

**Subjective Well-Being**

Many studies support that ideal mental health is not just determined by the absence of mental disease, but also reflected in both little mental health issues and the high levels of subjective well-being (e.g., Greenspoon & Saklofske, 2001). Subjective well-being is defined as a composite of three related components, including positive affect, negative affect, and life satisfaction (i.e., the cognitive component) (Diener, 2009). Positive affect refers to the experience of positive emotions such as euphoria, pleasure, and pride, while negative affect refers to the experience of negative emotions such as guilt, anger, and sadness (Watson et al., 1988). The cognitive dimension refers to individuals' overall cognitive understanding of their interactions with themselves, their families, and their friends, which is defined in terms of individuals' perceived satisfaction with their whole life (Proctor et al., 2010). Diener et al. (2002) suggest that an individual's sound subjective well-being can be represented with high positive affect, low negative affect and high life satisfaction standards.

Earlier studies on subjective well-being have mainly concentrated on adults; nevertheless, children and youth are now progressively the priority of researchers (Park, 2004). According to research, higher subjective well-being in childhood has been linked to improved physical and mental well-being, successful interpersonal interactions, and potential achievements in a

profession later in life (Park, 2004). The subjective well-being of youth is an essential part of children's development (Varela et al., 2019). Attributed to the fact that school-aged children and teenagers spend the majority of their time at school, a number of academic aspects have a substantial impact on their subjective well-being (Stiglbauer et al., 2013).

### *Subjective Well-Being and Classroom Climate*

Young people who invest more time in school and social events are happier than those who spend less time, and spending time with peers is correlated with the highest degree of satisfaction (Csikszentmihalyi & Hunter, 2003). Besides, research indicates that student's positive perceptions of the school environment are associated with better subjective well-being (Lampropoulou, 2018; Reid & Smith, 2018; Steinmayr et al., 2018). Under the school climate, students' subjective well-being was explained notably by student-teacher relationships; students' higher perceived emotional support from their teachers is significantly correlated with higher life satisfaction (Guess & McCane-Bowling, 2013; Rathmann et al., 2018; Suldo et al., 2009; Suldo et al., 2008). Not only teachers but also classmates have a significant impact on an individual's subjective well-being. Previous studies argue that the perceived classmate support of individuals is positively associated with life satisfaction (Blau et al., 2018; Oberle et al., 2011). Individuals exposed to a class environment that students on average have a high level of life satisfaction and positive emotions tend to experience greater life satisfaction and positive emotions as well (King & Datu, 2017).

Several studies conducted in China have also explored the relationship between classroom climate and subjective well-being. In a study of Chinese elementary school students, He and Wei (2015) reported that higher levels of peer acceptance were correlated with enhanced life satisfaction and positive emotions, while lower peer acceptance levels were associated with

increased negative emotions. Other investigations have demonstrated that students' subjective well-being is significantly predicted by positive teacher-student relationships and peer relationships experienced in school (Li & Lau, 2012; Ma et al., 2019; Wang et al., 2014; Zhang et al., 2019). Additionally, a perceived positive school climate was found to be significantly associated with life satisfaction among middle school students (Zhou et al., 2014). A reliable classroom environment, mainly manifested as clear order and discipline, as well as healthy competitive relationships, was reported to be connected with students' increased life satisfaction (Tan & Zeng, 2007).

### *Subjective Well-Being and Internalizing, Externalizing Problems*

Several studies have explored a significant negative correlation exists between subjective well-being and internalizing as well as externalizing problems (e.g., Bartels et al., 2013; Lyons et al., 2014). In adolescents, a significant negative correlation between subjective well-being and psychiatric disorders was revealed, with lower levels of subjective well-being predicting increased anxiety and depressive behaviour (Bartels et al., 2013). Adolescents who report higher life satisfaction levels will experience fewer emotional and behavioural issues than adolescents who report an average satisfaction with life (Suldo & Huebner, 2006). Research also suggests that the youth's overall subjective well-being was negatively associated with aggressive and violent behaviours (Hamama & Arazi, 2012; Valois et al., 2001, 2006). The lower life satisfaction standards are related to increased externalizing behaviours in young teenagers (Lyons et al., 2014). Positive and negative affect were found to be strongly implicated in the development of behavioural problems, with lower positive affect linked to more externalizing problems and higher negative affect related to more aggressive behaviours (Hamama & Arazi, 2012; Kim et al., 2007).

There are relatively few Chinese studies investigating the association between students' subjective well-being and internalizing and externalizing problems. In a recent study on the left-behind adolescents' psychological conditions in rural China, Zhao et al. (2019) illustrate that left-behind adolescents' report of lower life satisfaction and happiness level was correlated with more depressive traits. Guo and Zhang (2011) demonstrate a significant negative correlation between the propensity for aggressive behaviour and subjective well-being. That is, the lower the subjective well-being, the higher the propensity to aggression. Therefore, subjective well-being is linked to an individual's tendency to behave aggressively. Another study of Chinese high school students demonstrates that students' perceived more favourable school climate were correlated with better subjective well-being and less experience with internalizing and externalizing problems (Xie et al., 2017). Although Xie et al. (2017) did not examine the potential relationship between subjective well-being and internalizing externalizing problems directly, their findings imply that some associations exist between school climate, subjective well-being, and internalizing and externalizing problems.

Based on the studies reviewed above on subjective well-being, the role of both school and classroom environment on student's subjective well-being has been discussed. Nevertheless, research regarding the relationship between younger students' subjective well-being and internalizing and externalizing issues was less focused in existed Chinese studies. Considering the potential mediating role of subjective well-being between classroom climate and children's internalizing and externalizing problems, it was of interest to explore subjective well-being in association with both anxious/depressive symptoms and aggressive behaviours with Chinese students in the present study.

### Middle Childhood

In view of all that has been mentioned so far, few studies have targeted elementary school students as the primary participants, whether in China or the West. Since middle childhood is a significant stage of children's development, the current study aims to recruit children from 9 to 12 years old (i.e., from grade 3 to grade 5 in the Chinese education system). Children begin to have continuous interactions with different environments outside of family at the middle childhood stage and acquire fundamental educational and social experiences for subsequent developmental outcomes (Coll & Szalacha, 2004). Furthermore, the middle childhood development process has sustainable impacts on both the achievements and social relationships of adolescents and adults (Morris & Kalil, 2006). Schools offer learning environments and opportunities for forming social relationships with peers and adults in middle childhood; during this period, children with social-emotional and behavioural problems seem to be more vulnerable to influence in their classrooms (Feinstein & Bynner, 2004; O'Connor et al., 2011). Thus, it is essential to explore the role that classroom climate plays during middle childhood.

## The Present Study

As can be seen from previous studies, children in China who exhibit anxious/depressive symptoms and aggressive behaviour problems are not uncommon; thus, more research is necessary to explore the potential factors related to these emotional and behavioural problems. Numerous researchers have examined how classroom climate and students' subjective well-being were connected with youths' internalizing and externalizing problems, respectively. However, little research has been done to explore the relationships among classroom climate, children's subjective well-being, and internalizing and externalizing problems together. Since from primary school to high school, Chinese students have a longer school day on average than

students in Western countries; and the different class setting styles made Chinese students have more chance to interact with the same classmates and teachers during the school year. These reasons make it meaningful to conduct a study investigating the critical role that classroom climate plays in the developmental process of students from a Chinese cultural background. In addition, across different cultures, most studies were investigated in middle school, high school, or university, little research focused on younger populations.

To address these gaps, the main purpose of this investigation was to explore the relationships among classroom climate, subjective well-being, and internalizing and externalizing problems simultaneously. Specifically, this study was designed to examine the role of subjective well-being in the relationship between classroom climate and children's internalizing and externalizing problems. As indicated earlier, the features of classroom experiences (i.e., time to spend at school, interactions with peers and teachers) in the Chinese context appeared to be different from those of students in the Western context. Hence, this study was conducted in a Chinese context with primary school students as the target group.

**Research Questions and Hypotheses**

The objectives of the current research are: (Q1) to explore the relationships among classroom climate, students' subjective well-being, and internalizing and externalizing problems together to analyze the association between each variable; (Q2) to investigate whether subjective well-being would be a mediating factor connecting classroom climate and students' internalizing and externalizing problems; (Q3) to test these potential relationships from a Chinese cultural background among elementary school students.

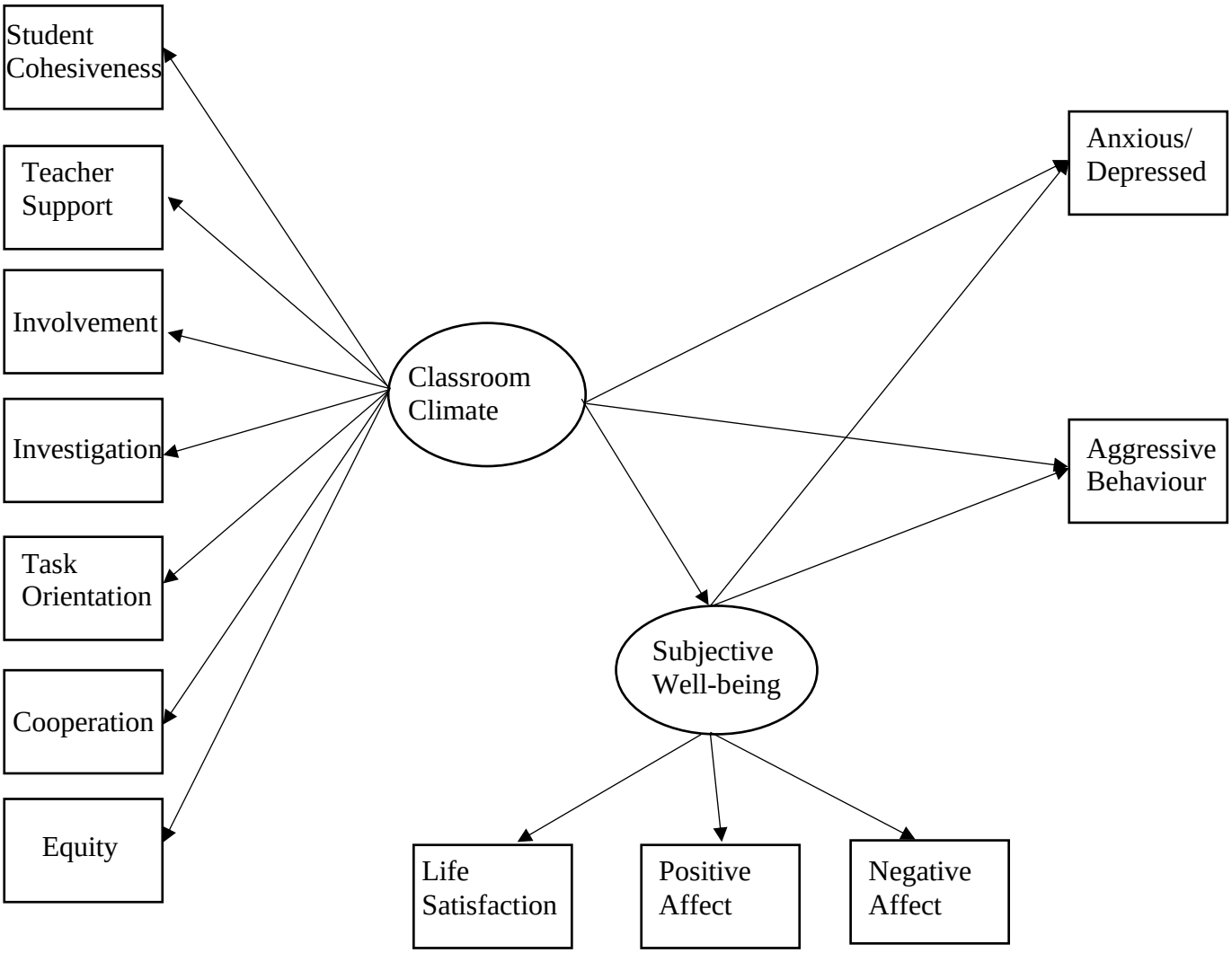
Based on extensive literature, it is hypothesized that in current research: (H1) classroom climate will negatively predict anxious/depressive symptoms (internalizing problems) and

aggressive behaviours (externalizing problems) (Bao et al., 2015; Griggs et al., 2016; Liu & Lu, 2012; Somersalo et al., 2002); (H2) subjective well-being will negatively predict anxious/depressive symptoms and aggressive behaviours (Kim et al., 2007; Suldo & Huebner, 2006; Valois et al., 2006; Zhao et al., 2019); and (H3) subjective well-being will mediate the relationship between classroom climate and anxious/depressive symptoms and aggressive behaviours; in specific, classroom climate would be positively related to subjective well-being, which, in turn, would be negatively associated with anxious/depressive symptoms and aggressive behaviours (Bartels et al., 2013; Guess & McCane-Bowling, 2013; Xie et al., 2017; Zhao et al., 2019).

Figure 1 shows an overview of the hypothesized mediation model.

**Figure 1**

*Hypothesized Mediation Model of Classroom Climate, Subjective Well-Being, and Anxious/Depressed (Internalizing Problems), Aggressive Behaviour (Externalizing Problems)*




## Method

### Participants

Participants were 295 students (138 girls, 157 boys) from a public elementary school in Inner Mongolia, China. The age range of participants were from 8 to 12 years old ($M_{age}$ = 10.07, *SD* = .934), including 56 students from grade 3 (19%), 118 students from grade 4 (40%), and 121

students from grade 5 (41%). Students from 10 classes participated in the study, including two classes from grade 3, four classes from grade 4, and four classes from grade 5. Table 1 shows descriptive statistics on the gender and age of participants by grades.

**Table 1**

*Gender and Age of Participants by Grade*

| Grade | Male (*n*) | Female (*n*) | Mean Age |
|---|---|---|---|
| Grade 3 | 28 | 28 | 8.82 |
| Grade 4 | 66 | 52 | 9.86 |
| Grade 5 | 63 | 58 | 10.85 |
| Total ($N$ = 295) | 157 | 138 | 10.07 |

**Procedures**

Prior to conducting the study, ethical approval was obtained from the Research Ethics Board at McGill University. In order to recruit participants, the researcher contacted school principals by letter to ask them about the possibility of having their grade 3 to grade 5 students complete the questionnaires. The letter to each school principal contained the purpose, procedures, and potential benefits of the study. After the school agreed to help conduct the study, the researcher went to the school to explain this study to students and provided parental consent forms to students who are interested in participating. When the parental consent forms were signed and returned to the school, the study was conducted at the participants' school.

Based on the school arrangement, students with parental consent forms from the same grade were scheduled to the large classroom to conduct this study; the researcher attended the entire study process to ensure the progress of the study and solve any problems of the students.

Before the study, participants were reassured that their participation was completely voluntary, that they could withdraw at any time without giving a reason, and that their data could be destroyed if they so desired. Participants were also informed that their confidentiality would be maintained. There would be no names, phone numbers, or other identifiable information in the data files. After the above explanation, oral assent was obtained from participants at the beginning of the study.

During the study, participants completed the anonymous questionnaire booklet on paper/pencil form. This process took participants approximately 40 minutes. After the data collection, a proposed list of helpful resources and volunteer helplines were provided for all the participants to reduce potential risks if any participants feel distressed or anxious following the survey.

## Measures

All the scales used in this study are in Chinese. The Chinese translated version was obtained with official permission (e.g., the Achenbach System of Empirically Based Assessment; ASEBA) to use the questionnaire, or from researchers who had previously used these scales in China.

### *Demographic Information*

The first section is the demographic survey to obtain descriptive information about the participants; it contains questions about participants': (1) gender assigned at birth, (2) age and birthdate, (3) grade, and (4) class.

### *Classroom Climate*

The second section contains the What Is Happening in this Class Questionnaire (WIHIC; Aldridge & Fraser, 2000), designed to assess students' perception of the classroom climate. This questionnaire consists of seven subscales (student cohesiveness, teacher support, involvement, investigation, task orientation, cooperation, and equity) with eight items on each scale. Items were rated on a 5-point Likert scale (1 = "*Almost Never*," 5 = "*Almost Always*"). Sample items include "In this class, I get help from other students" (student cohesiveness); "The teacher helps me when I have trouble with the work" (teacher support); "I am asked to talk about how I solve problems in the class" (involvement); "I am asked to think about the evidence for statements" (investigation); "Getting a certain amount of work done is important to me" (task orientation); "I get along with other students when doing assignment work" (cooperation); "I get the same amount of help from the teacher as do the other students" (equity). A higher score on each subscale indicates that the participants perceive the classroom climate to be better. The WIHIC scale has been applied in a wide variety of cultural contexts, such as Australia, Greece, the United States, Singapore, and China, and has proven to have good validity and reliability (Charalampous & Kokkinos, 2017; Cohn & Fraser, 2016; Dorman, 2008; Lim & Fraser, 2018; Yang, 2015). In the current study, the Cronbach's alpha was .97 for 56 questions of the Chinese version WIHIC, which indicated adequate reliability.

A confirmatory factor analysis (CFA) using a maximum-likelihood estimation in Mplus 8.0 was conducted to verify that the latent constructs in the current study were correctly measured. To assess model fit, the fit indexes considered in this study were the RMSEA (Root Mean Square Error of Approximation), the SRMR (Standardized Root Mean Square Residual), CFI (Comparative Fit Index), and the TLI (Tucker-Lewis index) with a 90% confidence interval.

RMSEA scores between .06 and .10 were considered proper fit, while values greater than .10 were deemed to be inadequate (L. Hu & Bentler, 1999; MacCallum et al., 1996). Because SRMR is an absolute measure of goodness of fit, values closer to zero represent a more desirable fit. A value less than .08 is usually considered an acceptable fit (Hu & Bentler, 1999), and a value less than .05 is viewed as a well-fitting model (Byrne, 1998). Following Brown's (2015) criteria, a CFI < .90 would indicate poor fit, a CFI between .90-95 would imply acceptable fit, and a CFI > .95 would suggest adequate fit. TLI closer to 0 means more inadequate fit, closer to 1 standards better fit, and generally TLI > 0.9 reflects good fit (Bentler & Bonett, 1980).

### *Classroom Climate CFA*

Based on What is Happening in this Class (WIHIC) questionnaire, the seven-factor model was verified with a second-order CFA (Aldridge & Fraser, 2000). Factors in the first-order contains seven traits (student cohesiveness, teacher support, involvement, investigation, task orientation, cooperation, and equity), composed of classroom climate in the higher-order. The model exhibited fairly well statistical fit to the data, $\chi 2$ (1477) = 2563.201, $p < .001$; RMSEA [90% CI] = .050 [.047, .053]; CFI = .883; TLI = 0.878; SRMR = .050. All seven first-order factors loaded significantly ($p < .01$), and demonstrate high loadings range from .765 to .960.

### *Subjective Well-Being*

The third section of the questionnaire contains two scales that aim to measure participants' subjective well-being from three aspects: positive affect, negative affect, and life satisfaction.

The 10-item Positive and Negative Affect Schedule for Children (10-item PANAS-C; Ebesutani et al., 2012) was used to assess both positive and negative affect. This scale contains

10 items, 5 items for positive affect (PA; Happy, Lively, Cheerful, Joyful, Proud), and 5 items for negative affect (NA; Mad, Sad, Miserable, Scared, Afraid). Participants were asked to rate items regarding how often they have felt in the past few weeks. A 5-point Likert scale was used to score the scale (1 = "*Very slightly or not at all*," 5 = "*Extremely*"). A high PA score suggests pleasant feelings, while a high NA score indicates a variety of undesirable emotions. A wide range of studies using 10-item PANAS-C, including studies in China, have demonstrated the sufficient validity and reliability of this scale (Domlyn et al., 2020; Eadeh et al., 2020; Rodgers et al., 2018; Zhao et al., 2020). The Chinese version of 10-item PANAS-C also exhibited good reliability in the current study, with Cronbach's $\alpha$ = .84 for the positive affect and Cronbach's $\alpha$ = .78 for the negative affect.

Participants' sense of life satisfaction was measured by the Satisfaction with Life Scale adapted for Children (SWLS-C; Gadermann et al., 2010). This scale contains 5 items. Items are responded on a 5-point Likert scale (1 = *"Strongly disagree,"* 5 = *"Strongly agree"*). Sample items include "I am satisfied with my life" and "So far I have gotten the important things I want in life." High scores in life satisfaction suggest that people are happy with their lives in general. The reliability and validity of the SWLS-C have been consistently demonstrated (Gadermann et al., 2010; Gadermann et al., 2011; Sutton et al., 2018). In the current study, Cronbach's alpha coefficient for the SWLS-C Chinese version was .71.

***Subjective Well-Being CFA***

A second-order CFA was used to evaluate the structure of subjective well-being. The three first-order latent traits (positive affect, negative affect, and life satisfaction) were structured as indicators of the higher-order factor of subjective well-being. These three factors coincide with the conceptual factors proposed in the literature (e.g., Albuquerque et al., 2012; Diener,

2009; Liang & Zhu, 2015; Satici, 2016; Savage et al., 2020). The result of CFA exhibited adequate statistical fit to the data, $\chi 2$ (87) = 121.958, $p$ = .008; RMSEA [90% CI] = .037 [.020, .052]; CFI = .974; TLI = 0.968; SRMR = .045. All first-order variables exhibit good loadings on the higher-order ($p$ < .001), with positive affect (.739) and life satisfaction (1.016) positively correlated with subjective well-being, and negative affect (-.501) negatively associated with subjective well-being.

***Internalizing and Externalizing Problems***

The last section of the questionnaire includes the Youth Self-Report inventory (YSR; Achenbach & Rescorla, 2001), a self-report scale commonly used to assess adolescents' internalizing and externalizing problems. The YSR inventory total contains 112 items under eight subscales. In this study, the internalizing problems were measured using one subscale, "Anxious/Depressed" (13 items). Besides, the externalizing problems were measured by the "Aggressive Behaviour" (17 items) subscale. Sample items under the Anxious/Depressed subscale include "I feel that I have to be perfect" "I cry a lot." And sample items include "I destroy things belonging to others" "I physically attack people" under the Aggressive Behaviour subscale.[1] Each item was rated on a three-point Likert scale (0 = *"Not True,"* 1 = *"Somewhat or sometimes true,"* 2 = *"Very True or Often True"*). All ratings refer to symptoms or problems participants experienced during the past six months. The YSR questionnaire scores were calculated by the ASEBA-PC model, with higher scores indicating more anxiety and depression

[1] These YSR scale items have been reproduced by special permission of the Achenbach System of Empirically Based Assessment (ASEBA), Research Center for Children, Youth, & Families, One South Prospect Street, Burlington, VT 05401, USA, from the YSR mainland Chinese version 2001 by Thomas M. Achenbach, Ph.D., Copyright © 2010. Further reproduction is prohibited without permission from ASEBA, Inc.

issues and more aggressive behaviours.

In non-English-speaking eastern countries, such as Korea, Japan and China, the scale has been used in a wide variety of studies (Shin et al., 2016; Tanaka et al., 2014; Wang et al., 2005). Furthermore, in studies conducted in diverse cultures, including China, satisfactory psychometric properties have been shown (Ivanova et al., 2007; Leung et al., 2006; Suldo & Huebner, 2006; Wang et al., 2013). The two subscales that have been used in this study showed good reliability, with Cronbach's $\alpha$ = .82 for the Anxious/Depressed subscale and Cronbach's $\alpha$ = .81 for the Aggressive Behaviour subscale, respectively. In addition, to assess the factor structure of the anxious/depressed and aggressive behaviour subscale, factor analysis was used in this study. According to the results of the anxious/depressed subscale, the one-factor structure consisted of 13 items that accounted for 33.62% of the variance, while other factor structures accounted for 10% or lower. All items in the one-factor structure showed acceptable factor loadings, ranged from .34 to .70. Except item 29 showed the factor loading of .29. According to the results of the aggressive behaviour subscale, the one-factor structure included 17 items that explained 27.58% of the variance, and other factor structures explained 11% or lower. All items in the one-factor structure exhibited acceptable loadings between .34 to .67. Thus, for both subscales, the factor analysis supported the one-factor structure.

## Results

### Statistical Analyses

The assumption tests, descriptive statistics and bivariate correlational analyses were conducted using the IBM SPSS Statistics 26.0. By using Mplus Editor Version 8.0, CFA was carried out to examine the psychometric properties and construct validity of the hypothesized latent constructs; see CFA results under the method section. Moreover, the data were analyzed

using the structural equation modeling (SEM) in Mplus to evaluate the predicted mediating role of subjective well-being on the relationship between classroom climate and internalizing and externalizing problems.

## Tests of Assumptions

### *Normality*

The histograms, as well as skewness and kurtosis indices have been used to assess the data for normality. Previous research has established that data is generally considered normally distributed if the skewness value falls between -2 to 2, and the kurtosis value falls between -7 to 7 (Hair et al., 2010; Kline, 2016). The values of skewness ranged from -.892 to 1.999, and the absolute values of kurtosis ranged from -.655 to 4.849. According to the suggested skewness and kurtosis value, all variables in this study are within a reasonable range.

### *Univariate and Multivariate Outliers.*

Data were checked for univariate and multivariate outliers as well. First, Z-score was assessed to detect univariate outliers. Any z-score greater than 3.29 or less than -3.29 was classified as a univariate outlier (Tabachnick & Fidell, 2019). Based on the results of the Z-score, there are seven univariate outliers; all univariate outliers are detected under anxious/depressed and aggressive behaviour scales. Furthermore, Mahalanobis distances were applied to examine multivariate outliers. Compared with the chi-square distribution table at $p < .01$ and $df = 12$, any cases above 26.22 were detected as a multivariate outlier (Rousseeuw & van Zomeren, 1990). Seventeen multivariate outliers were detected. Statistical analysis was performed with and without outliers. There were nevertheless no discrepancies between the findings after the outliers were removed. The outliers were therefore included in the analyses.

### *Linearity*

To test the linearity, bivariate scatterplots were assessed between each predictor variable and dependent variable. Since scatterplots exhibiting oval to linear tended shape, linear relationships between variables were supported. Thus, the assumption of linear relationship was met.

### *Homoscedasticity*

The scatterplot of standardized residuals was tested to determine homoscedasticity. In the scatterplot, the x-axis was set as a standardized predicted value, and the y-axis was set as standardized residuals. Based on the randomly scattered residuals in the distribution, there is no clustering or regular shape in the scatterplot. Therefore, the data met the assumptions of homoscedasticity.

### *Multicollinearity and Singularity*

To test the assumption of multicollinearity and singularity, correlation matrix and VIF indices were checked. According to the findings of the analysis, this assumption was not violated. There were no multicollinearity problems with VIF scores ranging from 1.210 to 1.982 and tolerance scores ranging from .504 to .826, since VIF scores were far below 10 and tolerance scores were above 0.2 (Menard, 2002; Myers, 1990). In addition, the correlation matrix showed that there are no correlations between two variables that exceed 0.90 or equal to 1 (correlations ranged from -.276 to .632), suggesting that there are no multicollinearity and singularity symptoms.

## Descriptive Statistics

Table 2 provides the descriptive statistics of means, standard deviations, and bivariate correlations between each variable. The mean values of anxious/depressive symptoms ($M$ = .35,

**Table 2**

*Descriptive statistics, and Bivariate Coefficient Between Study Variables*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Student Cohesiveness | - | | | | | | | | | | | |
| 2. Teacher Support | .568** | - | | | | | | | | | | |
| 3. Involvement | .609** | .741** | - | | | | | | | | | |
| 4. Investigation | .596** | .644** | .825** | - | | | | | | | | |
| 5. Task Orientation | .526** | .578** | .670** | .686** | - | | | | | | | |
| 6. Cooperation | .648** | .642** | .748** | .710** | .650** | - | | | | | | |
| 7. Equity | .569** | .722** | .695** | .686** | .651** | .684** | - | | | | | |
| 8. Life Satisfaction | .523** | .517** | .508** | .513** | .496** | .571** | .573** | - | | | | |
| 9. Positive Affect | .469** | .396** | .504** | .460** | .437** | .539** | .494** | .586** | - | | | |
| 10. Negative Affect | -.320** | -.220** | -.333** | -.327** | -.298** | -.388** | -.310** | -.380** | -.269** | - | | |
| 11. Anxious/Depressed | -.407** | -.332** | -.391** | -.383** | -.351** | -.492** | -.410** | -.492** | -.389** | .547** | - | |
| 12. Aggressive Behaviour | -.369** | -.232** | -.321** | -.323** | -.344** | -.404** | -.340** | -.396** | -.276** | .434** | .745** | - |
| Mean | 3.77 | 3.80 | 3.53 | 3.39 | 4.19 | 3.73 | 3.91 | 3.98 | 3.52 | 1.86 | .35 | .23 |
| Standard Deviation | .73 | .88 | .83 | .87 | .63 | .81 | .97 | .91 | .95 | .79 | .36 | .26 |

*Note*. ** $p < .01$

*SD* = .36) were higher than that of aggressive behaviours externalizing (*M* = .23, *SD* = .26). A statistically significant correlation exists between each scale ($p < .01$).

Student cohesiveness, teacher support, involvement, investigation, task orientation, cooperation, and equity were observed to be positively correlated with life satisfaction and positive affect. In comparison to that, negative affect, anxious/depressive problems, and aggressive behaviours were associated with student cohesiveness, teacher support, involvement, investigation, task orientation, cooperation, and equity negatively. Moreover, life satisfaction and positive affect were negatively related to anxious/depressive problems and aggressive behaviours. On the other hand, negative affect positively correlated with both anxious/depressive problems and aggressive behaviours. Also, there is a positive association between anxious/depressive problems and aggressive behaviours.

**The Mediation Model**

To assess the predicted mediating effect of subjective well-being on the relationship between classroom climate and anxious/depressive problems and aggressive behaviours, the structural equation modelling (SEM) in Mplus 8.0 was applied to analyze the data.

The mediation model in this study had an acceptable fit to data, $\chi 2$ (50) = 177.15, $p < .001$; RMSEA [90% CI] = .09 [.08, .11]; CFI = .95; TLI = 0.93; SRMR = .05. Figure 2 provides the mediation model in this study. Solid lines indicate statistically significant paths ($p < .001$). Note that the statistics described in this section refer to standardized beta coefficients.

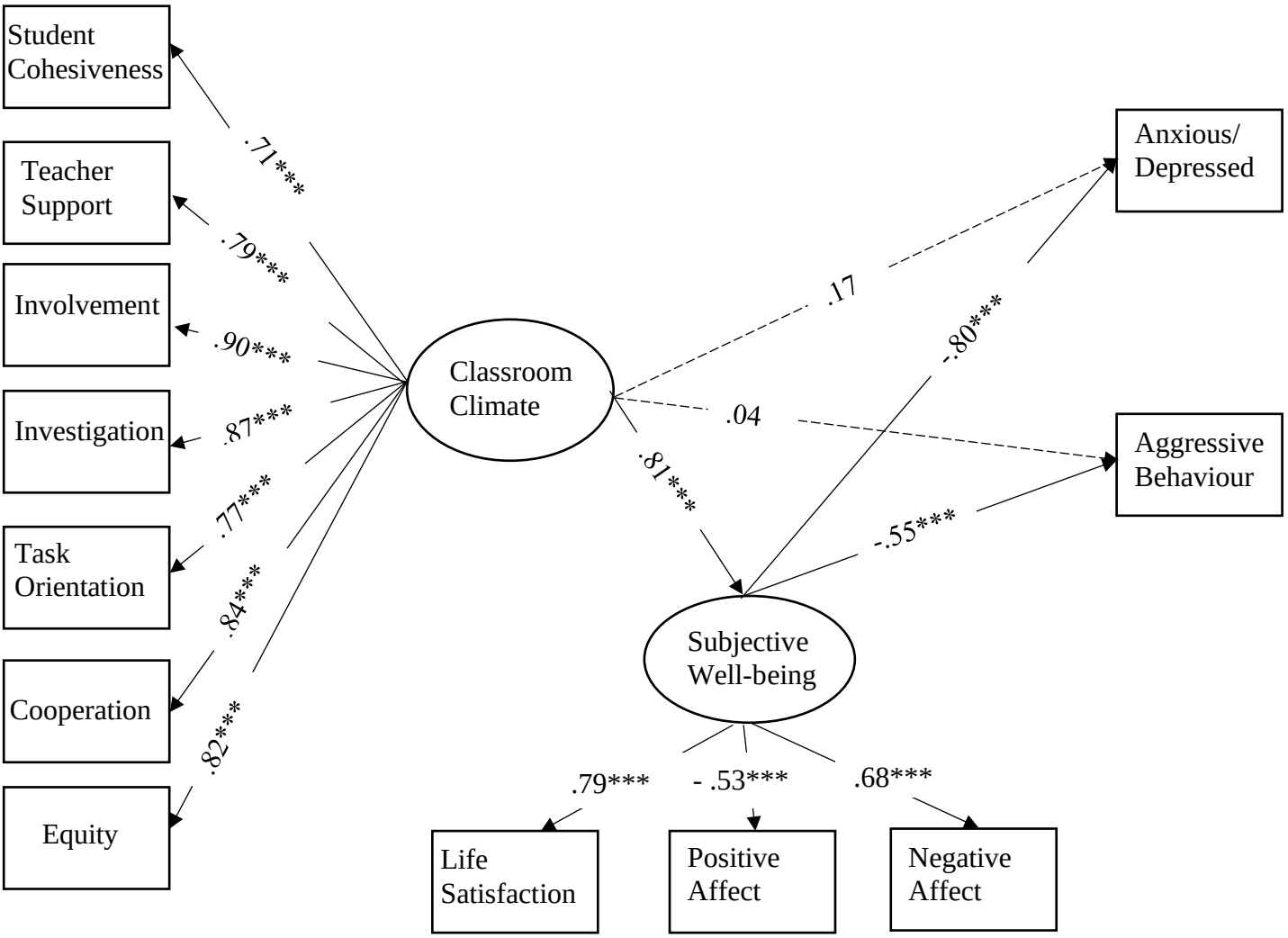
As displayed in Figure 2, the effect of classroom climate on subjective well-being is a significant positive effect (β = .81, 95% CI [.74, .88], $p < .001$). Accordingly, a more positive classroom climate is associated with increased levels of subjective well-being. Likewise, there is a significant negative effect of subjective well-being on anxious/depressive problems (β = -.80,

95% CI [-1.10, -.49], $p < .001$), and aggressive behaviours (β = -.55, 95% CI [-.83, -.26], $p < .001$), with higher levels subjective well-being correlated with less reports of anxious/depressive problems and aggressive behaviours.

Furthermore, when subjective well-being is not a mediator of the relationship between classroom climate and anxious/depressive problems and aggressive behaviours, there is a significant negative association between classroom climate and anxious/depressive problems (β = -.48, 95% CI [-.57, -.39], $p < .001$), and aggressive behaviour (β = -.40, 95% CI [-.50, -.30], $p < .001$). Additionally, there is an indirect effect of subjective well-being on the association between classroom climate and anxious/depressive problems (β = -.65, 95% CI [-.93, -.37], $p < .001$), and aggressive behaviours (β = -.44, 95% CI [-.70, -.19], $p < .001$). Regarding that the 95 % CI [-.93, -.37] and [-.70, -.19] do not contain 0, it can be concluded that these two indirect effects are statistically significant. However, after controlling for subjective well-being, results show that classroom climate no longer affect either anxious/depressive problems (β = .17, 95%, CI [-.09, .32], $p = .27$), or aggressive behaviours (β = .04, 95% CI [-.12, .16], $p = .76$). According to these findings, subjective well-being fully mediates the relationship between classroom climate and both internalizing and externalizing problems.

**Figure 2**

*Mediation Model of Classroom Climate, Subjective Well-Being, and Anxious/Depressed (Internalizing Problems), Aggressive Behaviour (Externalizing Problems)*




*Note*. ***$p < .001$

## Discussion

This study focused on the relationship between Chinese elementary school students' perceived classroom climate, their self-reported subjective well-being, and their

anxious/depressive symptoms (internalizing problems), and aggressive behaviours (externalizing problems); as well as explored the mediating role of subjective well-being in this context. Accordingly, this study addressed three main hypotheses. (H1) Students perceived classroom climate would be negatively associated with anxious/depressive symptoms and aggressive behaviours. (H2) Students' self-reported subjective well-being would be negatively related to their anxious/depressive symptoms and aggressive behaviours. (H3) Students' self-reported subjective well-being would play a mediation role between perceived classroom climate and their experience of anxious/depressive symptoms and aggressive behaviours.

Results from the SEM analysis supported all three hypotheses. In the current study, Chinese elementary school students perceived positive classroom climate were associated with lower levels of both anxious/depressed symptoms and aggressive behaviours (H1). Students who reported a positive climate were more likely to be anxious, depressed, or aggressive. This argument is consistent with existing studies conducted in Western societies (Collins et al., 2017; Estévez et al., 2018; Miller-Lewis et al., 2014; Thomas et al., 2011; Thomas & Bierman, 2006; Wang et al., 2013; Wit et al., 2011) and China (Duan et al., 2014; He et al., 2019; Jia et al., 2009; Lei et al., 2012; Liu & Lu, 2012; Ren et al., 2011; Zhang & Deng, 2013; Zhang et al., 2018); supports that the harmonious relationship between individuals and teachers, individuals and classmates is negatively associated with one's both anxious/depressed problems and aggressive behaviours. In addition, the present study enhanced these works by measuring classroom climate from seven perspectives: student cohesiveness, teacher support, involvement, investigation, task orientation, cooperation, and equity. It indicates that except for the interpersonal relationships and perceived support from the classroom, students' engagement in the class, their curiosity and desire to solve problems, their goals and plans for learning tasks, and their perceptions of

teachers' fairness all contribute to the formation of a complex classroom climate. These factors together influence an individual's experience of anxious/depressive emotion and aggressive behaviours. In general, this finding suggests that the classroom climate of the elementary school has a significant influence on Chinese students' both anxious/depressive problems and aggressive behaviours.

With respect to the second research hypothesis, it was found that a negative correlation exists between students' subjective well-being and their experience of anxious/depressive symptoms and aggressive behaviours (H2). In other words, students who reported higher levels of subjective well-being, as reflected in higher positive affect, higher life satisfaction, and lower negative affect, were less likely to report having anxious/depressive symptoms and aggressive issues. This finding is in accordance with prior Western research, which reported a significant association between subjective well-being and internalizing and externalizing problems (Bartels et al., 2013; Hamama & Arazi, 2012; Kim et al., 2007; Lyons et al., 2014; Valois et al., 2001, 2006). This finding also corresponds with limited research in China that one's decreased life satisfaction level was associated with increased depression (Zhao et al., 2019); and one's increased subjective well-being was correlated with decreased aggressive behaviours (Guo & Zhang, 2011). In addition to previous findings in China, the result of this study indicates that not just life satisfaction, negative affect, and positive affect as two essential components of subjective well-being are partly responsible for Chinese children's emotional and behavioural issues as well. Moreover, subjective well-being, which consists of positive affect, negative affect, and life satisfaction, is not only related to depressed emotions and aggressive behaviours, but also influencing students' anxious symptoms. Therefore, the second hypothesis is verified.

The most significant observation of the study is that subjective well-being fully mediated the relationship between classroom climate and both anxious/depressed symptoms and aggressive behaviours (H3). This finding suggests that besides classroom climate directly associated with students' anxious/depressed symptoms and aggressive behaviours, there is also a path through subjective well-being: Chinese students' greater perception of classroom climate significantly increased their sense of subjective well-being, which was, in turn, associated with lower levels of either anxious/depressed symptoms or aggressive behaviours. The two mediation paths will be explained severally.

In the first mediation path, the association between classroom climate and students' self-reported anxious and depressive problems was completely mediated by their self-reported subjective well-being. The mediating effect of subjective well-being is in line with those of previous studies. Research conducted in different cultural backgrounds have demonstrated that students' perception of better school and classroom environment predicts higher levels of life satisfaction and positive emotions (King & Datu, 2017; Lampropoulou, 2018; Reid & Smith, 2018; Steinmayr et al., 2018; Tan & Zeng, 2007; Zhou et al., 2014); those with higher subjective well-being were less likely to experience anxious and depressed issues (Bartels et al., 2013; Sanjuán et al., 2011; Strine et al., 2009; Suldo & Huebner, 2006; Swami et al., 2007; Zhao et al., 2019).

In the second mediation path, subjective well-being was supported as a mediator of the effect of classroom climate on elementary school students' aggressive behaviours. This finding broadly supports the work of other studies in this area. For example, a number of existing studies point out that in the classroom, healthy and supportive teacher-student relationships, as well as friendly and inclusive interactions among classmates were linked to enhanced subjective well-

being (Blau et al., 2018; Guess & McCane-Bowling, 2013; He & Wei, 2015; Oberle et al., 2011; Tomé et al., 2014; Zhang et al., 2019). Furthermore, many studies examined an inverse relationship between subjective well-being and aggressive behaviours, the lower an individual's subjective well-being, the higher rates of exhibit aggressive behaviours (Donahue et al., 2014; Guo & Zhang, 2011; Hamama & Arazi, 2012; Kim et al., 2007; Shackman & Pollak, 2014; Valois et al., 2001, 2006).

As mentioned in the literature review (e.g., Gilbreath et al., 2011), the person-environment (P-E) fit theory may provide possible explanations. The central theme of the P-E fit theory is that the match between a person and the environment brings different consequences to the individual (Edwards et al., 1998). The more compatible a person is with the environment, the more desirable the developmental result. Moreover, students perform better when they are in their preferred classroom environment (Fraser & Fisher, 1983). The favourable classroom environment, such as good peer relations, adequate teacher support, equitable environment, active engagement, and clear goals, were more desired by students (Fisher & Fraser, 1983). Thus, when the classroom contains these strengths, students are more likely to experience a good interrelationship between them and the environment. As studies have shown, when individuals consider their environment to be aligned with their needs and preferences, they tend to report higher levels of life satisfaction and overall subjective well-being (Gilbreath et al., 2011; Jiang & Jiang, 2015).

Moreover, the mediation result could also be interpreted by the specific classroom setting in China. Unless a student transfers to another school or particular circumstances occur, children in China learn and communicate with the same classmates and teachers during their elementary school stages (Jiang, 2004). In addition, Chinese students, on average, spend more time in school

each day than students in Western countries (Hu, 2019). As a result, Chinese students are more likely to experience the more long-term cumulative effect of the constant classroom during the elementary school year. Then, their perceived classroom climate is more likely to influence their emotional and behavioural problems directly or through their perceived emotions and satisfaction with life.

Put together, the present study emphasizes the importance of not only a positive classroom climate, but also of higher levels of subjective well-being as a proctor for lower risks of experiencing anxious/depressed symptoms and aggressive behaviours among Chinese elementary school students.

**Strengths, Limitations and Further Studies**

There are several notable strengths of this work. The current study is one of the first that extends previous findings and investigates the mediation role of subjective well-being between the relationship of classroom climate and anxious/depressed issues as well as aggressive behaviours. Moreover, classroom climate was measured from multiple aspects compared with previous studies, which provides support and important clues for further exploring ways to foster a good school as well as classroom climate. Considering subjective well-being, this study assessed it from both affective and cognitive dimensions, contributing to the extant literature. In addition, this study is conducted on primary school students under Chinese cultural background, thus adding to the lack of research in Asia and potentially benefiting younger populations.

Despite the strengths demonstrated, there are some limitations in the current study. A significant limitation is that all of the participants were from the same elementary school. Since China is a vast and diversified country, the development of education is unbalanced. Due to geographical, economic, and political factors, individuals have unequal access to quality

education and academic achievements (Guo et al., 2019). Therefore, the results of this study may not be extended to schools in other regions of China with different demographic structures. In future work, it will be worthwhile to conduct studies that recruit student participants across different provinces in China.

Another limitation is that this study assessed students' anxious/depressed symptoms and aggressive behaviours solely by self-report approach. A self-report survey occasionally exhibits some response bias, such as reference-group effect and acquiescence bias. Hence, it might be necessary to integrate multiple other measures of internalizing and externalizing issues in future investigations, such as parent reports, peer reports, teacher evaluations, and clinical diagnosis. These methods could be combined to cross-validate the findings.

In addition, elementary school is a period of continuous development and transition for children in all aspects of life. Since this study only administered a questionnaire survey to students at one time point, the causal effect cannot be assessed through this cross-sectional study, and it is unable to assess the long-term effect of classroom climate on students as well. Appropriate follow-up and longitudinal research should be conducted in the future to investigate if a causal relationship exists among classroom climate, subjective well-being, and internalizing and externalizing problems.

Finally, this study was conducted exclusively within the Chinese cultural background. Based on the literature review, the findings of this study are likely to be replicated in Western cultures as well. And, given China's status as a representative Asian nation, it is possible that the study's findings will be extended to other parts of Asia. Future cross-culture studies on the current topic are therefore recommended to support the generalizability of current results.

## Practical Implications

The present study was designed to determine the effect of students' subjective well-being in the relationship between classroom climate and anxious/depressed and aggressive behaviour problems. The result obtained here may have implications for decreasing students' risks of experiencing internalizing and externalizing problems.

### *School*

Students spend the majority of their time at school, and it is one of the primary places for their socialization (Wentzel, 2015). Schools should provide students with enough space, various recreational equipment, and useful books to ensure that students have a healthy learning environment in which to meet their basic needs. Also, schools should make every effort to include mental health education that teaches students stress management techniques and effective interpersonal communication strategies for establishing positive teacher-student and peer relationships. Additionally, schools should provide cognitive interventions to assist students in correctly understanding themselves, self-regulating, and appropriately venting their stress. Moreover, the school should provide a counseling center dedicated to psychological support and counseling for students with severe internalizing and externalizing problems.

### *Classroom and Teacher*

This study found that a positive classroom environment, friendship and mutual assistance among classmates, positive support from the teacher, students setting their own goals in the classroom, and active participation in class activities all have a positive effect on students, demonstrating the importance of creating a harmonious classroom environment and healthy interpersonal relationships. Teachers should focus not only on classroom discipline and management, but also on treating all students equally, respecting the subjectivity of student development, encouraging students to engage with one another, and learn to cooperate to enrich

harmony between classmates. At the same time, the close contact between students also fosters mutual understanding, strengths students' friendships, and unifies the community. Furthermore, it is critical to consider diversity when organizing classroom activities and actively engaging each student, which benefits students, the class, and even the entire school.

According to some studies, when teachers publicly scold or punish students, it has a negative impact on their emotions and behaviour problems (Deb et al., 2017; NICHD Early Child Care Research Network, 2006). Therefore, a positive teacher-student relationship has a significant impact on students' sense of belonging to the school, and teachers play a critical role in emotionally supporting students (Crouch et al., 2014; Ibrahim & El Zaatari, 2020). Teachers should pay more attention to students' personal and emotional needs while still focusing on their academic progress, so that they can get along with students in a genuine and friendly manner; then, students can fully trust teachers and are willing to express their emotions with them and actively ask for their help when they experience difficulties.

***Positive Psychology Interventions***

As the mediator function was supported in this study, an emphasis on elevates one's subjective well-being will help to mitigate the negative influence of dissatisfactory classroom climate on students' internalizing and externalizing problems to some extent. Positive Psychology Interventions (PPIs) are programs, procedures, treatments, or events designed to promote positive emotions, behaviours, or cognitions as an effective intervention to enhance subjective well-being (Waters, 2011). Previous research suggests that PPIs with parental and teacher involvement have a substantial positive impact on primary and middle school students' subjective well-being (life satisfaction, negative affect, and positive affect) (Roth et al., 2017; Suldo et al., 2015). It is conceivable that parents are the first teachers of children in their life and

create a solid base for their healthy development. A healthy family environment benefits children educationally and has a great impact on children's psychosocial adaptation (Ceka & Murati, 2016; Luecken et al., 2013). At the same time, parents serve as direct role models for their children to imitate and learn from; their negative behaviours are linked to children's increased rates of internalizing and externalizing problems (Hurd et al., 2009). Therefore, children's sound subjective well-being does not depend only on the efforts of teachers and schools, parents also play a vital part in it. As previous studies suggested, with the use of PPIs, families and schools may collaborate to achieve optimal intervention outcomes for children in need (e.g., Roth et al., 2017).

## Conclusion

Internalizing and externalizing problems onset early in life often bring detrimental effects on children and predict a variety of adverse consequences in adulthood. The classroom climate and subjective well-being of children play important roles in children's internalizing and externalizing problems. The aim of the present research was to examine the association among these variables. This study has shown that in the Chinese cultural context, there is a connection between elementary school students' perceived positive classroom climate and lower rates of experiencing anxious/depressive symptoms (internalizing problems) and aggressive behaviours (externalizing problems). In addition, students improved subjective well-being was correlated with decreased self-reported anxious/depressive symptoms and aggressive behaviours. Specifically, this study added to the existing body of literature by demonstrating that students' subjective well-being can be regarded as a mediator of the influence of perceived classroom climate on anxious/depressive symptoms and aggressive behaviour experience. These findings providing information that educators and psychologists may use to decrease Chinese students'

risks of developing emotional and behavioural issues, boost students' subjective well-being, and cultivate a healthy classroom environment.

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