THE DEVELOPMENT OF ACADEMIC ENGAGEMENT AMONG YOUTH IN CHINA: MIGRANT STATUS AS A MODERATOR

A dissertation submitted by

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In partial fulfillment of the requirement for the degree of

Doctor of Philosophy

in

Child Study and Human Development

TUFTS UNIVERSITY

Medford, MA

May 2018

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Abstract

Based on an integrative framework of motivational theories, the present study investigates the development of academic engagement among a nationally representative sample of early adolescents in China (N = 1136; 49.34% girls; average age at Wave 1 is 11.51 years, SD = .57 years). Specifically, using latent growth curve models and multi-group structural equation analysis, the present study examines how migrant status contributes to different developmental patterns of academic engagement. In addition, using longitudinal mediation models, I explore the extent to which caregiver involvement in education is associated with students' academic self-concept to promote academic engagement, and how such associations are moderated by migrant status. I find that the developmental trajectories of academic engagement are moderated by students' migrant status. Moreover, migrant status moderates the associations among caregiver involvement, academic self-concept, and academic engagement. Compared to migrant and urban youths, left-behind youths and status rural youths experience significantly lower but more stable academic engagement over time. Furthermore, caregiver involvement is less likely to predict academic self-concept and academic engagement among left-behind youths and status rural youths than other migrant groups. This research provided empirical insights into the underlying processes of academic engagement among Chinese adolescents and the roles of migrant status. Research and policy implications are discussed.

Keywords: Academic engagement, caregiver involvement, academic self-concept, Chinese youth, migrant status

Acknowledgments

I would like to express my sincere gratitude to my advisor, Prof. Calvin Gidney III, for his continuous support of my dissertation. His guidance has made my doctoral career a thoughtful and rewarding journey. I would also like to thank my dissertation committee of Tama Leventhal and David Osher for their thoughtful advice as I moved from an idea to a completed study. I would like to give my special thanks to my committee member Jon Zaff, who dedicated much of his time to guide me through the academic world with his passion and enthusiasm. He has been a mentor, colleague, and friend.

I would like to thank my family for their unconditional support. It has been a great pleasure to discuss my research hypotheses and findings with my family and hear their opinion on these important topics. I would never be able to complete the journey without their understanding and encouragement.

During data analysis, Alice Donlan and Sara Johnson provided great advice and insights. I would also like to thank all my colleagues in Center for Promise for helping me polish and improve my dissertation and presentation. Finally, I would like to thank colleagues in the Institute of Social Science Survey at Peking University in China. Their efforts in collecting nationally representative, longitudinal data on Chinese family ultimately made this dissertation possible.

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CHAPTER 1: PROBLEM STATEMENT

"If you want to build a ship, don't drum up the men to gather wood, divide the work, and give orders. Instead, teach them to yearn for the vast and endless sea."

— Antoine de Saint-Exupéry

Gansu, China[1] - August 26, 2015, is the first school day of the 2015-2016 academic year. Weiwei, age 15, did not show up at school. Instead, he was quietly sitting in the front yard, not knowing what to do next. No one teaches him what to look for in the future, and he has not been equipped with the necessary knowledge and skills to discover the path all by himself. Playing with him was his little sister, age 14, who was as confused as her brother.

Weiwei was born and raised in a small countryside village in Northeast China. When he turned four years old, he was taken care of by his grandparents throughout the year when his parents left their hometown for better opportunities and better-paying jobs; migrating from city to city. However, even with both of his parents working, they barely brought home enough income to cover daily expenses. As a result, poverty has been a continual challenge for Weiwei's family. Bringing home enough income was always an urgent need for the family,

[1] This case was first reported by Tencent public welfare report (Oct, 2015) on the status of left-behind child in China. Report can be found at http://gongyi.qq.com/original/exist/notgotoschool.html

and Weiwei was always left alone because all of the adults in the family were busy throughout the day.

Beginning from fifth grade, a thought emerged in Weiwei's mind, "I am tired of being in school and it does not give any help to my family." Indeed, from his perspective, the school was a boring place where classes were uninteresting, tedious, and sometimes tiresome. The hierarchical structure in the classroom was so strict that any voice of the student was not allowed. In addition, he did not feel the competence to perform well in school and rarely experienced a sense of accomplishment there. Moreover, what comes next after graduation? He had no clue. He understood that it takes many years to graduate from high school, which meant many more years of investment in money and time instead of bringing home income. Teachers in school were not helpful. Because of the lack of professional teachers in rural schools, substitute teachers always served as the lead teacher in class and were required to teach any courses upon request. They were too preoccupied with the teaching tasks and were too unprepared with the knowledge and skills to provide the students with necessary emotional and social support. With no reasons to stay in school and no help, Weiwei made his own decision to quit.

Weiwei is on his way to a typical life circle that many others had. Most likely, he will become a young labor in the city. Like his parents, he will follow a family relative migrating to cities, looking for low-skills, low-paying jobs and sharing living space with many others. He will then marry someone who shares similar childhood experiences living in a poor, rural area. They will have children,

and their children will most likely continue the same path as their parents. There is no clear ladder for them to climb up to a better life.

Weiwei is one of 20-million “left-behind children” in China who are being looked after by a single parent, grandparents, a distant relative, or neighbor. For these children, at least one biological parent leaves for work in remote cities and is only able to visit home once every year. Due to lack of parenting and self-discipline, many left-behind children go astray and become disengaged from academic activities. Instead, they find themselves addicted to internet games, drugs, or gambling, which often leads to more serious crimes (Gao, Li, Kim, Congdon, Lau, & Griffiths, 2010). They drop out of secondary school at an early age because they do not perform well in school, do not like school, do not see the benefit of graduating from school, or most commonly, they experience a cumulative effect of all of the reasons that constitute the fundamental cause of dropout (Shi et al., 2015). Indeed, data suggest a dropout crisis in China, specifically among rural students, due to chronic disengagement in academic activities (e.g., Hannum & Park, 2007). For these students, chronic academic disengagement is indicated by being bored at school, having school avoidance, being academically distressed, and lacking hope for the future (Hannum, 2002). As the report indicates, an estimated 15% of students drop out of middle school, and over 60% drop out of high school in rural areas (Shi et al., 2015; Yi et al., 2012). The rural students’ lack of engagement with school is becoming a widespread social problem in China (Hanmun & Park, 2017).

The negative consequence may be particularly salient among young adolescents, because biological growth, psychological development, and expansions of social contexts become prominent during this age period (Eccles & Harold, 1993; Li, 2011). When adolescents develop an independent sense of identity, they need to maintain a connection to their parents or another caregiver to avoid possible disruption of their development (Steinberg, Mounts, Lamborn, & Dornbusch, 1991). Despite the extent of the crisis, little research in the academic engagement literature has specifically looked at early adolescence in China. Moreover, as important as secondary educational outcomes, there is a lack of empirical evidence on the development of academic engagement and what promotes academic engagement within the Chinese contexts.

The present dissertation seeks to investigate academic engagement among Chinese early adolescents. Specifically, I discuss the conceptualization of academic engagement, why academic engagement is important for adolescents, the development of academic engagement, the association between a lack of engagement and the risk of dropping out, and how theories are connecting the contextual and individual factors to the development of academic engagement. Because all development occurs in contexts, I review the developmental contexts in China, specifically the urban-rural disparities, and discuss how they may be related to different trajectories of academic engagement.

As an executive summary, the following sections will cover two major topics: 1. the educational contexts in China, and 2. The extant literature on academic engagement and how the educational contexts in China can shape our

understanding of the development of academic engagement. In the following section, I will start with the discussion on the former topic.

Educational Contexts in China

China has a culture that values the collectivist nature of authority, which has placed a great impact on children's development. In such a culture, Chinese parents, who always serve as the authority for their children, have a strong sense of responsibility in their children's education and they are willing to sacrifice for their children's education (Lam, Ho, & Wang, 2002). With the principle of total obedience to adults, the children are tied to a strict, controlling, and bureaucratic school system (Wang, 2009). However, according to a typical, traditional Chinese educational culture, adults expect their children's educational success, but such an expectation is enforced by authority rather than by providing a clear guidance. For example, the extent to which students may engage or not engage in academic activities has been widely neglected in China (Kim, 2005; Leung, Wong, Chen, & Tang, 2008; Liao, Lee, Roberts-Lewis, Hong, & Jiao, 2011; Hannum, Kong, & Zhang, 2009; Maslak, Kim, & McLoughlin, 2010; Zhai & Gao, 2009).

With the educational contexts in mind, there is a growing concern among researchers, government administrators, and the general public on the spatial disparities among Chinese adolescents, primary between rural and urban areas in China (e.g., Chen, Yang, & Ren, 2015; Yi et al., 2012; Xie & Zhou, 2014; Zhang & Kanbur, 2005). In fact, researchers suggest that the developmental context in China is mostly defined by the students' residential status, or the *Hukou* system (Yi et al., 2012; Xie & Zhou, 2014; Zhang & Kanbur, 2005). The *hukou*

classification system categorizes individual residents as either *rural* or *urban*. These two categories are difficult to transform and are associated with different quality of social welfare, such as access to public education or substitute for health insurance, which creates a great contextual disparity between rural and urban students (Afridi, Li, & Ren, 2015; Wu, 2013).

Compared to urban students, rural students are more likely to experience economic hardship, lack of discipline from adults, poor school environment and teacher quality, lower self-esteem, and other developmental barriers, all of which are creating a great obstacle for the adolescents to thrive (e.g., Gui, Berry, & Zheng, 2012; Jia & Tian, 2010; Qin & Albin, 2010; Xie & Pan, 2007). For example, by limiting rural residents' ability to move to urban areas and to access the resources that are shared by urban residents (e.g., public schools, health insurance, social security), the system is limiting the opportunity for rural students to achieve academic success in urban areas (Chen, Yang, & Ren, 2015). In addition, compared to children from urban areas, children from rural areas are more likely to experience lower family socioeconomic status, which leads to poor child care and less social capital (Heckman & Yi, 2012). Due to the lack of social supports, rural students are also more likely (vs. urban students) to experience low self-esteem and low expectation for the future, leading to lack of interests or active participation in school (Yi et al., 2012).

More importantly, in the past three decades, following the economic blooming in urban China, the population migrating from rural areas to large urban cities is rapidly growing (Statista, 2012, Wu, 2013). Several unique subgroups of

the rural children emerged as a result of the nationwide movements: *migrant children* who live with their migrant parents in urban area without an urban residential status, *left-behind children* who stay in rural areas while one or both of their parents migrated to other areas of the country, and *status rural children* who remain in rural areas with both of their parents. These unique subtypes of migrant status may lead the rural students onto different developmental trajectories (Wen & Lin, 2012).

In general, research suggests that children from rural areas are more likely to drop out of school, compared to urban students (e.g., Brown & Park, 2002; Shi et al., 2015; Yi et al., 2012). Much research points to a lack of engagement contributing to the decision of dropping out (e.g., Bama, 2010; Chen et al., 2015; Yi et al., 2012). For example, educational resources in China are limited and are given to students who show better standardized test scores and are therefore "proven" to be more likely to succeed in academics. Therefore, it is likely that academically poorly performing students and their parents perceive that their comparative advantage lies in the workforce, which draws their engagement away from school (Bama, 2010; Jiang & Dai, 2005). A recent qualitative study also found that students who are generally failing school tend to perceive failure in their studies by disliking a particular subject they were not doing well in, or even school itself (Yi et al., 2012). Spatial distinctions between students are a crucial factor in their academic success, yet to my best knowledge, little empirical evidence in the field of engagement has specifically looked at engagement among different migrant groups in the Chinese contexts. For example, what are the

developmental trajectories of academic engagement, what predicts academic engagement, and how the development of academic engagement is associated with the migrant status of the children are under-investigated. To better answer these questions, as a first step, I summarize the extant literature on academic engagement in the following section.

Academic Engagement: An Overview

Conceptually, academic engagement is a malleable construct that consists of behavioral, emotional, and cognitive aspects and can be shaped by the interaction between an individual and the context (Fall & Roberts, 2012; Skinner, Furrer, Marchand, & Kindermann, 2008). Students' academic engagement had been used by educational researchers to describe and understand students' dropping out of secondary education as well as to measure the effectiveness of school dropout intervention programs (e.g., Corno & Mandinach, 1983; McGarity & Butts, 1984; McWilliam, Trivette, & Dunst, 1985; Mosher & MacGowan, 1985). The concept of academic engagement was then adopted by psychologists to describe the active behavioral and psychological involvement of a student in her academic work (Appleton, Christenson, Kim, & Reschly, 2006). Academic engagement was then defined as the extent to which students are involved in, attached with, and committed to academic activities (Fredricks, Blumenfeld, & Paris, 2004; Li, 2011). This definition makes academic engagement an important construct for students' educational success.

The influence of academic engagement on academic success can be seen from the results of studies of the positive effects of school engagement and

negative effects of school disengagement. Recent studies in Western and Eastern countries have found that when students are engaged in school, they are more likely to be on and continue on a pathway to academic success (e.g., Lam et al., 2016; Maslak, Kim, & McLoughlin, 2010; Wang & Eccles, 2013). Student disengagement from school, on contrary, is found to predict academic problems such as underachievement, academic failure, and high dropout rates (e.g., Archambault, Janosz, Fallu, & Pagani, 2009; Fall & Roberts, 2012; Finn, 2006; Rumberger, 2011).

Unfortunately, from a developmental perspective, scholars have noted that children's engagement for learning in school tends to decrease continuously as they move through the school system, with striking losses during the transitions from elementary to middle school and from middle to high school (Skinner, Kindermann, Connell, & Wellborn, 2009; for a review, see Wigfield, Eccles, Schiefele, Roeser, & Davis-Kean, 2006). Based on Western samples, a substantial number of studies document the decline in student engagement and motivation during the elementary to middle school transition (for a review, see Eccles, 2004). For example, statistics show that, by high school, as many as half the student body in the U.S. becomes chronically and actively disengaged from school, not including those who have already left (Meece & Kurtz-Costes, 2001; McDermott, Mordell, & Stolzfus, 2001; Spencer, 2009; Steinberg, Brown, & Dornbusch, 1996; Ogbu, 2003).

Why do students tend to disengage from school on a continuous path? Many researchers offered explanations for the development of academic

engagement, providing insights into the troubling trends occurring during adolescence (e.g., Eccles & Midgley, 1989; Eccles & Roeser, 1999). For example, Eccles and colleagues (1983) proposed a model of expectancy-value theory, which emphasized that adolescents have developing needs as they grow older, and that schools often fail to provide developmentally appropriate practice to continually motivate students' interest and engagement (also see Wigfield, Eccles, Schiefele, Roeser, & Davis-Kean, 2006). Particularly, the large sizes and the controlling structure of public secondary schools are blamed for the decline in student motivation and achievement because they undermine the opportunities to establish close teacher-student relationships that benefit-the positive development of adolescence (e.g., Roeser, Eccles, & Sameroff, 1998; Wang, 2009). Furthermore, Eccles and Roeser (1999) noted how the school, as a hierarchically ordered organizational system, can fail students as it hinders students' developing needs for autonomy.

Disengagement from school has significant implications for concurrent psychological and behavioral well-being and for long-term development (Johnson, Crosnoe, & Elder, 2001). For instance, students who do not participate in school activity and who do not feel they belong are significantly more likely to engage in problem behavior and delinquency than those who actively participate (Crosnoe, Erickson, & Dornbusch, 2002). Moreover, a chronic pattern of disengagement is found to associate with high risks of dropping out (e.g., Rumberger, 2011), as research shows that most dropouts do not suddenly withdraw from school or stop attending. Many display patterns of poor attendance

and school failure that appear long before they withdraw from school (Center for Promise, 2015).

One of the theoretical and methodological gaps in the academic engagement literature is that most of the research reflects a deficit thinking, and there is a lack of work that focuses on promoting meaningful engagement (An, Hannum, & Sargent, 2007; Keating & Lerner, 2004; Pietarinen, Soini, & Pyhältö, 2014). Indeed, despite the possible stress associated with the mismatch between the restricted school structure and the increasing developmental needs among adolescents, adolescence is a period of time for young people to attain a more intentional, positive, goal-directed and self-regulating orientation (Keating & Lerner, 2004). Motivational theories suggest that it is during adolescence that students take a more active role responding to their contexts, developing a meta-cognitive process that helps them monitor their competences and needs, and making changes to their contexts in favor of their developmental needs (Fall & Roberts, 2012; Wang & Fredricks, 2014). During such a process, a connected and strong social relationship provides the necessary resources for adolescents to see themselves as active agents and to become fully engaged in academic activities (Center for Promise, 2015; Skinner et al., 2008).

In contrast to the large body of knowledge on academic engagement in Western countries, much remains unknown about the development of academic engagement among adolescents in China. Despite the many reports indicating the educational and developmental disparities among youth in China, most of them are descriptive, with few outcome variables (e.g., KPMG, 2010). For instance,

official government reports only present limited indicators regarding children's outcomes, such as physical health, school enrollment, and academic achievement, whereas social-emotional indicators and other subjective indicators – such as perceived social relationship, academic self-concept, engagement in academic activities, and sense of happiness – are absent (Yi et al., 2012). In addition, with the few studies that measured students' academic engagement, results are based on non-representative samples drawn only from a few regions and certain age groups (Lam et al., 2012; 2014). Moreover, to my best knowledge, no developmental theories regarding academic engagement are tested on this population, making the recommendations for intervention less generalizable and potentially less applicable.

The present study will address these gaps. First, using a longitudinal, nationally representative sample, I look at the developmental trajectories of academic engagement among Chinese adolescents, an area that has not yet been examined in China. In addition, I explore the extent to which caregiver involvement predicts positive development by examining the longitudinal associations among caregiver involvement, academic self-concept, academic engagement, and academic outcomes. Finally, I examine how students' migrant status moderates the development of academic engagement. In the next section, I will elaborate the purposes of the present study, focusing on three specific areas: 1. Exploring the developmental trajectories of academic engagement; 2. Assessing the extent to which caregiver involvement in education and students' academic self-concept; and 3. Examining students' migrant status as a moderator.

The Aim of this Study

In this dissertation, I aim to contribute to the academic engagement literature in three ways. First, I aim to explore how the developmental contexts in China may be associated with the development of academic engagement. Much is known about how academic engagement developed among adolescents in Western countries (e.g., Archambault et al., 2009; Lam et al., 2016; Wylie & Hodgen, 2012). Specifically, academic engagement is found to consistently decrease during secondary education, explained by the rapid change of developmental needs during early- to mid-adolescence and the misfit of contexts characterized by the strict and bureaucratic school structure (e.g., Eccles, 2004; Eccles & Roeser, 2009; Middleton & Midgley, 2002). However, the developmental contexts in China may be substantially different than what has been learned in the Western countries, and similar pattern may not exist among Chinese adolescents (e.g., Wen & Lin, 2012). Therefore, I aim to investigate how academic engagement develops in the Chinese contexts.

Second, based on an integrative framework of motivational theories (e.g., Wigfield et al., 2006; Ryan & Deci, 2000; Skinner et al., 2008) and also recognizing that family is one of the most important contextual factors that promote positive development (Bempechat & Shernoff, 2012; Rumberger, 2011), I aim to investigate how primary caregiver's involvement in education interacts with the individual strengths, defined as students' academic self-concept, to promote academic engagement over time.

There is a consensus that adolescence is a period of time for young people to attain a more intentional and positively goal-oriented development despite the contextual stress (Keating, 2004; Li, 2011). It is during adolescence that students become capable of using metacognitive skills to navigate the environment, seeking necessary support that can then be transferred into their internal strengths and perceptions about self (e.g., academic self-concept; Wigfield et al., 2006), and remaining meaningfully engaged in their own learning and in attaining their academic goals (Wang & Eccles, 2013). Through the process of interacting with the contexts in a productive, meaningful, and mutually beneficial way, students can become motivated and active participants in their learning (Overton, 2015). During this process, family, caregivers, in particular, serve as one of the most important contextual factors that promote positive development (Bempechat & Shernoff, 2012). Therefore, by investigating how caregiver involvement interacts with students' academic self-concept and academic engagement over time, I aim to gain a better understanding of how primary caregiver's involvement in education can serve as a leverage for the development of the young people in China.

Third, I aim to take a more in-depth investigation of the development of academic engagement among Chinese adolescents by investigating the moderating effect of youths' migrant status. As of concern to many researchers and practitioners, the large portion of internal migrant workers in modern China is creating huge social and educational challenges not only to the children but also to the larger society (e.g., Afridi et al., 2015; Chan & Buckingham, 2008).

Migrant status is also reported as a key factor predicting social stratifications (Yang, Huang, & Liu, 2014). Migrant status creates different lived experiences for the children and the youth (e.g., Wen & Lin, 2012). Particularly, as one of the most prominent contextual factors, caregivers of different migrant status may not always provide adequate support that meets adolescents' developmental needs, for example, their needs for autonomy (e.g., Cheung & Pomerantz, 2011). However, it is unclear how migrant status is associated with the development of academic engagement. Therefore, I aim to start the discussion by investigating the role of migrant status as a moderator.

Research Questions

As illustrated in the previous section, the current study aims to address several developmental questions. Using data from the China Family Panel Studies (CFPS), a nationally representative, biannual longitudinal survey of Chinese communities, families, and individuals, I planned to explore the development of academic engagement among youth in China.

Specifically, I ask the following research questions:

1. What is the developmental trajectory of academic engagement among Chinese young adolescents?

2. What are the longitudinal associations among caregiver involvement, academic self-concept, and academic engagement among youth in China?

3. How does migrant status moderate the development of academic engagement among youths in China?

In the next chapter, I will articulate theories and empirical evidence regarding the educational contexts in China, the development of academic engagement, and how engagement may be developed under the unique contexts in China. Research questions and corresponding hypotheses will also be discussed.

CHAPTER 2: LITERATURE REVIEW

Opening Statement

Despite the effort of the "modernization of education" over the past two decades in China, researchers found that secondary school students, especially those living in rural areas, are still dropping out at troubling rates (Shi et al., 2015). For example, recent reports stated that compared to over 90% of students from large cities in China attended senior high school, less than half of junior high school graduates in rural areas attended senior high school (Loyalka et al., 2013; Liu et al., 2013). Moreover, for those rural students who managed to attend senior high school, many of them dropped out at a later time. A recent study of Chinese rural students' secondary school dropout status found that an estimated 63% of rural students drop out of high school at a certain point of their education (Shi et al., 2015), compared to an average of 2.6% for urban students (Ministry of Education, 2006).

Researchers have discussed a large variety of ascendants of school dropouts, ranging from personal reasons (e.g., low expectation for academic success) to family-related reasons (e.g., financial hardship) to school-related reasons (e.g., low grades, poor school quality) (Li, Zhang, & An, 2013; Tang, Zhao, & Zhao, 2016; Yi et al., 2012). However, researchers recently argued that these reasons may not capture the lived experiences of the students. Instead, they suggested that a chronic disengagement from academic work was the converging factor influencing the decision to eventually drop out (Hannum & Adams, 2009; Wen & Lin, 2012). Indeed, in his early review of the research literature,

Rumberger suggested, “dropping out itself might be better viewed as a process of disengagement from school, perhaps for either academic or social reasons that culminate in the final act of leaving” (Rumberger, 1987, p. 11). According to his view, most dropouts do not suddenly withdraw from school or stop attending. Instead, many display patterns of poor attendance and school failure that appear long before they withdraw from school (Center for Promise, 2015). Based on findings from Western countries, as early as elementary school, some dropouts experience academic or social difficulties that may lead to further difficulties in middle and high school: they may have poor attendance and are struggling with getting along with fellow students and with adults in the school; they may become frustrated and unmotivated; they may lose interest in school and in learning; and they may develop poor views of themselves and their abilities which lead to the decision to quit school (Rumberger, 2011; Rumberger & Rotermund, 2012).

However, compared to the robust body of literature focusing on the contextual factors and academic outcomes of adolescents in China, less research has sought to identify developmental process of academic engagement in the Chinese contexts, i.e., under what conditions the contextual factors promote or hinder student engagement in academic activities (e.g., Hannum & Adams, 2007; Wang & Fredricks, 2014). Because elements of engagement are likely to play a significant role in educational outcomes and decisions about subsequent persistence in schooling, the concept is particularly relevant in the Chinese settings where early school-leaving remains problematic especially in rural areas (Shi et al., 2015). Similarly, the social and cultural environments that engage

children in academic activities are important topics of inquiry in settings where families and school operate under extreme contextual constraints (e.g., socio-economic constraints, residential constraints) over which they have little control (Hannum & Adams, 2007). Therefore, major gaps remain on how the unique developmental contexts in China may influence academic engagement among youth in China (Lam et al., 2012). The present study sought to address these gaps. To start the discussion, in the next section, I will discuss the unique contextual factors that are suggested to influence the development of academic engagement among youth in China.

Developmental Contexts in China

There is a set of ideologies, policies, and practices in China that can contribute to young people's development of academic engagement. These culturally salient factors set the contextual foundation to understand the development of adolescents within the contexts. Here, I focus on the *fit* between the contexts and the developmental needs, values, and expectations of adolescents (Eccles, 2004; Skinner et al., 2008).

For example, China is largely defined by its collective nature of authority and parents' valuing of education, which can fundamentally set an extrinsic force for adolescents to behaviorally engage in school (Bush & Qiang, 2000). In addition, China is widely criticized for its residential policy which divides the residents by their urban or rural status which leads to many inequality issues (Li & Ni, 2011). For instance, rural students are likely to experience many contextual disadvantages, including having limited access to better educational resources in

urban areas, living in low socioeconomic status, and experiencing low levels of social support. These disadvantages are not only impacting rural students' fulfillment of their needs for development, but also narrowing their values, expectations, and goals that are critical to their engagement in learning activities (Wigfield et al., 2006). To elaborate my discussion, in the following section, I will discuss the developmental contexts that are most salient to the development of academic engagement in China.

Traditional Culture in Education

Chinese traditional culture is in large part a product of its long history. Confucius, whose ideas remain powerful, was an influential teacher when most European countries were still primitive and North America was discretely populated (Bush & Qiang, 2000). Many of his precepts, including respect for authority, patriarchy, worshipping traditions and collectivist rather than individual values, are still reflected in the structure of schools and the wider society.

Wang and Mao (1996, p. 144) suggest that respect for authority in China "has deep connections with the rigid social stratification of the clan system in Chinese feudal society". Children are expected to comply with the requirements of adults without question. This expectation is closely linked with the concept of "filial piety", "which requires absolute obedience and complete devotion to parents" (Cleverley, 1991, p. 3). This ideology has implications in the modern education in China. For instance, parents value education and expect their children to accept their values unconditionally. Therefore, working hard and having good grades are considered to be important ways that children maintain a

good relationship with their parents (e.g., Leung et al., 2008; Zhai and Gao, 2009). Similarly, children are thought to understand their parents' expectations of them and study hard to make good grades to avoid or alleviate a guilty conscience and to avoid disgracing their parents (Kim, 2005).

The principle of total obedience to adults extended naturally from parents to teachers. Children are expected to "respect the teacher's authority without preconditions" (Wang & Mao, 1996, p. 148). Classroom discussions are not encouraged and are sometimes replaced by teacher-centered question-and-answer sessions, where teachers pressure students to agree with them (Li & Ni, 2011). Moreover, students are expected to work hard in school and get good grades, regardless of their psychological status in school (Kim, 2005). This stance clearly influences classroom activity where there is an emphasis on teaching, through lectures and demonstrations, rather than learning through discussion or generating questions.

The educational ideologies and practices in China are based on the premise that youth need specific guidance and directions to achieve future success. Some researchers suggest that the socioemotional relatedness between Chinese children and their parents might have facilitated internalizations of the demands of others and that children who did not have a choice might still feel autonomous (e.g., Bao & Lam, 2008). However, they also admit that autonomy is still important to the motivation of children and that the emphasis on obedience to authority and lack of attention to adolescents' socio-emotional development may lead to a decline of academic engagement over time (Skinner et al., 2008).

In addition to the broader educational ideologies and culture, there are unique contextual factors in China that are different across regions, primarily defined by the urban-rural segregation and the associated socio-economic disparities following the rapid social and economic change in urban cities (Chen et al., 2015; Wu, 2013). As one of the most prominent factors affecting child development in China, the residential classification system has shown a profound impact on school outcomes for generations and is thought to have an impact on the state and the development of academic engagement among the young people in China (e.g., Afridi et al., 2015; Wu, 2013).

The *Hukou* System Dividing Urban and Rural Residential Status

As one of the most important contextual factors affecting the development of multiple generations in China, the residential classification system, or the *hukou* system, has drawn many researchers' attention (e.g., Afridi et al., 2015; Wu, 2013). Established as the Chinese official household registration system, the *hukou* system categorizes individual residents as "non-agricultural residents" in urban areas or "agricultural residents" in rural areas. Under this system, every citizen is legally tied to his or her single permanent place of residence and the type of *hukou* and is consolidated into the family as a unit. In rare conditions, one's *hukou* status can be changed via higher educations or employment (e.g., when an employer sponsors the urban status of a rural *hukou* holder or a college provides a collective *hukou* registration). In most of the cases, the household's *hukou* status is inherited by the next generations regardless of where they are born and remain stable in their residence throughout their life (Afridi, et al., 2015). To

certain degrees, the *hukou* status, the subsequent educational attainment, and eventually employment opportunities for the next generation of the rural residents are determined by birth.

Such a classification system, arguably, creates as many social problems as benefits to the greater society especially to rural, school-aged children's development (e.g., Afridi et al., 2015; Wu, 2013). For example, based on different funding sources, the social welfare systems are different between rural and urban areas. Urban residents (particularly, employees of the government) receive benefits including subsidized housing, health insurance, education, and recreational activities from the central government (Lin, Cai, & Li, 1996). By contrast, equivalent benefits to rural residents were provided by their community associations or villages, which were usually of inferior quality and of highly varying reliability (Chen et al., 2015).

Indeed, the *hukou* system has been criticized since the installment, for posing barriers for residential and social mobility of rural residents, creating income inequality between rural and urban residents, imposing great disadvantages to the psychological, social, and educational development of rural children, and minimizing opportunities to succeed for rural residents (e.g., Afridi et al., 2015; Fan, 2008; Wu, 2013). One important domain of its direct impact is education, specified by secondary school enrollment and student engagement. For example, compared to their urban cohorts, children in rural areas are more likely to drop out of their secondary education and instead search for jobs because of the high cost of schooling. Many studies have addressed the continuing enrollment

disadvantages associated with rural residence and household poverty (e.g., Hannum & Park, 2007; Yi et al., 2015). A recent study also shows that compared to urban students, rural students are disadvantaged in their engagement with schooling (Wen & Lin, 2012).

Despite the rural-urban segregation imposed by the *hukou* system, China experienced rapid industrialization and urbanization in the last three decades (Wu, 2013). Following China's transition from a centralized economy to a market economy starting in the late 1970s, the number of people migrating in search of jobs surged after market reforms. In response to the increasing social problems related to the *hukou* restrictions, the system has been gradually reformed since the 1990s. As a temporary exemption to the restriction, the government issued "temporary urban residency permits" for migrant workers to work legally in cities. Since 2001, reform measures by various local governments have further weakened the system due to the overwhelming number of rural residents working in cities and their contribution to the urban economy (Wu, 2013). As of 2012, the number of migrant workers who left the countryside in search of jobs in cities reached 163.36 million, accounting for 12.6 percent of China's total population and over 60% of all rural workforce, as compared to less than 1% of China's total population in 1979 (Statista, 2012). Following this trend, several unique populations, defined by the children's migrant status, are becoming salient in China.

Extension of The *Hukou* System: Migrant Status of Children

The large number of migrant workers in recent years has created several unique child populations: *migrant children* who live with their migrant parents without an urban *hukou*, *left-behind children* who stay in rural areas while one or both of their parents are away from home, and *status rural children* who remain in rural areas with both of their parents. On the contrary, *status urban children* are children with an urban *hukou* who live with their parents. Compared to the large migrant population of rural residents, the need for migrating from urban cities is rare. Therefore, the discussion of urban migrant parents is beyond the scope of the current study. The following discussion will focus on the four typical types of population, specifically on how the family is influencing students' developmental and educational outcomes.

The implications of different migrant status are at least two-folded. First, children and family tend to have distinct socioeconomic status depending on their migrant status. They are entitled to different social welfare systems, earn different levels of income, and have different social relationships or social capitals. These macro-level differences may place substantially different impact on the development of the children (e.g., Afridi et al., 2015). Second, the primary caregivers, depending on their exposure to rapid social change in urban cities, may hold substantially different worldviews, beliefs in education, expectations, and parenting practices that influence the development of their children in many ways (Chen, Bian, Xin, Wang, & Silbereisen, 2010). Using urban children as a

comparison, I will elaborate the unique properties and experiences of the migrant children, left-behind children, and status rural children in the following section.

Migrant children. Along with their parents, migrant children leave their hometown and move to cities searching for better opportunities. However, the residential registration system places a strong contextual barrier to their development (Chan & Buckingham, 2008). For example, a recent study identified two major and persistent gaps between rural migrants and urban residents in large urban centers (Afridi et al., 2015): (1) labor market and occupational segregation. For example, employment in government offices and state-owned enterprises in the cities continued to be unavailable to rural migrant workers unless they converted to an urban *hukou*; and (2) lack of social insurance and social welfare benefits for rural migrant workers such as unemployment and health benefits. These gaps are forcing migrant workers to perform low paying jobs and live in crowded conditions in cities, making their children more likely to live in lower socio-economic status and with less social support than the local, urban children (Xiang, 2007).

In addition, as an important step to reduce the illiteracy rate of the nation, Chinese government provides subsidized public education up to 9th grade for its citizens. However, such subsidies are tied to the area of legal permanent residency. In most cities, non-local *hukou* holders are not able to enroll their children in local government-funded schools. They may either send their children to private schools for migrant workers, which usually hold inferior teaching qualities or other educational resources (Gui, Berry, & Zheng, 2012), or send

them to the local government-funded schools that have quotas for ‘guest’ students and pay the full tuition, which most migrant parents cannot afford (Afridi et al., 2015). As a result, their children are less likely to receive the same quality of education than their urban cohorts.

Even worse, migrant workers are frequently portrayed negatively in the social media. They are perceived as a threat to social stability and are often linked to the increase in crime rates in the cities (Wong, Fu, Li, & Song, 2007). They are also perceived as competing with unemployed urban residents who have been laid off from the state-owned enterprises (Davin, 2000). Such a hostility toward the migrant population has many negative influences on the migrant children. For example, research shows that migrant children experience increasing low self-esteem and loneliness as they grow. In addition, they tend to be the victim of bullying in and around school because of their residential status (Xie & Pan, 2007). The frustration derived from poor schooling experience can lead to early school failure, low self-esteem and subsequently problem behaviors such as absence and disruptive behavior. These problem behaviors, in turn, cause further school failure, lower self-esteem, and more frustration with school. Over time, the negative impacts accumulate and may cause academic disengagement and dropout (Finn, 1989).

It is worth noting that similar to the urban parents, migrant parents are exposed to the rapid social changes in urban cities, such as the import of Western technologies and individualistic values and ideologies in recent years (Zhang, Wang, & Fuligni, 2006). Accordingly, the traditional Chinese beliefs and norms

are shifting towards a market-oriented society which emphasizes individual initiative, active exploration, and personal values (Chen & Chen, 2010). Particularly, schools and organizations in urban China are creating opportunities for the young people to learn autonomous skills while they also encourage parents to appreciate the importance of children's socioemotional qualities and the role of effective communication in parent-child interaction in promoting children's socioemotional competence (Chen et al., 2011). Therefore, compared with rural caregivers, migrant parents are less likely to adhere to the traditional beliefs and values in their childrearing practices and are more likely to couple their involvement with care and autonomous support, which makes the childrearing effort more effective (e.g., Chen & Chen, 2010).

Children left behind. Children who are left behind in rural areas face many developmental challenges. For example, as much research stated, time is one of the most important resources that parents provide for their children (Thomson, Hanson, & McLanahan, 1994). Unlike children living with their parents, the biggest challenge faced by left-behind children is the absence of one or both parents. According to a recent report, there were more than 20 million children left behind in rural areas at the end of 2014 when their parents migrated to large cities for more opportunities, taking 14.52% of the total population of children (China Educational Report, 2015). Moreover, according to the 'White Paper on Left Behind Children' published by the Beijing Children's Mental Health Care Centre in 2015, half of the left-behind children, or ten million children in rural China go a full year without seeing their parents. As reported by

the All-China Women's Federation (2013), a majority of the left-behind children are left behind by both parents (46.74%), of which 32.67% are living with grandparents. In addition, 10.70% are living with other people (relatives or friends of their parents), and 3.37% are living on their own.

It is worth to note that the money that migrant parents send home may increase household income, which is essential for the living of their left-behind children. In addition, migration from rural to urban areas often leads to changes in worldviews, enhanced aspirations, and new perspectives on education (Toyota et al., 2007), thereby substantially broadening horizons for the whole family. However, how such worldviews or aspirations can be delivered to the children remained questionable (e.g., Ye & Pan, 2011).

Regardless of the potential benefits of income or ideologies, a consequence of parental migration is parental absence, which often has considerable social and emotional costs for the left-behind children from the lack of parental warmth, guidance, monitoring, and emotional support (e.g., Fan, Su, Gill, & Birmaher, 2010; Jia & Tian, 2010; Qin & Albin, 2010). Without the presence of parents, the quality time with the primary caregiver becomes essential to the positive development of the left-behind children (e.g., Wen & Lin, 2012). Unfortunately, grandparents, who are becoming primary guardians when parents are absent, usually have low literacy skills and limited mobility to educate and take care of children. In addition, grandparents tend to appreciate the Chinese traditional believes and norms in childrearing, which places a focus on controlling and power-assertive, and less affectionate to their children (e.g., Chao, 1994). Due

to these disadvantages in their developmental contexts, left-behind children are likely to experience educational failure, increased risky behaviors, psychological difficulties, physical safety problems, and other types of challenges in life, causing a disengagement from their education (Chen, Huang, Rozelle, Shi, & Zhang, 2009; Pan, 2014).

Moreover, as adults' attitudes, expectations, and involvement in their child's life may not be directed toward educational goals as much as economic gain from labor in cities, their children are likely to follow their parents' path and undervalue schooling (Li & Tsang, 2003). As the academic engagement framework suggests, academic engagement can be influenced by the individual's expectation of success and subjective valuing of the academic work (see Wigfield et al., 2006). If academic work is perceived inferior to accessing job markets at an early age, it is expected that students are less likely to engage in school than those who value schooling and perceive themselves as strong agents to perform well in academic work.

Status rural children. The benefit of status rural children is the presence of their parents. Connected parents can foster a warmth and supportive environment that promote positive development (e.g., Karcher, 2005). Moreover, parents also have the potentials to encourage decision making of their children (practicing what is known as *authoritative parenting style*) and are generally involved in their schooling (Liao et al., 2011; Hannum et al., 2009).

However, family household income and school accessibility are big challenges for the status rural children. Compared to urban students and children

with migrant parents, status rural children tend to have lower family socioeconomic status because the parents are less educated and the family does not earn enough income by farming in the village (Yi et al., 2012). Socioeconomic status, most commonly measured by *maternal education* and *household income,* is a powerful predictor of school achievement and dropout (e.g., Booth & Dunn, 2013). Parental education influences students' aspirations and educational support (e.g., help with homework), while family income provides resources to support their children's education, including access to better quality schools, after-school and summer school programs, and support for learning within the home (e.g., computers).

Moreover, similar to the left-behind family, rural parents are not exposed to the rapid social and economic change in urban cities. They tend to appreciate the Chinese traditional culture that endorses the use of high-power, controlling, directive, and restrictive parenting style (Chao, 1994; Chen & Chen, 2010). Unlike urban or migrant parents, the rural parents may be less sensitive to their children's feelings and more punishment-oriented in their interactions with children (Chen et al., 1998). These parenting practices have been found to be ineffective in promoting students' intrinsic motivation towards school (Cheung & Pomerantz, 2011).

Section Summary

Given the developmental contexts in China, children with a rural residential status are disadvantaged in many ways, whether they are migrant children, left-behind children, or status rural children. Children who migrate with

their parents face many institutional and cultural barriers, such as having limited access to education and to affordable health care. They are also likely to be discriminated against by the local residents and their children. As discussed, migrant children pay much higher stakes to receive the same quality of education, health insurance, and housing compared to their urban cohorts (Ding, 2012; Xiang, 2007). Left-behind children suffer from other problems such as the absence of parents and inadequate support from the primary caregiver. They also experience emotional difficulties, behavioral problems, and physical health problems (Chen et al., 2015). The status rural children tend to experience low family socioeconomic status and a lack of quality support parents, which hinder their values, goals, and expectations for their education. Moreover, from a dropout perspective, the value of schooling is not as prestige for youth experiencing multiple disadvantages, making them less likely to engage in academic activities and more likely to drop out.

Much research suggests that China has educational contexts that hinder the route of its adolescents to becoming autonomous, agentic adults (e.g., Hannum & Park, 2007; Lam, 2015; Wang, 2009). Moreover, the contexts place a large barrier to the development of rural students, especially of those who are left behind by their parents (Hannum & Park, 2007). However, this large body of research, although valuable to identify the causes of the disengagement and the dropout crisis among adolescents in China, overlooks the developmental process through which adolescents become engage or disengage with academic activities (Ryan & Deci, 2009). It is important to note that adolescence is a particularly valuable time

in which the acquisition of formal-operational reasoning facilitates the growth of metacognitive strategies for applying the concept of self to engaged actions over time (Larson, 2000). In this sense, adolescence is a time when young people seek relationships that influence how they feel about themselves (i.e., self-concept), and use their self-concept to fuel engaged actions in academic work (Appleton et al., 2008; Overton, 2015). In the following section, I will discuss the theoretical framework of the present study, focusing on the concept and the processes of academic engagement. I will also discuss how the framework is related to adolescents in the unique Chinese contexts.

Theoretical Framework of the Present Study

Engagement is defended as an inner quality of concentration and effort which consists of observable and non-observable indicators, such as the amount of *participation in academic work* (attendance, the amount of time spent on academic work), *interest in academic work,* and *enthusiasm for academic work* (e.g., Appleton et al., 2008; Li & Lerner, 2013; Wang & Degol, 2014). Because academic engagement can be identified from different perspectives such as behavioral participation and emotional involvement, to more thoroughly examine academic engagement from a holistic approach, research embraces the view that academic engagement is a multi-dimensional construct rather than a unidimensional construct (e.g., Fredricks et al., 2004; Furlong et al., 2003).

Aligned with the work that has been conducted in Western countries, a growing body of literature on engagement in China sees academic engagement as a multidimensional construct that at least consists of behavioral and emotional

components (e.g., Hannum & Park, 2007; Lam et al., 2012; 2016). Because elements of engagement are likely to play a significant role in decisions about subsequent persistence in schooling and academic achievement, the concept is particularly relevant in China where early school-leaving remains problematic, especially for students living in rural areas (Hannum & Park, 2007). However, there is little theoretical work conducted to understand the developmental processes of academic engagement among Chinese adolescents (Wang & Fredricks, 2014). In this section, I will discuss the definition and the theoretical conceptualization of academic engagement. Then, with a discussion of findings on the developmental trajectories of academic engagement and its relation to school dropout, I discuss early and recent theoretical frameworks on academic engagement that were primarily developed in Western countries. Finally, building off the contemporary theoretical framework, I propose an integrated model of academic engagement that is relevant to youth in China with a focus on children's migrant status.

The Definition of Academic Engagement

First conceptualized in the 1980's, students' academic engagement was mostly used by education researchers to describe and understand student boredom and alienation, as well as to measure the effectiveness of school education (e.g., Corno & Mandinach, 1983; McGarity & Butts, 1984; McWilliam, Trivette, & Dunst, 1985; Mosher & MacGowan, 1985). In a follow-up to his work on at-risk students and programs, Newmann (1992) developed a model of student engagement in academic work, which was defined as "the student's *psychological*

investment in, and *effort* directed toward learning, understanding, or mastering the knowledge, skills, or crafts that academic work is intended to promote" (Newmann, 1992, p. 12).

Newmann further suggested that engagement is related to but differs from academic motivation, which usually refers to a general desire or disposition to succeed in academic work and in the more specific tasks of school (e.g., Schunk, 1991). Conceivably a student can be motivated to perform well in a general sense without being engaged in the specific academic activities. Engagement in specific tasks may either precede or presume general motivation to succeed. By focusing on the extent to which students demonstrate an active interest, effort, and concentration in learning, engagement extends the contexts that help activate underlying motivation, and also to the conditions that may generate new motivation (Newmann, 1992).

Finally, Newmann posited that engagement in academic work is largely influenced by three major factors: "students' underlying *need for competence;* the extent to which students experience *membership* in the school; and the *authenticity* of the work they are asked to complete" (p. 17). In this sense, academic engagement has been conceptualized as an *activated motivation* (Newmann, 1992, p. 13; Ryan & Deci, 2009), a malleable construct that can be shaped by contexts (e.g., social supports) and an individual's characteristics (e.g., academic self-concept; Fall & Roberts, 2012; Wang & Eccles, 2013). This motivational approach became the prototype of the overarching framework of academic engagement (Fredricks, et al., 2004; Wang & Fredricks, 2014).

Building off Newmann's conceptual model, research to date suggests that academic engagement is indicated by multiple interlocking components, mostly behavioral, emotional, and cognitive components (Fredricks et al., 2004; Li & Lerner, 2013). In the following section, I will discuss the recent work of academic engagement defined by the three subsets. However, because different dimensions of academic engagement have not been systematically discussed in the Chinese empirical literature except for the evaluation of the psychometric constructs of academic engagement (e.g., Lam et al., 2014), knowledge accumulated from Western studies will be used to facilitate the discussion.

Conceptual Structure of Academic Engagement

Behavioral engagement. As the most commonly used dimension of academic engagement, behavioral engagement is widely defined in one of the three ways. The first definition entails conduct in school, such as behavioral involvement in educational activities (e.g., Finn, 1993) or the absence of disruptive behaviors (e.g., Archambault et al., 2009; Fall & Roberts, 2012; Wang & Eccles, 2013). The second definition refers to active involvement and attitudes in academic and learning tasks. Example indicators include persistence, concentration, attention, and participating in the class discussion (Appleton et al., 2006; Birch & Ladd, 1997; Pan & Zaff, 2017). A third definition involves participation in school-related activities and extracurricular activities such as athletics or school governance (Fredricks et al., 2004; Larson, 2000).

In general, these definitions do not make distinctions among various types of behavior, such as participation in academic and non-academic school activities,

as long as the behaviors take place in school. Moreover, instead of differentiating one aspect of behavioral engagement from another, recent research combines two or more of the definitions into a more integrated concept of general behavioral engagement. For example, Wang and Eccles (2013) defined behavioral engagement in their study as participation and task involvement in academic activities, which combined the participation and the involvement aspects discussed above. Similarly, Li and colleagues (2010) defined behavioral engagement as students' positive conduct in school and efforts in learning.

Behavioral engagement establishes the foundation for youth to acquire the necessary knowledge and skills for future success, as youth must actively participate in learning activities in order to learn (Fredricks et al., 2004). Research indicates that students who are failing school are dissatisfied with school, are disruptive in the classroom, have parents who are controlling, and have a family conflict which impairs their behavioral engagement (Mahatmya, Lohman, Matjasko, & Farb, 2012). With regard to the family, Simons-Morton and Chen (2009) found that adolescents who completed their homework with their parents had higher achievement scores than those who worked on their homework alone. Fall and Roberts (2012) also found that parental assistance with homework was positively associated with levels of engagement in school. Beyond the family, peers, teachers, and extracurricular activities can influence the development of behavioral engagement during adolescence. For instance, several studies suggest that peers are particularly influential on adolescents' day-to-day school activities such as doing homework and the effort put forth during class (Midgley & Urdan,

1995; Steinberg et al., 1996). Wang & Eccles (2013) found that middle-school student attendance was higher when their teachers created caring, well-structured classroom environments.

Behavioral engagement captures the very specific definition of engagement, i.e., students' energy in action. However, much research that focuses on behavioral engagement neglects the core of academic engagement, i.e., a positive and fulfilling experience in education that promotes meaningful learning (Pietarinen et al., 2014). With the awareness of the non-behavioral indicators of academic engagement, research begins to address the importance of non-behavioral perspectives, such as emotional and cognitive aspects of engagement in learning.

Emotional engagement. Emotional engagement is defined as a representation of students' emotional reactions to school, teachers, schoolmates, and learning (Stipek, 2002). These emotional reactions could include interest, happiness, stress, anxiety, and boredom towards learning activities and educational entities such as schools, peers, and teachers (Connell & Wellborn, 1991; Pietarinen et al., 2014; Ryan & Deci, 2000; Skinner et al., 2008; Wang & Eccles, 2013). In a more traditional way, some researchers assess emotional engagement by measuring their emotional reactions to the school, teachers, and/or peers (Fall & Roberts, 2012; King, 2015; Stipek, 2002). Some conceptualize it as identification with school (Lee, 2012; Voelkl, 1997). For example, Lee (2012) defines identification as a sense of belonging such as a feeling of being a part of

the school or conversely, feeling awkward and out of place, feeling like an outsider, or feeling lonely in school.

Emotional engagement is an important concept because it can contribute to further behavioral improvements in academic performance (Pietarinen et al., 2014; Skinner et al., 2008). A higher level of emotional engagement helps to retain students' interest and active involvement in academic pursuit. When a student does not feel safe at school, has negative feelings about teachers and classmates, or perceives learning as a boring activity, her behavioral participation in learning is likely to be diminished. Drawn from motivational theories, Li and Lerner (2013) found that positive emotions, which can be promoted by adequate supports from parents and teachers, are associated with an individual's establishment of learning strategies and the setting up of mastery goals (Fredricks et al., 2004; Li, 2010). The change of cognitive skills will subsequently lead to the individual's actions and promote his or her performance in academic tasks (Sedaghat, Abedin, Hejazi, & Hassanabadi, 2011).

Cognitive engagement. Cognitive engagement is typically defined as an individual's investment in learning, such as defining personal goals and applying strategies to learning (Appleton, et al., 2006; Greene, Miller, Crowson, Duke, & Akey, 2004). Research also defines cognitive engagement as how students pay attention in class and the extent to which students focus on their academic work (Reeve, 2012).

First, the educational literature stresses investment in learning as an indicator of cognitive engagement. This definition suggests a hierarchical

relationship among behavioral engagement, emotional engagement, and cognitive engagement. Each of these three is thought to range on a continuum of investment or commitment from the simple to the complex. For example, Appleton and colleagues (2006) define engagement in academic work as an "internal indicator, such as self-regulation, the relevance of schoolwork to future endeavors, the value of learning, and personal goals and autonomy" (p. 429). According to this definition, cognitive engagement that is built off students' behavioral and emotional engagement is more internalized than the other two aspects of engagement within a student.

Another set of definitions comes from the literature on learning and instruction, which involves the attention and focus in learning activities (Green, Liem, Martin, Colmar, Marsh, & McInerney, 2012; Pietarinen et al., 2014). This set of definitions highlights a psychological investment in learning, a desire to go beyond the requirements, and a preference for challenge (Connell & Wellborn, 1991; Karcher, 2008; Wang & Fredricks, 2013). For example, Karcher's (2008) conceptualization of cognitive engagement includes flexibility in problem-solving, preference for hard work, and positive coping in the face of failure.

According to definition, cognitive engagement is a "deep" level of engagement that keeps a student's focus on her academic work (Furlong et al., 2003). This type of engagement is important because it can transform one's interest and enthusiasm into focused and strategic behaviors by implementing high-level metacognitive operations on learning activities (Wigfield, 1994). A stronger commitment to school also facilitates more active and in-depth

participation in academic activities, which directly leads to better academic outcomes (Li & Lerner, 2013).

The three dimensions of academic engagement are theoretically related and interlocked with each other, loading on to a higher conceptual structure of general academic engagement (e.g., Li & Lerner, 2013). For simplicity and model parsimony, the present study will only focus on an aggregated measure of general academic engagement, leaving the discussion of the development of different dimensions of academic engagement to future studies.

Trajectory of Academic Engagement Over Early- to Mid-adolescence

Early adolescents must deal with school transitions at an age when they may also be experiencing rapid physical, social, and cognitive change (Barber & Olsen, 2003). As has been discussed, motivation and academic engagement are important predictors of student achievement (Fredricks et al., 2004). However, the secondary school environments characterized by restrictive rules, control, and discipline may hinder young adolescents' need to explore the environment as well as their individuality, which can undermine their positive orientation to learning in school and eventually affect their academic success (Eccles, 2004). Early adolescence is also a period of transition in social influence, where parenting influences on behavior tend to decline in importance while teacher and peer influences increase (Simons-Morton & Haynie, 2002). Given that academic engagement is malleable and is sensitive to changes in the contexts and the individual characteristics, academic engagement is likely to change during early adolescence accordingly. Looking at the factors that are associated with changes

in academic engagement may shed light on the understanding of what may contribute to different levels of student engagement in school and its role in student achievement.

Much of the research on student engagement in school has looked at students who were at the disengaged end of the spectrum. The question remains on whether there is, in fact, a uniform trajectory of disengagement culminating in dropping out; it is also asked whether a uniform trajectory of engagement exists (Wylie & Hodgen, 2012). For example, we may assume that a group of fifth-grade students who are comfortable in the school environment would also put energy into the work of learning. However, the environment may appear to be more comfortable to some students than to the others as they grow. Given that engagement is likely to change in response to the changing environment, there may be different trajectories of engagement among a larger population.

For decades, researchers have found an unsettling trend that students' engagement in learning tends to decrease as students proceed from elementary to middle school and to high school across many different cultures (e.g., Archambault et al., 2009; Eccles, 2004; Lam et al., 2014; Midgley, 2002). For example, after reviewing data from a New Zealand study on changes in student engagement between the ages of 10 and 16, Wylie and Hodgen (2012) found a general pattern that student engagement declined over this age period. More specifically, they found that students with high engagement levels by age 12 were most likely to maintain those levels. By contrast, students with moderate or low levels of engagement by age 12 were likely to continue on a pathway of

disengagement. In addition, Simons-Morton and Chen (2009) assessed school engagement among 2,453 six-graders and found a general pattern of decline in school engagement over a 40-month period. The same pattern was also reported in Archambault et al. (2009)'s study, in which they found that adolescents' age negatively predicted academic engagement. In a recent large-scale, cross-country study, Lam and colleagues (2016) found a decline in academic engagement among students from Grade 7 to Grade 9 across 12 countries, including China and the United States.

The decline of academic engagement is concerning for secondary education because a lack of engagement is found to be associated with increased chances of underperformance, more internal and external problems such as the involvement of deviant behaviors (e.g., Fredricks et al., 2004). One of the most severe outcomes of the lack of academic engagement is school dropout (Dupéré, Leventhal, Dion, Crosnoe, Archambault, & Janson, 2015; Rumberger, 2011). Indeed, recent findings suggest that the lack of engagement, especially when combining with other negative contextual factors such as ling in poverty or living in an unsafe neighborhood, is a robust predictor of academic failure and school incompletion (e.g., Rumberger, 2011; Fall & Roberts, 2012).

Why academic engagement tends to decline over time in young adolescents is not yet clear because longitudinal studies of student engagement in context are still rare (Wylie & Hodgen, 2012). However, theories such as stage-environment fit theory (e.g., Eccles & Midgley, 1989) and expectancy-value theory (e.g., Wigfield & Eccles, 2000) have pointed to the lack of fit between the

developmental contexts and youths' developmental needs and expectations. For example, although young adolescence is characterized as a period of increasing needs for a sense of competence, autonomy, and relatedness, current social environments are not satisfying these developmental needs (Wang & Eccles, 2012; Wigfield et al., 2006). The possible sources of this lack of fit include limited opportunities for student autonomy and decision-making, less caring and supportive teacher-student relationships, poor parent-child relationships, and increases in teacher and parent control, social comparison, and competition (Roeser, Eccles, & Sameroff, 1998; Wang, 2009). The general decline of academic engagement could reflect an increasing lack of fit between the youth's stage of development and the opportunities provided in their school environments as suggested by stage-environment fit theory (Eccles et al., 1993). In the next sections, I will discuss early theoretical frameworks that looked at the process of academic engagement in the context of school dropout. I will then summarize more recent theoretical work that discussed the development of academic engagement.

Early Work Centralizing Academic Engagement in the Context of School Dropout

Researchers in early years who looked at student engagement in the context of school dropout suggested that early school incompletion was a function of school disengagement (e.g., Finn, 1989; Tinto, 1987). Specifically, academic engagement (and disengagement) was conceptualized in the 1980s as a way to understand and reduce student boredom, alienation, and dropping out (Finn &

Zimmer, 2012). Like other forms of educational outcomes, such as test scores and grades, dropping out of school is likely influenced by an array of factors, some immediately preceding departure from school and others occurring years earlier in middle and even elementary school. To better understand the process of school dropout, researchers proposed theoretical models where the concept of engagement emerged as a prominent factor that leads to the decision to quit school. These models differ with respect to the specific factors that are thought to exert the most influence on dropping out, such as characteristics and experiences of the students themselves or the characteristics and features of their environment—their families, their schools, and the communities where they live.

A series of proximal factors and distal factors are found to be associated with school dropouts. Proximal factors, such as attitudes and behaviors, were found to predict dropping out (e.g., Fall & Roberts, 2012). For example, Finn (1989) proposed a “frustration-self-esteem” model, which suggests that as the initial antecedent to school withdrawal, early school failure leads to low self-esteem and subsequently problem behaviors such as absence and disruptive behavior. These problem behaviors, in turn, cause further school failure, lower self-esteem, and more frustration with school. Over time, negative impacts accumulate and eventually reach a point where students either voluntarily quit school or are removed from school because of their conflicting history with the school. Such a theory states that a student who has lower educational and occupational aspirations tends to have a higher chance of dropping out.

The “frustration-self-esteem” model focuses on the emotional and cognitive aspects of engagement, as indicated by students’ self-esteem and educational aspirations. To add the discussion of behavioral indicators, Finn (1989) proposed another model known as the “participation-identification” model, which suggests that the initial trigger of dropping out is the lack of participation in school activities such as classroom discussion, homework, and extracurricular activities. With less participation, students’ school performance is impacted which leads to less identification with school and, further, less participation. This negative feedback loop is thought to lead to lower engagement and achievement in school and eventually result in quitting school. In sum, Finn’s models support the idea that dropping out is influenced by the lack of engagement in academic activities, either one or more of the behavioral, emotional, or cognitive aspects of engagement.

In addition to these proximal factors, a number of distal factors are found to be associated with dropping out such as students’ personal attributes including students’ values, expectations, and self-concepts, as well as social relationships. For example, Tinto (1987) proposed a sociological model focusing on the role of institutional influences on students’ adjustment and their decision to withdraw from school. Two separate dimensions of the institutional influences were discussed: a social dimension that facilitates the social integration of students to the institution and the value of schooling; and an academic dimension that contributes to students’ academic integration or engagement in learning. Both of the dimensions can be influenced by the structure of the institution.

Tinto's model suggests that personal attributes may affect the ways that students respond to different institutional situations or conditions. These personal attributes include cognitive abilities such as goals and motivation, and family background characteristics. Tinto's model also points to potential interactions between institutional factors and personal attributes. Positive elements can help students buffer the negative impact from critical challenges. For example, some students who are highly integrated into the academic system of the institution can buffer the insufficient integration of the social system and, remain in school. When the students' academic self-concept remains at a high level, they are not likely to drop out of school even when they experience poor social connection from the school. In this sense, dropout is the outcome of the co-occurrence of poor social integration and academic integration.

Tinto's model acknowledges the importance of the interaction between the institutional support and the needs of a student. More importantly, the model places a focus on individual strengths defined by expectations and self-concepts. However, critics point out that the model does not include all potentially relevant situations that may contribute to student withdrawal. For instance, structural constraints beyond school and students' capacity, such as insufficient social capital that may affect students' academic or social integration, are insufficiently discussed in the model (Dupéré et al., 2015).

These early models on academic engagement, although helpful to identify the key factors that lead to the decision of school dropout, fail to explain the connection between engagement and other types of academic outcomes, such as

academic performance, which is more salient to a larger population. More theoretical models, such as self-system model of motivation development (e.g., Appleton et al., 2006; Skiner et al., 2008), have been forwarded in recent years to conceptualize the developmental process of academic engagement and its relation with the contexts and outcomes.

Current Theoretical Frameworks of Academic Engagement

Building off of early conceptualization of academic engagement, the overarching framework of recent academic engagement theory follows a bioecological model that focuses on the dynamic interplay of individual characteristics and ecological factors (Bronfenbrenner & Morris, 1998). According to the ecological perspective, social relationships across key microsystems such as home and school are important for adolescence development. Specifically, development is a result of the reciprocal interactions between an individual and the greater ecology (Bronfenbrenner, 1989). These reciprocal cycles of mutual influence between environments and the individual result in continually evolving and mutually adaptive outcomes (Stokols, Lejano, & Hipp, 2013).

In addition, Pierson and Connell's (1992) motivational theories and Newmann's (1992) conceptual model of academic engagement built the foundation of the current theoretical framework for academic engagement. As a prominent motivational theory, self-determination theory (SDT; Ryan & Deci, 2000) provides an overarching framework to understand the role of academic engagement in a student's life for the recent theoretical models (Appleton et al.,

2008; Connell & Wellborn, 1991; Deci & Ryan, 1985; Eccles et al., 1993; Fall & Roberts, 2012; Ryan & Deci, 2000; Skinner et al., 2008; Wang & Eccles, 2013). Based on SDT, stage-environment fit theory (Eccles & Midgley, 1989) and expectancy-value theory (Wigfield & Eccles, 2000) conceptualize the development of academic engagement within a motivation framework. Furthermore, the motivational model of parental involvement (Gonzalez-DeHass, Willems, & Doan Holbein, 2005; Grolnick & Slowiaczek, 1994) specified the role of a unique and fundamental source of social support – parental involvement – on the development of academic engagement and academic outcomes.

Self-determination theory. Self-determination theory is an approach to human motivation and personality that uses traditional empirical methods while employing an organismic metatheory that highlights the importance of the evolved inner resources for personality development and behavioral self-regulation (Ryan, Kuhl, & Deci, 1997). Taking an inductive approach, Ryan and Deci (2000) identified three fundamental needs of adolescents: the needs for *competence*, *relatedness*, and *autonomy*. A satisfaction of these needs can lead to optimized developmental outcomes for adolescents.

Among the three fundamental needs, competence refers to the need to experience oneself as effective in one's interactions with the social environment (Dweck & Molden, 2005). A student's need for competence is fulfilled when she can see how to effectively achieve desired outcomes (Skinner et al., 2008). Relatedness refers to the need to experience oneself as connected to other people (Connell & Wellborn, 1991). Fulfillment of the need for relatedness is likely to

occur when other people, such as parents and teachers, create a caring and supportive environment. Finally, autonomy points to the extent to which individual experiences oneself as the source of action (Wang & Eccles, 2013). Autonomy can be supported by providing a student with choice in determining his or her own behavior (Assor, Kaplan, & Roth, 2002). These three needs are thought to be essential for facilitating optimal functioning of the natural propensities for growth and integration, as well as for constructive social development and personal well-being.

Stage-environment fit theory. Stage-environment fit theory extends the self-determination theory by placing an emphasis on the *fit* between the needs of early adolescents and the opportunities afforded them throughout the process of development (Eccles & Midgley, 1989). A good fit would help students stay engaged in their education, whereas a poor fit may result in a decline of motivation and engagement with school.

Eccles and colleagues acknowledge that youths' needs are not static throughout adolescence. Instead, their specific needs may change over time in response to their cognitive, social and emotional development (Eccles et al., 1993; Wigfield et al., 2006). Some negative changes may result from a mismatch between the needs of developing adolescents and the opportunities afforded to them in their various social environments.

According to the theory, adolescents' developmental outcomes partly result from the relationship between changes in the developmental needs of adolescents and changes in the social contexts in which they live (Eccles et al.,

1993; Eccles, Lord, & Roeser, 1996). Adolescents whose environments change in developmentally regressive ways are more likely to experience negative impacts on their engagement. In contrast, adolescents whose social environments effectively respond to their changing needs are more likely to experience positive outcomes of engagement. For example, considering that one of the salient developmental tasks confronting adolescents is establishing oneself as an autonomous being (Eccles et al., 1993; Smetana, 2000), it is not surprising to see the rise of stress and tension among family members if the need for autonomy is not adequately addressed and met.

Expectancy-value theory. Self-determination theory and stage-environment fit theory provide a foundation to understand the connection between social characteristics and students' academic engagement. However, these theories do not specifically lay out how the social-individual connection is developed. Expectancy-value theory provides a more detailed explanation for a mediational model that links social environment and performance through student motivational beliefs (e.g., academic self-concept) without placing too much of a focus on the fundamental needs of an adolescent (Wang & Eccles, 2013).

In addition, unlike self-determination theory which examines the fundamental (or innate) psychological needs as the basis for studying motivation, the expectancy-value theory does not build on such a premise (Wigfield & Eccles, 2000). Instead, the theory suggests that goal attainment is viewed as motivating as long as it bears utility, whether or not it actually satisfies an individual's innate psychological needs (Eccles et al., 1983). More specifically, achievement-related

choices such as academic engagement are influenced by the individual's expectation of success and subjective valuing of the academic work (see Wigfield et al., 2006). In other words, students who place higher value and have greater confidence in their academic abilities are more likely to engage in school than those who do not.

The expectancy-value theory also takes into consideration individual differences in the development of motivational beliefs. Various academic experiences provide students with information regarding their competency to finish academic tasks, their relatedness to adults and peers, and their autonomy as learners (Connell & Wellborn, 1991). This information accumulates to influence the development of confidence of academic work for the types of activities to which the student is exposed. These motivational beliefs, in turn, influence student engagement (Simpkins, Davis-Kean, & Eccles, 2006). In sum, Eccles' perspective views behavioral choices as ways in which individuals "validate" their identities, and that personal identity in a context determines behavioral choices (i.e. "motivated action").

A motivational model of parental involvement. Family plays an essential role in educational outcomes including academic engagement (e.g., Bempechat & Shernoff, 2012; Fall & Roberts, 2012; Wang & Eccles, 2013). Among various types of family elements, a robust body of research states parents as the single most important contributor to academic success (Bempechat & Shernoff, 2012; Rumberger, 2011). Defined as parents' commitment of resources to the academic arena of children's lives, parent involvement in school work (e.g.,

helping children in completing homework) has drawn researcher's attention since decades ago (Epstein, 1987). Building off motivational theories on academic engagement, a specific model – the motivational model of parental involvement (Grolnick & Slowiaczek, 1994) – was developed to discuss the role of parental involvement in their child's academic engagement.

Early in the 1970s, findings have noted the importance of family background factors, such as parent education, in predicting school achievement (e.g., Heyns, 1978). Moving from these findings, from the late 1980s to early 1990s, theories began to explore processes through which other family variables, such as parent involvement, might exert the effects of the background factors (Stevenson & Baker, 1987). Building off these early theories, Grolnick and Slowiaczek (1994) proposed the motivation model of parental involvement embedded in a larger motivation framework, highlighting the concept of "process" or "mechanism" through which parent involvement may be associated with school performance (Grolnick, Ryan, & Deci, 1991).

Drawing on motivation theories, Grolnick and Slowiaczek (1994) suggested a motivational pathway, in which children's motivational qualities – defined as students' perception of self (Patterson, 1986) - mediates the link from parent involvement to school performance. The central idea behind a motivational model of parental involvement is that parents' involvement enhances children's achievement because it provides children with the motivational resources (e.g., positive perceptions of academic competence) that foster children's engagement in school. For example, when parents are more involved in children's academic

lives, they may make children more familiar with school tasks, which may lead children to see themselves as competent in the academic arena (Grolnick & Slowiaczek, 1994). In addition, children feel good about themselves when they perceived that their parents care about them. Over time, children may internalize the value, expectation, and goals of their parents, so that their academic engagement is driven by intrinsic (e.g., enjoyment, personal importance, self-confidence) rather than extrinsic (e.g., avoidance of shame, rewards) forces (Pomerantz, Moorman, & Litwack, 2007). In summary, the theoretical model suggests that students' internal processes, defined as a sense of self, mediate the connection between parental involvement and academic engagement.

Academic Engagement in China: An Integrated Model

Researchers acknowledged that recent motivation models focusing on the development of engagement among adolescents lack the discussion of the heterogeneity of the samples (Teixeira, Carraca, Markland, Silva, & Ryan, 2012). Heterogeneity within samples with regard to factors such as age, gender, and socioeconomic status may be contributing to variability across studies. While general motivational patterns are likely to remain constant (e.g., academic self-concept mediates the connection between parental involvement and academic engagement), there may be much to learn by examining contextual differences that are specific to different demographic groups. In regard to Chinese adolescents, one of the most prominent factors that define the contexts is the children's migrant status, associated with varying quality of parental involvement

and family socioeconomic status that promotes or hinders youth's positive development (e.g., Ding, 2012; Xiang, 2007).

The Developmental Trajectories of Academic Engagement

As has been discussed, early- to mid-adolescence is a period when adolescents experience rapid psychological and physical changes that are associated with changes in their developmental needs. However, the developmental contexts in China are defined as strict and unconditional obedience to authority, which may undermine the positive development of academic engagement among Chinese youth.

It is worth to recognize that students' migrant status may play a moderating role on the trajectories of academic engagement. For example, compared to urban children, migrant children experience increasing contextual barriers that hinder the fulfillment of their developmental needs. Because their residential status, migrant students tend to receive lower economic support, have fewer social resources, and are more likely to receive negative reactions from their urban cohorts (Davin, 2000, Xie & Pan, 2007). As they grow and expand their horizon from family to the larger society, the misfit between their developmental needs and what the contexts provide may increase more rapidly than urban children, which can lead to a steeper decrease of academic engagement over time (Skinner et al., 2008). Compared to migrant students and rural students, those who live in rural areas with or without their parents may experience a chronic academic disengagement due to the pervasively low socio-economic status among rural residents. Because this contextual barrier is constant and is

relatively stable, the students' engagement level may remain consistently low over time.

Motivational model of caregiver involvement

For the young people whose biological parent is absent, much empirical evidence points to the primary caregiver as an important regulator in the family that shapes youth development (e.g., Bronfenbrenner, 1986; Chandra, Martin, Hawkins, & Richardson, 2010). Similarly, despite the fact that parents are absent for the left-behind students in rural China, there is still a primary caregiver, either a grandparent, a relative, or a family friend, along with other caregivers in the family who assume the role of parents and exert their resources to help the children thrive (Ye & Pan, 2011). These primary caregivers are able to and should play important roles in monitoring and regulating the students' attitudes and behaviors.

From a motivational perspective, research from the Western countries has found that the primary caregiver is able to provide adolescents with the necessary involvement in academic work to promote positive self-concept and academic engagement (Center for Promise, 2015; Wang & Eccles, 2013). Indeed, a recent study has suggested that academically involved caregivers are able to provide emotional, informational, and instrumental support to help their children overcome possible barriers in school and become more confident of their academic competence (Center for Promise, 2015).

However, the quality of caregiver involvement in their children's academic work may differ based on the children's migrant status (Xie & Pan,

2007). Specifically, as has been discussed, education is one of the few ways in which rural residents can break through the residential registration system. Therefore, living and working in the city without an urban residential status, parents of migrant children may place high hope on their children by expressing high levels of goals, values, and expectations on their children's education. In addition, research on Chinese parents has suggested that parents who experience more salience social change, i.e., those migrant parents and urban parents, are more likely than others to understand the importance of supportive parenting and encourage independence for children's development of competence and autonomous skills (Chen et al., 2010). Therefore, parents' involvement in education is likely to trigger the motivational pathway and promote children's engagement in general among those who live in the urban areas.

On the contrary, for those who live in the rural areas, the caregivers may provide different type and quality of involvement. For instance, grandparents who assume the role of parents usually have low literacy skills and limited mobility to educate and take care of the Left-behind children. Even if the grandparents take efforts to involve in children's academic life, they may lack the goals, expectations, and values that are relevant to the child (Xie & Pan, 2007). Similarly, because Status Rural parents are not exposed to the social changes happening in urban areas, they tend to hold the more traditional worldviews, aspirations, perspectives, and practices in education (Toyota et al., 2007; Yi et al., 2012), which leads them to the adoption of the more traditional parenting style which focuses on controlling and unconditional obedience. These controlling

childrearing styles may act as a barrier to facilitating a motivational pathway (e.g., Pomerantz et al., 2007).

Therefore, in addition to the theoretical associations among caregiver involvement, students' academic self-concept, and academic engagement, students' migrant status is hypothesized to moderate such associations given the unique educational contexts in China. Finally, taking together the discussions above and integrating self-determination theory, expectancy-value theory, and the motivational model of parental involvement, I constructed a conceptual model that focuses on caregiver involvement and the moderating role of the children's migrant status. The conceptual model for the present study is illustrated in Figure 1.

Research Hypotheses

Taking the discussion together, I made four specific hypotheses in response to the research questions that I raised earlier in Chapter 1. First, it is hypothesized that academic engagement tends to decrease from early- to mid-adolescence (Hypothesis 1), and that migrant status moderates the trajectory of academic engagement among Chinese youth (Hypothesis 2). Specifically, I expect to see that migrant students experience a steeper decrease in academic engagement than urban students. I also hypothesize that left-behind children and status rural children experience a consistently low engagement over time.

In addition, I hypothesize that caregiver involvement in education predicts academic engagement. In addition, students' motivational process, defined as one's academic self-concept, mediates the connection between caregiver

involvement and academic engagement (Hypothesis 3). I also expect moderation. I hypothesize that students' migrant status moderates the associations described in the motivational model of caregiver involvement (Hypothesis 4). Specifically, I expect to find significant associations among caregiver involvement, academic self-concept, and academic engagement among migrant children and urban children. However, such associations are expected to be weaker among left-behind children and status rural children.

The Present Study: Summary

As outlined above, the first goal of the present study was to discuss how academic engagement is relevant to Chinese young adolescents. I discussed the educational culture and practices that could impact the development of academic engagement among youth in China. In addition, I discussed the role of migrant status in children's secondary education that leads to the disengagement and the dropout crisis of rural students. Following this theme, with a focus on the developmental contexts in China, I elaborated on how the residential registration system is influencing the development of academic engagement among rural students, focusing on the *misfit* between the social contexts and the developmental needs of the student.

Then, with the conceptualization of academic engagement, I described a theoretically derived model of academic engagement by conceptually discussing the development of academic engagement; the precursors, the process, and the outcomes. According to the extant literature, academic engagement is a multi-dimensional construct that is mostly conceptualized as a combination of

behavioral, emotional, and cognitive engagement (Fredricks et al., 2004). From early- to mid-adolescence, students' academic engagement tends to decline because the academic environment appears to hinder their developmental needs. Additionally, students are at a higher risk of failing school if their engagement in academic activities continues to decrease. Integrating motivational theories and the unique characteristics of the Chinese contexts, I proposed a theoretical model that highlights the role of caregiver involvement in education and students' academic self-concept on academic engagement. This model also takes into account the moderating role of the students' migrant status. Specifically, with a focus on the family, the single most important contributor to academic success among adolescents (Bempechat & Shernoff, 2012; Rumberger, 2011), I elaborated on the significant role of the primary caregiver in promoting adolescents' positive self-concept and academic engagement. When a caregiver is involved in her child's education, the child can establish strong motivational beliefs about themselves and are engaged on a pathway to academic success (Wigfield et al., 2006).

Finally, Given the difference among students of varying migrant backgrounds, I expect to see differences in the development of academic engagement among children with different migrant statuses. I also acknowledge that caregiver's involvement in their children's education can be qualitatively different depending on the migrant status of the children. Therefore, I expected that students' migrant status would moderate the development of academic engagement.

In sum, the present dissertation seeks to develop and evaluate an academic engagement model among a nationally representative sample of Chinese adolescents. Specifically, four hypotheses will be tested in the present study: 1. Academic engagement decreases over early- to mid-adolescence among youth in China; 2. Compared to urban and migrant students, left-behind and rural students have lower levels of academic engagement; 3. Caregiver involvement in education predicts students' academic self-concept, which predicts subsequent academic engagement and academic outcomes; and 4) this relationship between caregiver involvement, self-concept, and academic engagement is moderated by students' migrant status.

CHAPTER 3

Research Method

Data Overview

The current research draws data from the China Family Panel Studies (CFPS). The CFPS is an ongoing, nationally representative, biannual, longitudinal survey of Chinese communities, families, and individuals. The survey was launched in 2010 by the Institute of Social Science Survey (ISSS) of Peking University, China. The CFPS is designed to collect individual-, family-, and community-level longitudinal data in contemporary China.

The adolescent subscale focuses on the economic, as well as the non-economic well-being of Chinese youth, with information covering such topics as individual strengths, family dynamics and relationships, migration, and educational outcomes. The CFPS offers post-stratification weights to adjust for nonresponse, under coverage, and representativeness along select variables, including gender, race, ethnicity, age, and case substantiation.

Participants

The sample for the current study consists of the Wave 1 (2010), Wave 2 (2012), and Wave 3 (2014) of data collection. A sub-sample of 1,058 participants aged from 11 to 12 years old (49.53% were girls) during Wave 1 were used in the analyses. In Wave 2, a sub-sample of data were collected from 1,033 participants aged from 13 to 14 years old (48.80% were girls). Data were collected from a sub-sample of 1,004 youth aged from 15 to 16 years old in Wave 3 (49.68% were girls). The longitudinal sample consists of 1,136 adolescents (49.34% girls) who

participated in at least two of the three waves of assessments. A total of 823 adolescents participated in all three waves of data collection. The mean age of participants in the longitudinal sample at Wave 1 was 11.51 years (*SD* = .57 years). About two third of the sample had a rural residential status (62.19%). The majority of the sample (88.29%) identified their ethnicity as *Han*.

Procedures

The CFPS research team employed 453 local interviewers, mainly from the sample neighborhoods. Each interviewer was in charge of two neighborhoods. The interviewers were divided into 14 groups and received a 6-day training at Peking University prior to Wave 1. A total of 438 interviewers passed the training and exams and became official interviewers.

The 2010 baseline survey covered a wide range of 25 provinces/autonomous regions, including 162 counties/districts and 649 communities. The following Waves of data collection were based on the families and communities surveyed at Wave 1, with a few additions to compensate for attrition. The survey season typically lasts for six months (April to September). The implementation was divided into two parts: the extensive survey during the survey season and some supplemental surveys based on the results of the former. To guarantee the efficiency and quality of the survey, a computer-assisted interviewing technology was adopted to assist interviewers in completing the questionnaire and managing interview data.

Household screening questionnaires were distributed to decide who was eligible to participate in the study prior to the data collection. About 2.46% of all

the eligible households refused to participate in the study after the screening process. Then, face-to-face interviews were conducted with the sampled household family members who lived in the sample communities. Family members who were elsewhere in the same county were also interviewed. For those who were not present at home at the time of the interview, basic information was collected from their family members. All family members who had blood/marital ties with the household were identified as permanent respondents and were followed in the subsequent Waves of data collection. More specific procedures about the research methods can be found in the technical reports on the CFPS official website[2] (CFPS, 2010).

Measures

Questions about youth and their families were asked in the survey, including sex, age, residential status, race/ethnicity, mother's education, and household income. In addition to the demographic measures, the present study utilized measures that pertain to assessment of caregiver involvement in education, academic self-concept, academic engagement, and academic outcomes of adolescents. Except for the caregiver involvement scale that was assessed from the caregiver's perspective, all other scales were directly asked to the adolescent participants.

Caregiver involvement in education. Four items developed for the research project were used to indicate the extent to which the caregivers cared for their children and provided the support and monitoring that they need. Parents

[2] http://www.isss.edu.cn/cfps/EN/

were asked to fill out this set of questions. If parents were absent, the primary caregiver who assumed the role of a parent was asked to fill out the questions. All items were rated on a five-point scale (1 = never to 5 = always), with examples including “I check my child’s homework.” and “I discuss what happened at school with the child.” The internal consistencies of the scale across the three Waves were .74, .71, and .73, respectively.

Academic self-concept. Three items developed for the project were used to measure students’ academic self-concept. They were “I am satisfied with my academic work.”, “I think I am an excellent student.”, and “I am very confident for my academic future” Items were rated on a five-point scale, ranging from 1 (not agree at all) to 5 (completely agree). The internal consistencies of the academic self-concept scale across three Waves were .62, .65, and .66, respectively.

Academic engagement. Eight items were developed to indicate the extent to which students were behaviorally, emotionally, and cognitively engaged in academic activities. Items were chosen from the most commonly used scales from the extant literature (Darr, 2012). All items were rated on a five-point scale (1 = never to 5 = always), with examples including “I follow the rules in school” and “I am happy with my school”. An aggregate by averaging scores from the three scales was used to indicate levels of academic engagement. The internal consistencies of the overall academic engagement scale across the three Waves were .73, .71, and .71, respectively.

While the alpha coefficients for the academic self-concept appear low, low internal consistency is not unexpected as the questionnaire includes heterogeneous facets of each factor. There are several reasons why the concern over these values is unwarranted. First, researchers have suggested that Cronbach's alpha is a lower bound estimate of reliability when items are not essentially tau-equivalent. Such equivalence exists when all items index the same latent construct in the same units of measurement, but possibly with differences in precision (Novick & Lewis, 1967; Raykov, 1997). In addition, previous research has shown moderate reliability for a six-item composite of academic self-concept (e.g., Cronbach's = .71; Anderman, Eccles, Yoon, Roeser, Wigfield, & Blumenfeld, 2001). More importantly, the reliability data for academic self-concept have been coupled with concurrent validity data involving college aspirations and academic performance (Chen et al., 2015).

Migrant status. Student's migrant status was computed by a logical selection from three variables: students' primary caregiver (parents, others), whether parents migrated to places other than the hometown (yes, no), and students' official residential status (rural, urban). Youth were labeled *migrant* if they were taken care of by their biological parents who migrated to cities, and their official residential status was rural (14.51% of the weighted sample). Similarly, youth were labeled *left behind* if they were taken care of by others such as grandparents or family relatives while they remained a rural status (14.25% of the weighted sample). Youth were *status rural* when they lived with their parents in the rural area and remained rural residential status (36.85% of the weighted

sample). *Status urban* were those who live with their parents in their urban home (33.82% of the weighted sample). In rare cases, urban youth might migrate with their parents or be left behind when one or both of their parents relocated to a different area (totaling .66% of the weighted sample). This population is beyond the discussion of the present study and will be therefore removed from further analysis. Table 1 listed the percentage of each migrant group in the weighted sample.

Self-reported academic outcomes. Students were asked to report their most recent final test scores in Chinese and in Math. Scores ranged from 0 to 150 and were not standardized across schools. In the present study, the final test score variables were recoded to 1 to 5 with higher scores corresponding to better grades.

Students were also asked if they are enrolled as a full-time student in school at Wave 3 to indicate students' dropout status (see Table 2). However, because the dropout rate was small across the three waves of data collection, additional analyses using dropout status as the dependent variable would be biased because of the skewed sample distribution. Therefore, I do not include school dropout as an outcome beyond the descriptive statistics reported in Table 2.

Demographic variables. At Wave 1, Youth were asked to indicate their sex, age, race/ethnicity and the biological mother's highest level of education. Their parents were asked to provide information about family SES, including family household income and the number of family friends. Maternal education ranged from illiterate (less than fifth grade) to 20 years (doctoral degree).

Due to the complexity of economic conditions, there were many questions about family income in the survey. A group of composite variables based on family income was created, including agricultural income, non-agricultural income, wage income, property income, transfer income, adjusted business income, and other income. Total income per capita was computed to represent the household income of the family. All family income questions were reported by parents or the primary caregiver. Table 3 shows the distribution of family income levels by migrant status.

Analysis Plan

Data analyses followed multiple steps. Because all measures were developed specifically for the project, factor analyses and measurement equivalence tests preceded all of the other steps of analysis. The second stage of data analysis focuses on examining the development of academic engagement, as well as how the development of academic engagement is associated with the children's migrant status using latent growth models. Adding contextual and individual factors with a focus on primary caregiver as a lever for engagement, longitudinal mediation models will then be applied to explore the directionality of the interrelationships between caregiver involvement, academic self-concept, and academic engagement. The extent to which such interrelationships predict academic outcomes simultaneously, such as test scores, will also be tested in the model. Finally, the children's migrant status was tested as a moderator on the model. All analyses will be conducted on a weighted sample to take into account the representativeness of each participant.

To account for the participants being sampled within neighborhoods, I will apply a robust maximum likelihood (MLR) estimator, which provides a more accurate estimation of the data than a traditional fixed-effect maximum likelihood estimator. Robust estimation is a technique that is commonly used to appropriately estimate standard errors in the presence of clustering. By empirically correcting variance-covariance estimates in the presence of clustering, MLR is assumed to be robust against moderate violations of assumptions, including unmodeled heterogeneity (e.g., Hox, Maas, & Brinkhuis, 2010). In particular, when member allocation is clear and the number of clusters is sufficiently large, such estimators have desirable properties as mixed effects models (Desai, Bryson, & Robinson, 2013). In their simulation work, Clarke and Wheaton (2007) reported that when there was a large number of groups ($ng \geq 200$), MLR provided as accurate and unbiased coefficient estimates as full multilevel models. In addition, investigating the neighborhood-level characteristics and their effects on the level-1 intercepts or slopes was beyond the scope of the present study. Therefore, I chose a more parsimonious, mixed effects model that controlled for neighborhood effects to estimate the long-term associations among caregiver involvement, academic self-concept, academic engagement, and academic outcomes.

Factor analyses and measurement equivalence tests. Because psychometric analyses are not the focus of the dissertation, most of the tests will be conducted prior to the body of analysis. Several steps of factor analysis will be undertaken. First, confirmatory factor analyses will be conducted with Wave 1

data to show the extent to which the variables (i.e., caregiver involvement, academic self-concept, behavioral engagement, emotional engagement, and cognitive engagement) are associated with the specific items chosen from the survey. Cross-group and longitudinal measurement equivalence are evaluated next. For both cross-group and longitudinal invariance testing, configural, metric (factor loading), scalar (intercept), and residual variance will be tested in a series of nested models (Chen, Sousa, & West, 2005; Widaman & Reise, 1997). Specifically, I will test the invariance of the factor structure across two genders and two migrant groups separately. Boys and girls or youth from rural or urban areas are treated as independent groups. For the longitudinal measurement equivalence test, a similar hierarchy of models is tested to examine the extent to which a similar measurement model is plausible across Wave 1 to Wave 3.

Several fit indices are used to assess the models, including the χ^2 goodness-of-fit statistics, Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI), and the Standardized Root Mean Square Residual (SRMR) (e.g., Blessing, 1995; Browne & Cudeck, 1993; Chen, 2007; Hoyle, 1995; Hu & Bentler, 1999). Generally, non-significant χ^2, RMSEA and SRMR values smaller than .08, and CFI values greater than .90 are indications of good model fit. However, the χ^2 is highly sensitive to sample size, especially when observations are greater than 200 (Hoe, 2008). Therefore, other fit indices can be considered when the model yields a significant χ^2.

Descriptive means comparisons. After factor analyses, I will conduct descriptive means comparisons on perceived social relationships, the three

components of academic engagement, and the academic outcomes between boys and girls, among the youth of different migrant status, and over time. These comparisons are intended as an illustrative, preliminary assessment of the differences of and changes in perceived social relations and academic engagement, followed by more rigorous latent growth curve and longitudinal mediation models. These analyses involve three primary comparisons: descriptions the mean levels of studied variables, comparisons of the means of these variables using repeated measures ANOVA and post-hoc Bonferroni tests, and computation of the Pearson production-moment correlations among the social relationship variables, academic engagement variables, and outcome variables.

Latent growth curve models: Modeling changes in academic engagement. Measurement invariance tests set the foundation for examining change in academic engagement between rural and urban students. The next goal of the dissertation is to describe trajectories of academic engagement and interindividual differences in the trajectories of academic engagement during the six adolescent years and to understand the extent to which the developmental context in China specified by its migrant separation contributes to the developmental trajectories of academic engagement. A latent growth model (LGM) will be tested to examine the developmental trajectories of academic engagement. The extent to which latent intercepts and slope predict academic performance will also be tested. Finally, multi-group analyses will be conducted to test how a change in academic engagement is moderated by students' migrant

status, controlling for the demographic variables such as age, gender, mother's education, and the family income.

Latent growth models have many advantages over traditional multilevel regression models. Although the basic growth model has the same specification in both frameworks (i.e., the incorporation of the factor "time"), LGM is more flexible than regression analysis in many aspects. For example, LGM integrates the factorial structure of repeated measures, which helps estimate coefficients for the level-1 residuals and provides more robust and precise estimates than the traditional regression method. In addition, LGM takes into account the missing values on predictor variables. Moreover, incorporating the growth model in a larger structural model helps to conduct further analysis such as multi-group analysis (Hox, Stoel, van Den Wittenboer, 2003). Outcome variables can also be tested as a function of latent intercept and slope simultaneously. Because LGM has many advantages that are relevant to the present data, LGM is chosen over regression for the analysis.

A univariate latent growth model assumes that all repeated measures are influenced by an underlying latent intercept and a latent slope, which are characterized by both a mean and a variance (Curran & Bollen, 2004). Significant variances for the intercept and slope factors indicate substantial individual variability in the levels of, and changes in, academic engagement. The factor loadings of the observed composite variables are fixed at 1 for each measurement point. The loadings for the linear change factor are fixed in ascending order (in this case, 0, 2, and 4 – representing the measurement years). Both intercept and

slope variance parameters are set to be random to account for any between-individual differences in the rate of change. The structural model can be illustrated by the following equations and is demonstrated in Figure 2.

Structural equations of growth (Level 1):

$$(AE_1) = 1\ (Int) + 0\ (Slope) + \delta_1$$

$$(AE_2) = 1\ (Int) + 2\ (Slope) + \delta_2$$

$$(AE_3) = 1\ (Int) + 4\ (Slope) + \delta_3$$

Intercept and slope defined by demographic variables (Level 2):

$$\eta(Int) = \alpha_1 + \gamma_{11}(\text{Sex}) + \gamma_{12}(\text{Age}) + \gamma_{13}(\text{MEd}) + \gamma_{14}(\text{Inc}) + \zeta_1$$

$$\eta(Slope) = \alpha_2 + \gamma_{21}(\text{Sex}) + \gamma_{22}(\text{Age}) + \gamma_{23}(\text{MEd}) + \gamma_{24}(\text{Inc}) + \zeta_2$$

Note: Int, intercepts; MEd, maternal education; Inc, household income level. Subscript numbers in the structural equations indicate waves of data collection.

Longitudinal mediation analysis. To answer research questions 2, I examine the extent to which caregiver involvement predicts levels of academic engagement, and how students' academic self-concept mediates this connection. The directionality of caregiver involvement and academic engagement will be assessed by applying longitudinal mediation analysis described by Little (2013). These models examine whether there are significant regression parameters between time-adjacent measures of caregiver involvement, academic self-concept, and academic engagement. The advantage of using longitudinal mediation analysis instead of cross-sectional mediation models is that with at least two occasions, it is possible to model the prior levels of a given variable in order to isolate the change variance (Cole & Maxwell, 2003). A series of nested models

will be assessed and compared by various overall model fit indices of these models to see if any statistically significant decrements in model fit relative to the baseline model existed, controlling for the covariates discussed above (See Figure 3).

The first model only included time-lag effects between time-adjacent measures of the same measure (e.g., caregiver involvement). In this model, a specific variable, at a given time, regresses onto its immediately preceding variable. The second model tests the goodness-of-fit of the hypothesized model, in which paths caregiver involvement and academic engagement are included. The third model tests the mediation effect of academic self-concept, adding paths to the second model. These three models are also compared against a model in which all paths are set to be freely estimated. At Wave 3, caregiver involvement, academic self-concept, and academic engagement are regression to academic outcomes, controlling for academic outcomes at Wave 1.

Finally, to answer research question 3, I adopt a multi-group analysis to examine migrant status as a moderator using Likelihood Ratio test (LR test, Bentler & Bonett, 1980; Bollen, 1989). The LR test is preferred over another well-known Wald test (Wald & Wolfowitz, 1943) because recent research suggests that the likelihood ratio test is more powerful than Wald test while testing the indirect effect in the multi-group analysis, with Type I error rate closer to the desired level (Ryu & Cheong, 2017).

In the LR test, a series of models with different restrictive constraints on the model parameters are tested. In this study, to determine whether parameters

on the latent growth vary by the students' migrant status, a structural path is made equal between the migrant groups for each of sub-model. Model fit indices (χ^2) are compared between the original model and the sub-models. Any significant difference in χ^2 indicates between-group difference on a specific parameter. In the longitudinal mediation models, a nested model was estimated with all the coefficients between time-adjacent measures of different measures were set to be equal across groups. Model fit statistics with the constrained model will be compared with the original model, and a significant difference will reject the equal hypothesis.

CHAPTER 4

Results

Because all items for the present study were developed specifically for the research project (CFPS), and no study has systematically examined the psychometric nature of these items, a preliminary analysis of the psychometric properties of the survey preceded all other analyses for the present study. First, longitudinal invariance confirmatory factor analyses (CFA) were conducted with the sample to determine measurement equivalence across different time points. Then, multiple group CFA was performed to confirm measurement invariance across subsamples based on participants' migrant status. Next, a descriptive analysis for each of the groups was presented, comparing the means across variables across the three time points. Finally, the proposed structural model was assessed and the differences of parameters among different migrant status groups were compared.

The CFPS panel data provided cross-sectional weights and panel weights for the nationally representative sample. The nationally representative sample weight is the combined resample weights of the five "large provinces" (Shanghai, Henan, Gansu, Liaoning, and Guangdong) and "small provinces" (other provinces among 25 provinces/cities/autonomous regions). Given the basic weights design, the CFPS research team calculated weights at all three levels of data—communities, families, and individuals. A post-stratification weights variable was provided, taking into account the structural biases of the sample due to the complexity of the sample design, the diversity in the field investigation, and the

non-response. Panel weights were used for the present longitudinal study to represent the changes in demographic distributions across waves and to adjust for cumulative panel attrition. For detailed calculation methods of the weights and the weighted analysis results of each CFPS data set, refer to CFPS Baseline Survey Weights Calculation (CFPS-17).9.Technical Reports (CFPS, 2012).

Treatment of Missing Data

Missing data patterns were first examined to determine the nature of missing data. A dummy variable was created for whether a participant has missing data at one time point of assessment. Demographic characteristics and survey variables in the remaining two waves were compared between participants with missing data and participants without missing data. Preliminary results indicated that there were no substantive differences between these two groups of participants. In addition, the primary reasons for attrition were 1) participants refusing to participate and 2) researchers losing contact with participants (private communication with a CFPS project member, Feb 2017). Therefore, for the present study, I based my analyses on the assumption that missing data were missing at random (Little & Rubin, 1989). In other words, I assumed that missing data were only related to other variables not included in the analysis, but were not related to the underlying values of caregiver involvement in education, academic self-concept, academic engagement, academic outcomes, or the demographic variables. Thus, missing data were accounted for using full information maximum likelihood in Mplus (FIML, Baraldi & Enders, 2010; Schafer & Graham, 2002).

Based on the results of preliminary data screening, bootstrapping methods were used to account for violations of the normal distribution assumption of SEM models (Pituch, Stapleton, & Kang, 2006). Bootstrapping is a procedure that approximates the sampling distribution of a statistic by repeatedly sampling from the observed data. This allows researchers to make statistical inferences without restricting a priori assumptions about the distribution of a given statistic and it can be used to account for violations of the normal distribution assumption of SEM models.

Measurement Equivalence Tests

A multigroup structural equation modeling approach was used to compare measurement invariance over the three time points of assessments. As has been noted by many researchers, tests of measurement invariance are important for group comparisons (Chen, 2007; Byrne & Watkins, 2003; Widaman & Reise, 1997). To test measurement invariance, a series of tests were performed in sequence to constrain additional sets of parameters to be equal across groups. First, confirmatory factor analysis was performed simultaneously across three time points (configural invariance). When good model fit was established, a series of nested models with equality constraints were assessed: factor loadings (metric invariance), item intercepts (scalar invariance), and item residuals (strict invariance).

The chi-square from a previous model with more parameters allowed to be unequal was compared with the chi-square from a model with an additional set of parameter constraints. Changes in χ^2 and other fit indices such as TLI and CFI

values among the nested models were evaluated. Because the change in χ^2 is highly sensitive to larger sample size, I adopted an alternative criterion to decide whether there were substantial differences between the nested models; that is, a cut point value of .10 for changes in between-model CFI and TLI values (Brown & Cudeck, 1993). A difference greater than .01 in CFI or TLI values indicates a substantive difference between the two models. Finally, as residual invariance is hard to meet in research, partial invariance, where some item residuals are invariant and some others are not, is defensible for the "full" invariance hypotheses (Byrne, Shavelson, & Muthen, 1989; Steenkamp & Baumgartner, 1998).

Measurement invariance across time. Equivalence across time was examined with the full sample. For longitudinal studies, researchers can use the survey to examine developmental trajectories only when this survey has been tested to be equivalent in psychometric properties across different periods of assessments. To access measurement invariance for the present study, factor loading invariance, metric invariance, scalar invariance, and residual invariance were examined across the three waves of data collection. Table 4 shows a summary of fit statistics for measurement invariance.

First, a baseline configural model was imposed with no constraints across the three time points using the proposed measurement model (Model 1). As shown in Table 1, the goodness of fit indices suggested an adequate fit for the baseline model; $\chi^2 = 367.81$, $df = 183$, $p < .001$; RMSEA = .03, TLI = .93, CFI = .95, SRMR = .04. The results suggest the viability of the factor structure of the

overall model and indicate that the measurement factors are adequately constructed for participants to take over time.

Then, equal factor loadings were constrained across the three time points (Model 2). Results showed that the difference between Model 2 and Model 1 was not significant, $\Delta\chi^2 = 7.27$, $\Delta df = 10$, $p > .05$. In addition, changes in CFI and TLI were no more than the cut point of .01 (Brown & Cudeck, 1993). These results indicated that the measurement model has equal factor loadings across different times of assessments.

An additional constraint of equal intercepts of observed variables was imposed across the three time points (Model 3). In this model, the difference test of χ^2 was insignificant, $\Delta\chi^2 = 23.50$, $\Delta df = 15$, $p > .05$. In addition, changes in CFI and TLI were less than the cutoff point of .01, indicating that the model adequately represented the data, and intercepts were consistent across time. The results also indicate that the statistical means across the three time points are comparable.

Finally, I examined whether the residual invariance holds in the model across different times. An additional constraint of equal structural residuals across the three time points was imposed (Model 4a). Results showed significant differences between Model 4a and Model 3, $\Delta\chi^2 = 106.28$, $\Delta df = 15$, $p < .01$. Changes in CFI and TLI also exceeded the cut point of .01, suggesting a substantial difference between Model 4a and Model 3. However, research has stated that differences in vocabulary, idioms, grammar, syntax, and the common experiences of different groups may produce varying measurement errors.

Therefore, strict residual invariance is not always accessible in research and partially strict invariance is preferred (Byrne et al., 1989; Steenkamp & Baumgartner, 1998). Following Milfont and Fischer's (2010) guideline for testing measurement invariance across groups, after the residuals variances of two items were set to vary freely across time (Model 4b), results yielded no significant difference between Model 4b and Model 3, ΔCFI <. 01, ΔTLI < .01. Together, these results indicate that the overall measurement model was configural, metric, scalar, and partially residual invariant across the three time points, providing evidence that the measures could be appropriately used to describe the development of the measured construct over time.

Measurement invariance across migrant groups. Similar to the previous measurement invariance tests, equivalence across different migrant groups were examined within the sample. A baseline configural model with no constraints across four groups using the proposed measurement model was imposed upon the time-invariant model (Model 5). As shown in Table 5, the goodness of fit indices suggested an adequate fit for the baseline model. χ^2 = 961.27, df = 741, p < .001; RMSEA = .03, TLI = .92, CFI = .94, SRMR = .06. Moreover, the difference test of χ^2 between Model 5 and Model 4 was insignificant, $\Delta\chi^2$ =521.83, Δdf = 522, p > .05. The results suggest that, in addition to being invariant over time, the measurement is adequately constructed for participants from different migrant groups.

Then, equal factor loadings were constrained across migrant groups (Model 6). Results showed that the difference between Model 6 and Model 5 was

not significant, $\Delta\chi^2 = 7.27$, $\Delta df = 10$, $p > .05$. In addition, changes in CFI and TLI were no more than the cut point of .01 (Brown & Cudeck, 1993). These results indicated that the measurement model has equal factor loadings across different groups.

An additional constraint of equal intercepts of observed variables was imposed across groups (Model 7). In this model, the difference test of χ^2 was insignificant, $\Delta\chi^2 = 107.56$, $\Delta df = 88$, $p > .05$. In addition, changes in CFI and TLI were less than the cutoff point of .01, indicating that the model adequately represented the data, and intercepts were consistent among different groups. The results also indicate that the statistical means across different groups across three time points are comparable.

Finally, I examined whether the residual invariance holds in the model. An additional constraint of equal structural residuals across groups was imposed (Model 4a). Results showed significant differences between Model 8a and Model 7, $\Delta\chi^2 = 250.12$, $\Delta df = 88$, $p < .01$. Changes in CFI and TLI also exceeded the cut point of .01, suggesting a significant difference between Model 8a and Model 7. Finally, after the residuals of four items set to be free across the four groups (Model 4b), result yielded no significant difference between Model 8b and Model 7, ΔCFI <. 01, ΔTLI < .01.

As a summary, these results altogether indicated that the overall measurement model was configural, metric, scalar, and partially residual invariant across migrant groups and across time, providing evidence that the measures could be appropriately used to describe and compare the development of the

measured construct, i.e., caregiver involvement, academic self-concept, and academic engagement. Because measures are invariant across different migrant groups across different time points, aggregates of the items from each of the scales will be treated as observed variables and used in the subsequent analyses to conserve statistical power and to avoid potential model misfit due to the small sample size (Kline, 2015; p. 16).

Descriptive Analysis

Test of measurement invariance suggested that the means are comparable among the participants of different migrant status across three time points. Descriptive analyses were performed to examine correlations and mean differences among the measured variables over time (See Table 6). Results show low to moderate correlations among caregiver involvement, academic self-concept, academic engagement, and academic outcome at Wave 3, *r*s ranged from .01 to .47. In addition, tests of variance indicated that the main effect of time was significant for caregiver involvement, $F = 15.72$, $p < .01$; academic self-concept, $F = 21.75$, $p < .01$; and academic engagement $F = 10.55$, $p < .01$. Specifically, caregiver involvement, academic self-concept, and academic engagement tended to decrease over the three Waves of assessment.

Then, participants were grouped into four subsamples based on their migrant status: Migrant (14.51% of the weighted sample), left behind (14.25% of the weighted sample), status rural (36.85% of the weighted sample), and status urban (33.82% of the weighted sample). Means and standard deviations are shown in Table 7. Repeated measures ANOVA test results indicated that in

addition to the significant main effects of time, the main effects of migrant status were significant for caregiver involvement, academic self-concept, and academic engagement, $F = 17.23$, $p < .01$; $F = 11.64$, $p < .01$; and $F = 12.40$, $p < .01$, respectively. Specifically, status urban children reported significantly higher scores across all the variables. In addition, the time × migrant interaction was significant for caregiver involvement, $F = 5.66$, $p < .01$. The time × migrant interactions for academic self-concept and academic engagement were not significant. Post-hoc tests indicated that status urban students tended to score higher than students from the other groups across the measured variables. On the contrary, left behind students tended to score lower than the others across the variables (see Table 7 for average caregiver involvement, academic self-concept, and engagement among migrant groups over time).

Developmental Trajectories of Academic Engagement

Analyses were conducted in two steps to answer the first two research questions (Research questions 1a and 1b). First, latent growth curve models (LGMs) were introduced in the analysis to examine the developmental trajectory of academic engagement among young people in China, controlling for age, gender, and family income levels. Latent intercept and slope were estimated in the model. Students' academic performance was also tested as an outcome of the latent intercept and slope. Second, multigroup analysis was used to test whether migrant status moderated the growth of academic engagement. A baseline model was estimated where all growth parameters were free to vary across the four migrant groups. Then, nested models where intercepts or slopes were constrained

to be equal across the four migrant groups were estimated to compare with the baseline model using Chi-square tests. If the results of the chi-square difference test indicated the constrained model fit significantly worse than the baseline model, the parameter was assumed to differ among the four migrant groups (Kline, 2005).

Results suggested that a general growth model fit the data adequately, χ^2 = 9.80, *df* = 5, *p* >.05; RMSEA = .03, TLI = .93, CFI = .95, SRMR = .05. Intercept mean was significant, mean = 3.90, *p* < .05; Intercept variance was not significant, indicating no statistical difference among all participants. Slope mean was insignificant, i.e., slope mean was not statistically different from 0, which indicated that academic engagement on average remained at the same level over three time points. However, the variance of the slope was significant, suggesting that the slope may vary among different individuals.

To test the implications of the trajectory of academic engagement on subsequent academic outcomes, I regressed slope and intercept onto Wave 3 grades. Results suggested that both the intercepts and slope significantly predicted academic performance at Wave 3, βs = .53 and .26, respectively.

Then, multi-group analysis was used to test mean and slope differences among different migrant groups. The multi-group model fit the data adequately, χ^2 = 26.25, *df* = 24, *p* >.05; RMSEA = .03, TLI = .93, CFI = .95, SRMR = .05. In addition, compared to the original model, change of chi-square in the multigroup model was not significant, $\Delta\chi^2$ = 16.45, Δdf = 19, *p* > .05, suggesting that this model was not statistically worse than the original model. Results showed that the

slopes for Migrant students and Status Urban students were significant, unstandardized means = -.37 and -.15 respectively. In addition, the slope for Migrant students was greater than the slope for Status Urban students, χ^2 (1) = 4.55, $p < .05$; an indication of a steeper decrease of academic engagement for Migrant students than for Status Urban students. Slopes for Left Behind and Status Rural were not significant, suggesting stable academic engagement over time for these two group of participants. Intercepts for all migrant groups were significant at $p < .05$. Mean levels and variance of intercepts and linear slope are presented in Table 8.

Longitudinal Mediation Models

Finally, longitudinal mediation models were assessed to test the engagement framework focusing on the roles of caregiver involvement in students' academic self-concept and academic engagement. I also ran multi-group analyses to test the moderation model (Research questions 2 and 3). First, time-lag effects between time-adjacent measures of the same measures were assessed. Results showed that the same measures were moderately associated over time with an adequate overall model fit, $\chi^2 = 34.64$, $df = 19$, $p < .05$; RMSEA = .03, TLI = .90, CFI = .92, SRMR = .06. Second, direct paths with caregiver involvement predicting subsequent academic engagement were assessed. Results suggested adequate model fit, $\chi^2 = 42.65$, $df = 26$, $p < .05$; RMSEA = .03, TLI = .93, CFI = .96, SRMR = .06. Specifically, caregiver involvement at Wave 2 significantly predicted engagement at Wave 3, $\beta = .12$, $p < .05$. In addition, caregiver involvement at Wave 1 negatively predicted engagement at Wave 3, $\beta =$

-.11, $p < .05$. However, such an association was not significant from Wave 1 to Wave 2. Moreover, students' academic engagement was a significant predictor of grades at Wave 3, $\beta = .43$, $p < .05$ (see Figure 4).

Third, students' academic self-concept was introduced to the model as a mediator. Results showed that the model fit the data adequately, $\chi^2 = 141.27$, $df = 44$, $p < .05$; RMSEA = .05, TLI = .93, CFI = .96, SRMR = .08. In general, results suggest that academic self-concept is a significant predictor of academic engagement, $\beta = .18$, $p < .05$. In addition, caregiver involvement at Wave 1 was a significant predictor of academic self-concept at Wave 2, $\beta = .07$, $p > .05$. However, caregiver involvement at Wave 1 was not significantly found to predict engagement at Wave 3, $\beta = -.06$, $p < .05$ after academic self-concept was introduced into the model (see Figure 5). The indirect effect of academic self-concept was significant at $p < .05$ level using normal approximation method (Casella & Berger, 2002; Tofighi & Thoemmes, 2014). These results suggested that academic self-concept mediated the association between caregiver involvement and academic engagement.

Migrant status as a moderator. Building from the previous longitudinal mediation model, multi-group analysis was applied to test students' migrant status as a moderator of the longitudinal associations among caregiver involvement, academic self-concept, and academic engagement. To test for moderation effect, first, all between-variable coefficients were set to be free to estimate across different migrant groups (H1). Results show that the model fit the data adequately, $\chi^2 = 415.12$, $df = 182$, $p < .05$; RMSEA = .06, TLI = .91, CFI = .93,

SRMR = .08. Then, a nested model was estimated with all the coefficients between time-adjacent measures of different measures were set to be equal across groups (H0; see Figure 3, paths highlighted in bold were set to be equal across groups). Results showed that the nested model (H0) was statistically worse than the original model (H1), $\chi^2 = 465.65$, $df = 203$, $p < .05$; RMSEA = .06, TLI = .90, CFI = .92, SRMR = .08; $\Delta\chi^2 = 50.53$, $\Delta df = 21$, $p < .05$, suggesting a significant moderation effect of migrant status.

Specifically, for both migrant and urban students, caregiver involvement in education had significant direct and indirect effects (βs ranged from .05 to .13, $p < .05$) on academic engagement. However, the effects were not significant for both the left behind students and status rural students. Specifically, for left behind students, the direct effect of caregiver involvement on academic engagement was unstable ($\beta = .25$ at Wave 1 and -.24 at Wave 2) and academic self-concept was not significant as a mediator. For status rural students, no significant associations were found among caregiver involvement, academic self-concept, and academic engagement in the model. In addition, caregiver involvement was a significant direct predictor of grades only for migrant students, $\beta = .36$, $p < .05$. Finally, academic self-concept was not a significant predictor of grades for migrant students but was a significant predictor of grades for students in other migrant groups (see Figure 6). These results indicated that Migrant and Status urban caregivers were able to motivate their children by promoting a sense of academic competence, which subsequently promotes their children's academic engagement;

a motivational pathway. On the contrary, caregivers were not found to activate Status Rural and Left Behind children's motivational pathway.

CHAPTER 5

Discussion

The present study achieved many goals by examining the development of academic engagement among a nationally representative sample of Chinese youth. Most studies on academic engagement were conducted in the Western countries. However, how theories and empirical findings from the Western literature can be applied to the Eastern contexts, Chinese contexts, in particular, has not been investigated. Because all development happens in contexts, the developmental process of academic engagement may differ by context. To support this argument, I assessed the developmental trajectories of academic engagement from early- to mid-adolescence among a population that has not been systemically studied in the field of student engagement. Second, building off a motivation framework (e.g., Ryan & Deci, 2000; Skinner et al., 2008), the study found that students' migrant status moderates the developmental trajectories of their engagement in academic pursuits. Third, from a positive youth development approach (PYD; Benson, 2003), the study assessed the precedents (e.g., contexts and self) and the outcomes (e.g., academic performance) of academic engagement with a focus on the roles of caregiver involvement in academics and students' academic self-concept. Finally, the study examined the role of students' migrant status in moderating the developmental trajectories of academic engagement as well as the associations among caregiver involvement, academic self-concept, and academic engagement.

The General Developmental Trajectory of Academic Engagement

There is a consensus that students' engagement in academic activities is essential to their academic performance and attainment (Fredricks et al., 2004). However, there is an unsettling trend that students' engagement in learning tends to decrease as they proceed from elementary to middle school and to high school (e.g., Archambault et al., 2009; Eccles, 2004; Lam et al., 2014; Midgley, 2002). From a theoretical approach, a lack of fit between the developmental contexts and youths' developmental needs and expectations appeared to be an explanation (Wang & Eccles, 2012; Wigfield, et al., 2006). For example, the more strict and bureaucratic school system is contradicting to the young people's growing need for building a close relationship with other people and feeling a sense of control in taking actions. From an empirical approach, however, most evidence was based on cross-sectional studies, and longitudinal research is rare on investigating the trajectory of academic engagement from middle school to high school (Wylie & Hodgen, 2012). Moreover, the majority of studies collected data from Western countries, and to my best knowledge, no research to date has looked at the longitudinal trajectory of academic engagement among adolescents in China. This is important because contexts, youth's developmental needs, and the fit between them can differ by culture. A better understanding of the extent to which contexts may be associated with the developmental trajectories of academic engagement can shed light on better practice to optimize academic engagement for all young people.

Findings from the present study add to the extant literature by examining the trajectory of academic engagement among a sample of Chinese youth. Consistent with previous research and with my hypothesis (Hypothesis 1), the present study found that academic engagement tends to consistently decline from early- to mid-adolescence. As theory suggests, a consistent decrease of academic engagement can be a result of the misfit between adolescents' developmental needs and the contexts (e.g., Cornell & Wellborn, 1991).

The present finding is in line with the educational environment in China. Specifically, as discussed, in many Asian cultures including China, there is a social pressure that students are expected to attend school and make good grades (Kim, 2005). Such pressure is affiliated with a collective philosophy that requires absolute obedience and complete devotion from the students to the adults around them (Cleverley, 1991; Wang & Mao, 1996). In such contexts, schools are organized in a hierarchical structure, where students are not only required to pay respect to but also be compliant to authorities, i.e., teachers. Questions, innovations, or divergence from a student is not encouraged or even suppressed. However, adolescence is widely recognized as a developmental phase when youth develop an increasing need for competence, relatedness, and autonomy (e.g., Connell & Wellborn, 1991). Specifically, from early adolescence, the developing cognitive skills enable youth to seek connections with peers and adults, to monitor their competences and needs, and to make achievements that are derived from their autonomous actions. In contrast, the educational contexts in China, which are described as highly restrictive and unified with the requirement of

unconditional obedience to parents and the teachers (e.g., Li & Ni, 2011), may have a negative impact on adolescents' sense of competence (I just cannot do it right), relatedness (my teacher does not like me because she is giving me a hard time to follow the rules), or autonomy (I do not get to choose my way of learning). According to theory, when adolescents' developmental needs and expectations are not adequately supported by the educational contexts, their engagement is likely to decrease over time.

Caregiver Involvement in Education: Promoting a motivational pathway

Another focus of the present study was to examine the importance of caregiver involvement in education on students' long-term engagement in academic pursuits. Family, especially parents or the primary caregivers, play an essential role in adolescents' academic success (Bempechat & Shernoff, 2012; Rumberger, 2011). Consistent with this argument, the present study found a significant association between prior caregiver involvement in education and students' academic engagement at a later time, suggesting that the caregiver is an important lever for the young people's academic engagement. This is of even greater importance given that the educational contexts in China have been established to impede, rather than promote the positive development of academic engagement by enforcing compliance and unconditional obedience (Wang & Mao, 1996).

The present study also found some nuances that are inconsistent with the extant literature. For example, the longitudinal association between caregiver involvement and academic engagement was not significant at an earlier age but

was significant at a later time. Another nuance is that the direct effect of involvement at Wave 1 on engagement at Wave 3 appeared to be negative. As longitudinal research on the association between caregiver involvement and academic engagement is rare, a thorough explanation of these nuanced findings is beyond the scope of the present study.

From a motivational perspective, the connection between caregiver involvement and academic engagement can be explained in three steps. First, children internalize caregiver's involvement as a way to fulfill their needs for connectedness. When caregivers show interest in their children's school and are willing to spend the time to discuss homework, their children may feel that the adults do so because they, the children, are important (Grolnick & Slowiaczek, 1994). Second, building off the connection and trust that have been developed over time, when the caregiver is actively helping her children on homework and discussing school activities, she may be conveying a strategy, a goal, or an expectation for dealing with the school to the child (Fall & Roberts, 2012). Third, children who have such experiences at home may feel better able to master and control activities in school. When children believe in their academic competence, they are driven by an intrinsic motivation that leads them to an active involvement in academic activities (Skinner et al., 2008).

These three steps together illustrate the developmental process of academic engagement, or a motivational pathway of academic engagement (e.g., Fall & Roberts, 2012; Wang & Eccles, 2013). Specifically, motivation theories suggest that youth's self-system process (e.g., self-concept) is a key factor that

mediates the connections between contexts and the students' engagement. The underlying theory is that, in order to respond to interactions with the developmental contexts, individuals are actively constructing their relatively stable personal resources. A successful construction of personal resources helps promote developmental and educational outcomes in the future (e.g., Appleton et al., 2006; Skinner et al., 2008). As has been discussed above, youth actively develop positive self-concept to fuel an intrinsic motivation and turn such a motivation to action, i.e., engagement in academic pursuits (Appleton et al., 2006).

Consistent with hypothesis (Hypothesis 3), the present study found academic self-concept to be a significant mediator in the association between caregiver involvement and academic engagement. More importantly, academic self-efficacy fully mediated the connection between prior caregiver involvement at Wave 1 and subsequent academic engagement at Wave 2. This result highlighted the previously discussed "motivational pathway" which suggests that contexts take effect on students' academic engagement by facilitating a form of intrinsic motivation within the students (Patterson, 1986). This important mechanism suggests that, in order to promote academic engagement, parents or primary caregivers should be mindful of their children's sense of self. Instead of requesting their children to complete the homework and follow all the instructions in school and at home as many traditional Chinese parents do, parents or primary caregivers can invest their time in building a close relationship with their children

by using more appraisal and encouragement, strengthen a positive sense of self-concept, and foster decision-making skills for their children.

It is worth noting that in general, caregiver involvement was reported to be consistently decreasing over time. In addition, the Urban caregivers reported significantly higher involvement across the three time points compared to other migrant groups, and the Migrant caregivers reported significant higher involvement than Left-behind and Status Rural caregivers. This finding is consistent with the extant literature in two ways. First, as recent studies suggested, adults who are immersed in a Chinese urban environment are more likely to adopt a Western parenting philosophy which emphasizes warmth and connectedness with the child than those who live in rural areas (e.g., Chen et al., 2010). As expected, Migrant caregivers and Urban caregivers tend to provide a higher level of involvement in their children's education than Left-behind and Status Rural caregivers. Second, as children enter early adolescence, Chinese parents and primary caregivers may expect their children to become more responsible for their learning during adolescent years (Cheung & Pomerantz, 2011). Alternatively, adolescents may be pushing adults away as they desire more independence. Therefore, the caregivers may intentionally or passively reduce their levels of involvement as their children proceed from early adolescence to mid-adolescence.

I discussed that depending on the children's migrant status, Chinese primary caregivers may adopt different parenting beliefs and ideologies that influence the motivational pathway. For example, a traditional educational culture emphasizes that learning is a moral endeavor among the children (e.g., Cheung &

Pomerantz, 2012; Qin, Pomerantz, & Wang, 2009). Adopting this tradition, Chinese caregivers, primarily Left-behind and Status Rural caregivers, may accompany their involvement in children's learning with excessive control (Chen et al., 2010). They may check over children's homework regardless of children's desires, letting children know that what they want children to do is best for children and that their instructions should be unconditionally obeyed. In addition, researchers reported that in practice, parents' shaming of children as a way to strengthen authority is believed to be an aspect of “good parenting” in China (Fung, 1999; 2006). Consequently, Left-behind and Status Rural caregivers’ involvement may not facilitate positive perceptions of competence and emotional functioning that promote their development of academic engagement. On the contrary, Migrant and Status Urban caregivers tend to embrace a parenting style that is more focused on parental warmth and autonomous support, which may better pave the motivational pathway of their children (Chen et al., 2010). In the next section, I elaborate the discussion of migrant status and its associations with children’s development of academic engagement.

The Moderating Role of Migrant Status

Students’ migrant status adds complexity to the discussion of the development of academic engagement. Depending on their residential status and the family’s planning, children in China are categorized as *migrant*, *left-behind*, *status rural*, and *status urban*. Each category represents a large portion of the population with different lived experiences. For example, compared to their urban cohorts, migrant students are more likely to experience inferior school and teacher

quality, mobility, frustration in school and in the neighborhood, and rapid social change (Davin, 2000, Xie & Pan, 2007). Left-behind children are highlighted with the absence of biological parents and the involvement of inadequate primary caregivers (Xie & Pan, 2007). Status rural children lack the economic resources provided by the family, who also lack the worldviews, aspirations, and new perspectives on education that are necessary for the children to thrive (Toyota et al., 2007; Yi et al., 2012). These distinct lived experiences were hypothesized to place an impact on the development of academic engagement (Hypotheses 2 and 4).

The developmental trajectories of academic engagement. As discussed, children of different migrant status tend to have different levels of socioeconomic resource. These different levels of contextual factors may contribute to variations in addressing adolescents' need for relatedness, competence, and autonomy. As hypothesized (Hypothesis 2), the present study found that migrant status moderated the longitudinal trajectory of academic engagement. Consistent with theory, Urban youth and Migrant youth reported a higher onset level of academic engagement compared to Left-behind youth and Status Rural youth. In addition, academic engagement tended to decrease over time among Urban youth and Migrant youth. This trajectory is expected because first, compared to rural areas, children living in urban areas are reported to have more social support and resources in the educational contexts (e.g., Yang, Huang, & Liu, 2014). For example, a recent study found that compared with students in rural areas, students going to urban schools rated significantly higher positive usage of digital devices

in their education such as access to a computer and positive internet behaviors (Li & Ranieri, 2012). In this sense, the higher levels of socioeconomic resources in urban areas (vs. rural areas) may contribute to higher levels of academic engagement.

However, urban educational contexts are also characterized with an increasingly competitive and restricted environment as students pace towards high school graduation and college attendance (Tam & Jiang, 2015), which will act as an increasing barrier to the young people's developmental needs. The consistent decline of academic engagement among Migrant youth and Status Urban youth is evidence of the urban educational contexts. Moreover, compared to Status Urban students, Migrant students also experience other negative social impacts such as lower family income, inaccessible social welfare and public education systems, and identity challenges. It is therefore not surprising to see that Migrant students tended to have lower academic engagement intercept and experienced a steeper decline of academic engagement over time.

In theory, academic engagement is hypothesized to decline from early- to mid-adolescence in corresponding to the increasingly misfit between the contexts and the youth's developmental needs. However, academic engagement was found to be consistent over time among Left-behind students and Status Rural students. A possible explanation is that the village community is more unified and cohesive than an urban community (e.g., Tsai, 2002). In such an environment, village committee, coordinators, and peers may be able to provide support that helps to sustain students' engagement. Another possible explanation is that the educational

environment in rural area is less restrictive and competitive than urban schools as youth grow. However, previous research repeatedly stated that children living in rural areas are generally disadvantaged in their socioeconomic status compared with those who live in urban areas (Hammum & Park, 2007; Yi et al., 2012). In addition, the Chinese government launched a school consolidation movement in the early 2000s in rural areas, aiming to close a large portion of village primary schools and expand 'central' schools located in townships and county centers (Wan, 2009). As a result, secondary school education is less accessible to rural students, especially to those who live far away from the local town center. These contextual barriers, which are considered to be consistent over time, may contribute to the low average levels of academic engagement among Left-behind youth and Status Rural youth.

The motivational pathway of caregiver involvement in education. One of the most important contributions of the present study is that it highlights the role of contexts in the development of academic engagement, a process that was suggested to be universal across cultures (e.g., Cornell & Wellborn, 1991; Ryan & Deci, 2000; Skinner et al., 2008). Building off the motivational model, I looked at caregiver involvement in education as a lever for promoting youths' academic engagement. Consistent with my hypothesis (Hypothesis 3), findings support the overall motivational model of caregiver involvement. However, as discussed, the migrant status of the children and the family may influence the way the primary caregiver is involved in her children's education, which further moderates the motivational pathway (Hypothesis 4). Research suggests that adults who have

experienced the rapid social and economic changes in urban areas tend to adopt a child-centered approach to parenting which emphasizes warmth and independent support during their interactions with the child. However, parents and other primary caregivers who are exposed to an urban environment tend to adhere to more traditional beliefs, values, and practices in education, which may hinder the motivational path of the child (Chen et al., 2011). In this sense, even if parents/caregivers reported the same level of involvement, they may adhere to a different parenting style that moderates the motivational path of the child.

Previous findings from the Western literature may provide some insights into the unique roles of parent/primary caregiver involvement in students' engagement. For example, Ritblatt and colleagues (2002) have pointed out that the research on parents' home-based involvement in their children's education had yielded inconsistent results. In some studies, parent involvement was found to enhance academic achievement among children (e.g., Hill et al., 2004; Senechal & Lefevre, 2002). However, in other studies, parents' home-based involvement directly linked to school does not always appear to have such benefits (e.g., Cooper, Lindsay, & Nye, 2000; Hill & Craft, 2003). Noticing these inconsistent effects of parent involvement on school outcomes, Pomerantz et al. (2007) summarized that parents who are naturally involved in children's academic lives may be involved in a different manner than parents induced to be involved. In other words, the quality of parents' involvement may differ, which may lead to different educational outcomes of the children.

Consistent with hypothesis 4, the present study found that children's migrant status moderated the longitudinal associations among caregiver involvement, academic self-concept, and academic engagement. Results show that migrant status moderates the development of academic engagement, i.e., the longitudinal associations among the measured variables are different among different migrant groups. Specifically, academic self-concept mediates the structural paths from prior caregiver involvement to subsequent engagement among Migrant students and Status urban students. This finding suggests that caregivers living in urban areas were able to activate a positive motivational pathway that promoted their children's engagement levels. One explanation, as has been discussed above, is that families living in urban areas are more likely than rural families to adopt a modern childrearing style that focuses on warmth and independent support. This support, which has a better alignment with students' developmental needs in relatedness, competence, and autonomy, may be more effective in helping the children develop intrinsic motivation and become more engaged in academic activities.

On the contrary, the motivational pathway was blocked among students living in rural areas. Specifically, academic self-concept was not found to mediate the association between caregiver involvement and academic engagement. This finding suggests that students living in rural areas were not able to internalize and transform caregiver involvement to a positive perception of their academic self to promote academic engagement. One possible explanation is that students living in rural areas tend to live with caregivers who are less educated, who have lower

socioeconomic resources, or who do not hold the worldviews, aspirations, and new perspectives on education that are necessary for the youth to become motivated in academic activities (Toyota et al., 2007; Yi et al., 2012). The inadequate and low quality of caregiver involvement may be insufficient to promote the young people's academic self-concept and subsequent academic engagement. In addition, these rural parents/caregivers, who are suggested to be adhering to a Chinese traditional educational belief, values, and practices, may be entitled with an ineffective parenting style that hinders the fulfillment of children's developmental needs (Chen et al., 2011).

Policy Implications

This study provides new insights into how developmental contexts in China can play a powerful role in engaging young people in education. To end the discussion of this study and to promote meaningful thoughts on policy improvements, I want to refer back to Weiwei's case, because his experience is an example of the lived experiences of many young people in China. In sum, I suggest that instead of giving direct orders to the young people and forcing them to learn, as has been described by Hannum and Zhang (2012), adults could provide young people with the necessary resources and infrastructures, autonomous support, and a sense of connection for them to engage in their educational endeavors.

First, the present study made a strong theoretical contribution to the field of student engagement in secondary education by investigating the development of academic engagement in a nationally representative, yet insufficiently

examined, sample of Chinese adolescents. There has been a consensus that the motivational framework of academic engagement is a universal process (e.g., Skinner et al., 2008). All youth process the developing need of relatedness, competence, and relatedness, and an optimized level of engagement can be achieved if their developmental needs are adequately met by the contexts (Cornell & Wellborn, 1991). Building off the theory, Grolnick and colleagues (1994) proposed a motivational framework of parent involvement which suggested that the more parents are involved in their children's education, the more likely their children are engaged. This theory, however, overlooked the importance of contexts which may promote or hinder the fulfillment of the young people's developmental needs. By discussing the moderating role of migrant status, the present study highlighted the role of contexts in the motivational framework of parent involvement.

Second, from a broader contextual perspective, findings from the present study supported the hypothesis that there is a constant decline of academic engagement from early- to mid-adolescence; a typical pattern of academic engagement that was consistently reported in Western countries (e.g., Archambault et al., 2009; Lam et al., 2014). Similar to Weiwei's experience, the school in China is perceived to be an increasingly boring, uninteresting, and tiresome place as students proceed to higher grades (Yang et al., 2013). One recommendation is to create an educational environment that fits the developmental needs of the adolescents, i.e., the needs for competence, autonomy, and relatedness. Specifically, schools and teachers can develop supportive, youth-

centered approaches that can nurture a sense of competence and fulfillment in learning, provide connected relationships, and encourage independent decision-making processes. Alternatively, the strict, controlling, and bureaucratic school system can be substituted with flexible, warm, and supportive communities and afterschool programs where adults can serve as mentors, tutors, or coaches who establish close connections with the young people (Center for Promise, 2015). These contexts can also engage young people as peer supporters. With adequate coaching about how to give constructive feedback, students can support each other's learning in the educational settings.

Third, this study found that in general, rural children, including Left-behind children and Status Rural children, reported a consistently low level of academic engagement. Possible explanations point to the contextual barriers in rural areas such as less assessable educational facilities with quality and capable teachers (vs. urban areas) and the overall lower socioeconomic status of rural families. A recent report also pointed out that due to the rural-urban education inequality, the education performance of rural children is significantly lower than that of their urban cohorts, even after accounting for differences in personal attributes such as nutrition and parenting style (Zhang, Li, & Xue, 2015). The disadvantage of rural children is highlighted in Weiwei's case: his school is not described as an interesting and fulfilling environment, he does not see the value of education, his parents are not physically involved in his learning, and his grandparents are illiterate and are inadequate to provide enough support. Acknowledging the spatial disparities, decision makers should create conditions

to provide equal opportunities and access to quality schools for rural and urban students. In addition, local educational institutes, governments, and communities should adopt a two-generation approach to support caregivers and the young people living in rural areas. Caregivers should be equipped with the necessary knowledge about adolescent development, be exposed to the worldviews, aspirations, and practices that are necessary to meet the developing needs of the young people and be educated to perform higher-paying jobs in order to improve the living conditions of their children.

Finally, from an individual perspective, I found that, for children living in urban areas, caregiver involvements can promote positive academic self-concept and subsequent academic engagement. On the contrary, I did not find evidence to support the motivational pathway among children living in rural areas. As I had previously discussed, the strength, magnitude, and quality of caregiver involvement are important factors that influence youths' engagement with education. Therefore, here are my recommendations for caregivers.

Autonomous support. Caregivers should listen to what young people are telling them, such as their needs, their goals, and their day-to-day challenges. This is what Weiwei lacks, but is of particular importance for the young people who live in a collective culture where they are subject to unconditional obedience to the adults around them. A recent study reported that, although adolescents in China are forced to engage in school and make good grades, what really predicted grades was students' autonomous acts, such as participating in classroom discussions (Pan & Zaff, 2017). In addition, a recent report states that young

people, especially those who are struggling in school, are looking for support from people within and outside of the family who respect what they are facing and offer a helping hand without judgment (Center for Promise, 2015). Therefore, as the need for autonomy grows throughout adolescence, the type and quality of caregiver involvement should be adjusted accordingly to support such a need.

Show care. In this study, involvement is defined as the commitment of resources to children's lives. This should be seen as two separate parts: commitment and resources. Commitment describes the emotional connection, the relationship, and the fundamental bond between adults and young people. Resources pertain to the overall support that a caregiver provides. Parents and caregivers in China are good at committing resources, but they almost always lack the connection with their children (e.g., Chen-Gaddini, 2012; Zhang & Fuligni, 2006). Indeed, in Weiwei's case, no one around him has been showing care or help. He has to find his own way without the necessary guidance. However, as research suggests, all types of support can benefit young people, even as direct as a caring word. Simple, sincere questions such as "how was school today?" or "do you need any help with your homework?" can show a young person that they matter to adults around them.

Limitations and Recommendations for Future Research

The present results should be interpreted in light of the study's limitations. First, items for the academic engagement scale were developed by the research institution in China and the psychometric property had not been validated. Although the present study tested the structure of the academic engagement scale

and its measurement invariance across time and migrant group, I looked at academic engagement as a single construct that consists of behavioral, emotional, and cognitive indicators. This process reserved the statistical power that was necessary for a small sample size as in the present study, but the process also overlooked the possible nuances involved with different dimensions of academic engagement. In addition, a recent study suggested that the structure of academic engagement may be substantially different from what we have learned from the Western literature. Specifically, Chinese adolescents may respond to following rules and active participation as two independent constructs of behavioral engagement (Pan & Zaff, in press). Therefore, more research is needed to confirm the measurement structure among Chinese adolescents. Moreover, I recognized that changes in the magnitude of academic engagement over the four-year period were small. Although this is not surprising given many previous studies suggested similarly small effects among Western samples (e.g., Archambault et al., 2009; Wylie & Hodgen, 2012), a more sensitive measure of academic engagement for youth in China can contribute to the overall assessment of academic engagement.

Second, many factors are associated with a migrant status that may have an effect on the development of academic engagement. Although this study found a significant moderating effect of migrant status, it was not able to specify the extent to which different factors were contributing to the moderating effect. For example, depending on different migrant status, the family may hold different values for education, place different expectations for their children and the family, have different stress level, and adopt different parenting styles. Some of these

differences may contribute more to the moderating effect of migrant status than the others. Future research should explore the theoretical associations between these migrant status associated factors and the young people's academic engagement, and tailor the contributions of different factors on moderating the development of academic engagement among youth in China.

Third, due to the data constraint, other contextual factors, such as community involvement and teacher involvement, were not assessed in the present study and were therefore not controlled for in the present analysis. However, the educational contexts may be associated with levels of caregiver involvement. For example, if the community values education and expects their children to succeed in school, or if the teachers care about their students and pay many home visits, the caregiver is likely to respond to such as mentality and be involved more in their children's education. In addition, peer support is becoming salient for the young people's academic success at this age (e.g., Center for Promise, 2015) which was not measured in the present study. How different contextual factors predict and promote academic engagement simultaneously is also unknown. Future research should collect more information about the developmental contexts around the young people and investigate how these factors may, individually and together, predict the motivational process of the young people and promote academic engagement.

Fourth, data for the present study were collected from multiple schools and sites to represent the general Chinese population. As data are stratified and are nested in different levels, there may be school-level differences in leadership

and practices, teacher qualities, and classroom sizes, community-level differences in organizations around the schools, socioeconomic status of the neighborhood, and community safety, and the province-level difference in educational policies. All of these differences may contribute to individual-level differences in slopes and intercepts. As Pornprasertmanit and colleagues (2014) pointed out, if relations among variables differ across levels, ignoring higher-level differences may increase the risk of distorting the effect in the desired level (i.e., student level in the present study). Because a multilevel approach was beyond the scope of the present study, I introduced a sandwich estimator into the model to compute the robust standard errors, which accounted for the clustering effects by allowing residual variance to vary between observations and were therefore robust against the unmodeled heterogeneity (e.g., Hox, et al., 2010). However, the robust estimator approach has been criticized by many researchers for underestimating the standard errors which increase the chance of a type I error (e.g., Clarke, 2008; Freeman, 2006). Future researchers should consider taking the multilevel approach to explore school-level, community-level, city-level, and province level effects and to conduct multi-level modeling (Pornprasertmanit et al., 2014).

Finally, I acknowledge that there may be other variables or subgroups of participants that were not assessed in the present study but may be associated with the results. For example, in addition to caregiver academic involvement, factors such as teacher academic support (e.g., Wang & Eccles, 2014) or positive peer affiliation (e.g., Simons-Morton & Chen, 2009) may also trigger a motivational pathway, predicting better academic self-concept and subsequent engagement in

academic pursuit (e.g., Fredricks et al., 2004; Fall & Roberts, 2012). In addition, as has been well documented in the Chinese cultural educational contexts, partially due to the unbalanced educational resources, the one-child policy, and the traditional values placed on boys and girls, youths of different sex may have different levels of parent academic involvement and hold different educational expectations (e.g., Epstein, 2017; Postiglione, 2015). This gender difference in education can potentially lead to different motivational pathways for them. Although the discussion of these important topics is beyond the scope of the present study, future study should discuss other variables and moderators of the development of Chinese young peoples' academic engagement.

Conclusion

In conclusion, the present study contributes to the literature on academic engagement in several ways. First, found that urban and migrant youths had a high level of engagement at early-adolescence and their engagement decreased over time. In contrast, left-behind youth and status youth had a low level of engagement at early-adolescence, but their engagement was consistent throughout early- to mid-adolescence. More research is needed to investigate what contributes to the high level of engagement among urban and migrant youths and what contributes to the maintenance of engagement among left-behind and rural youths. Second, this study suggests that in general, higher levels of caregiver involvement predict higher levels of academic engagement. This association is mediated by the student's academic self-concept. This finding is in line with theories highlighting the role of caregiver involvement in providing children with

the motivational resources that can foster children's engagement with learning. Third, this study contributes to engagement theory of caregiver involvement by taking contexts into consideration, in particular, the migrant status of the family. Instead of being a universal process, the theoretical framework is moderated by the family's migrant status. Specifically, the present findings provided evidence to support the motivational pathway of caregiver involvement in education on academic engagement among migrant children and status urban children. However, such a motivational pathway diminished among left-behind children and status rural children. These findings call for a more thorough understanding of the spatial disparities in education in China and the how such disparities can shape the quality and effectiveness of caregiver involvement in education.

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Table 1.

Distribution of migrant status in the sample.

	Weighted Percentage (Wave 1)
Migrant	14.51%
Left Behind	14.25%
Status Rural	36.85%
Status Urban	33.82%
Others	.61%

Note. preliminary analysis showed that the migrant status among the sample was highly consistent over time (97.12% of the weighted sample in W2 and 95.81% of the weighted sample in Wave 3 reported the same migrant status as in Wave 1).

Table 2.

School dropout rates by migrant status from Wave 1 to Wave 3.

	W1 (age 10-11)	W2 (age 12-13)	W3 (age 14-15)
Overall Sample	1.04%	1.79%	7.29%
Migrant	0.01%	0.01%	4.20%
Left Behind	1.13%	1.60%	7.18%
Status Rural	0.16%	2.38%	11.43%
Status Urban	2.42%[a]	2.01%	4.14%

a. This group had only one participant in the sample with a sampling weight of 142,985.

Table 3.

Family income level by migrant status.

	low	lower middle	middle	upper middle	high
Migrant	34.86%	48.56%	15.00%	1.58%	0.00%
Left Behind	36.98%	51.54%	8.85%	2.63%	0.00%
Status Rural	41.98%	47.25%	10.47%	0.30%	0.00%
Status Urban	11.54%	52.14%	22.74%	10.82%	2.75%

Note: Family income per capita at Wave 1 were used to compute different income levels with reference to the *China Statistical Yearbook* (2011).

Table 4.

Measurement invariance across the three time points.

Sequential Models	χ^2/df	CFI/TLI	RMSEA/[90% CI]	SRMR	$\Delta\chi^2$/df	ΔCFI/ΔTLI	ΔSRMR	Decision
Model 1: Configural Invariance	367.81/183	.95/.93	.03 [.02, .04]	0.04	---	---	---	Accept
Model 2: Metric Invariance	375.08/193	.95/.93	.03 [.02, .04]	0.04	7.27/10	<.01	<.01	Accept
Model 3: Scalar Invariance	398.58/208	.95/.93	.03 [.02, .04]	0.04	23.50/15	<.01	<.01	Accept
Model 4a: Residual Invariance	504.86/221	.93/.91	.03 [.03, .04]	0.06	106.28/15	>.01	>.01	Reject
Model 4b: Partial Residual Invariance	439.44/219	.94/.93	.03 [.02, .04]	0.05	40.86/13	<.01	<.01	Accept

Note. Residuals of three items were set to be freely estimated among the three time points.

Table 5.

Measurement invariance across the four migrant groups.

Sequential Models	χ^2/df	CFI/TLI	RMSEA/[90% CI]	SRMR	$\Delta\chi^2$/df	ΔCFI/ΔTLI	ΔSRMR	Decision
Model 5: Configural Invariance	961.27/741	.94/.92	.03 [.03, .04]	0.06	521.83/522	<.01	<.01	Accept
Model 6: Metric Invariance	1068.83/829	.93/.91	.03 [.03, .04]	0.07	107.56/88	<.01	<.01	Accept
Model 7: Scalar Invariance	1171.70/910	.92/.90	.03 [.03, .04]	0.08	102.87/81	<.01	<.01	Accept
Model 8a: Residual Invariance	1421.82/998	.88/.87	.04[.04, .04]	0.11	250.12/88	>.01	>.01	Reject
Model 8b: Partial Residual Invariance	1316.04/986	.91/.90	.03 [.03, .04]	0.08	144.34/76	<.01	<.01	Accept

Note. Models were built on a time-invariant structure. Residuals of four items were not fixed to equal among the four groups.

Table 6.

Means, standard deviations, and correlations of caregiver involvement, academic self-concepts, and academic engagement across the three time points, and students' academic outcome at Wave 3 (grades).

	1. CI_W1	2. CI _W2	3. CI _W3	4. ASC_W1	5. ASC_W2	6. ASC_W3	7. ENG_W1	8. ENG_W2	9. ENG_W3	10. Grades_W3
1	1.00									
2	.24**	1.00								
3	.14**	.31**	1.00							
4	.04**	.04**	.01**	1.00						
5	.07**	.12**	.03**	.24**	1.00					
6	.11**	.14**	.11**	.16**	.38**	1.00				
7	.14**	.12**	.09**	.40**	.24**	.18**	1.00			
8	.19**	.19**	.25**	.04**	.36**	.30**	.21**	1.00		
9	.09**	.08**	.12**	.11**	.14**	.47**	.21**	.31**	1.00	
10	.17**	.18**	.19**	.28**	.27**	.40**	.34**	.33**	.26**	1.00
Mean	3.63	3.36	3.20	3.36	3.19	3.14	3.93	3.86	3.78	2.96
SD	.83	.78	.86	.75	.73	.68	.49	.46	.51	.88

Note: CI, caregiver involvement; ASC, academic self-concept; ENG, academic engagement. **, $p < .001$. Results are calculated based on the weighted sample.

Table 7.

Means and standard deviations of caregiver involvement, academic self-concepts, academic engagement, and academic outcome across the different migrant groups.

Migrant Status		CI_W1	CI_W2	CI_W3	ASC_W1	ASC_W2	ASC_W3	ENG_W1	ENG_W2	ENG_W3	Grades_W3
Migrant	*Mean*	3.69	3.24	3.06	3.13	3.16	3.28	3.97	3.88	3.61	3.02
	SD	.83	.78	.99	.84	.50	.49	.45	.44	.43	.81
Left Behind	*Mean*	3.44	3.33	3.07	3.27	2.85	3.00	3.80	3.80	3.80	2.80
	SD	.87	.76	.88	.73	.84	.74	.50	.46	.49	.93
Status Rural	*Mean*	3.43	3.26	3.17	3.34	3.23	3.02	3.84	3.83	3.79	2.83
	SD	.84	.82	.80	.74	.66	.65	.51	.45	.56	.92
Status Urban	*Mean*	3.96	3.56	3.39	3.54	3.37	3.29	4.00	3.93	3.81	3.20
	SD	.69	.69	.81	.70	.75	.70	.45	.47	.51	.79

Note: CI, caregiver involvement; ASC, academic self-concept; ENG, academic engagement. Results are calculated based on the weighted sample.

Table 8.

Growth Parameters of Multigroup Latent Growth Curve Models on Academic Engagement.

	Intercept		Slope	
	M	Variance	M	Variance
Full Sample	3.90*	.04	-.09	.05*
Migrant	4.18*	.08	-.37*	.03
Left Behind	3.73*	.01	.02	.01
Status Rural	3.80*	.03	.07	.02
Status Urban	3.94*	.02	-.15*	.01

Note: *. $p < .05$.

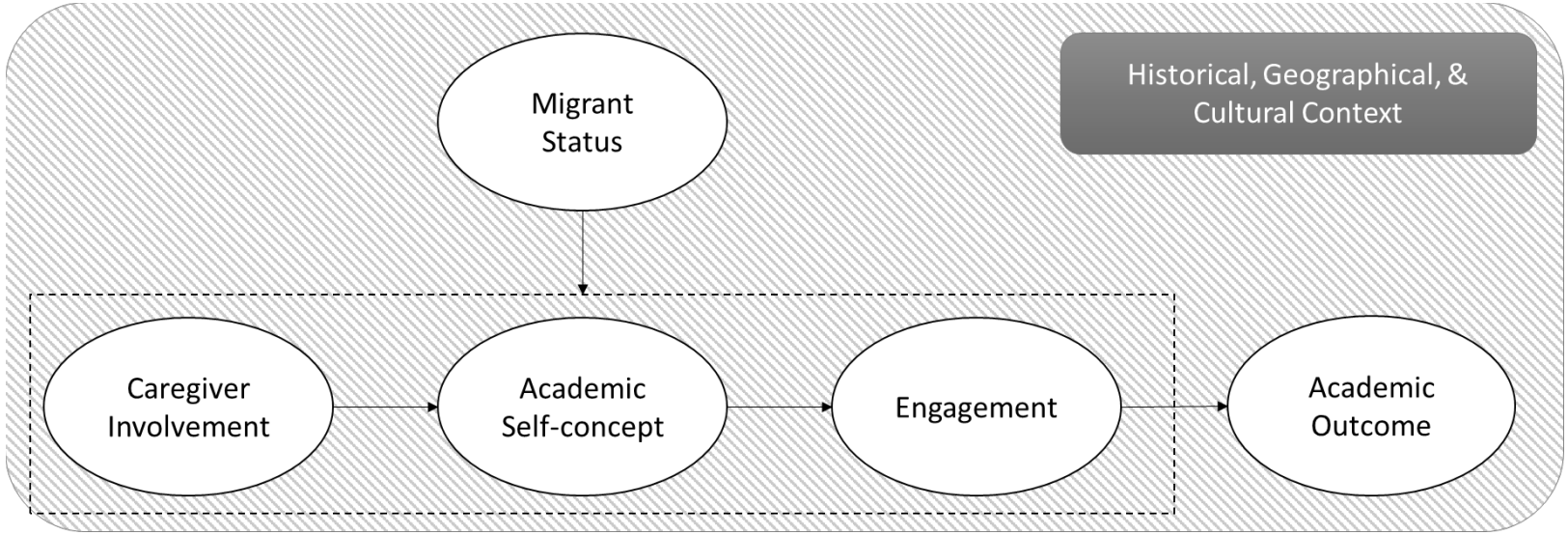

Figure 1. Conceptual model of the present study

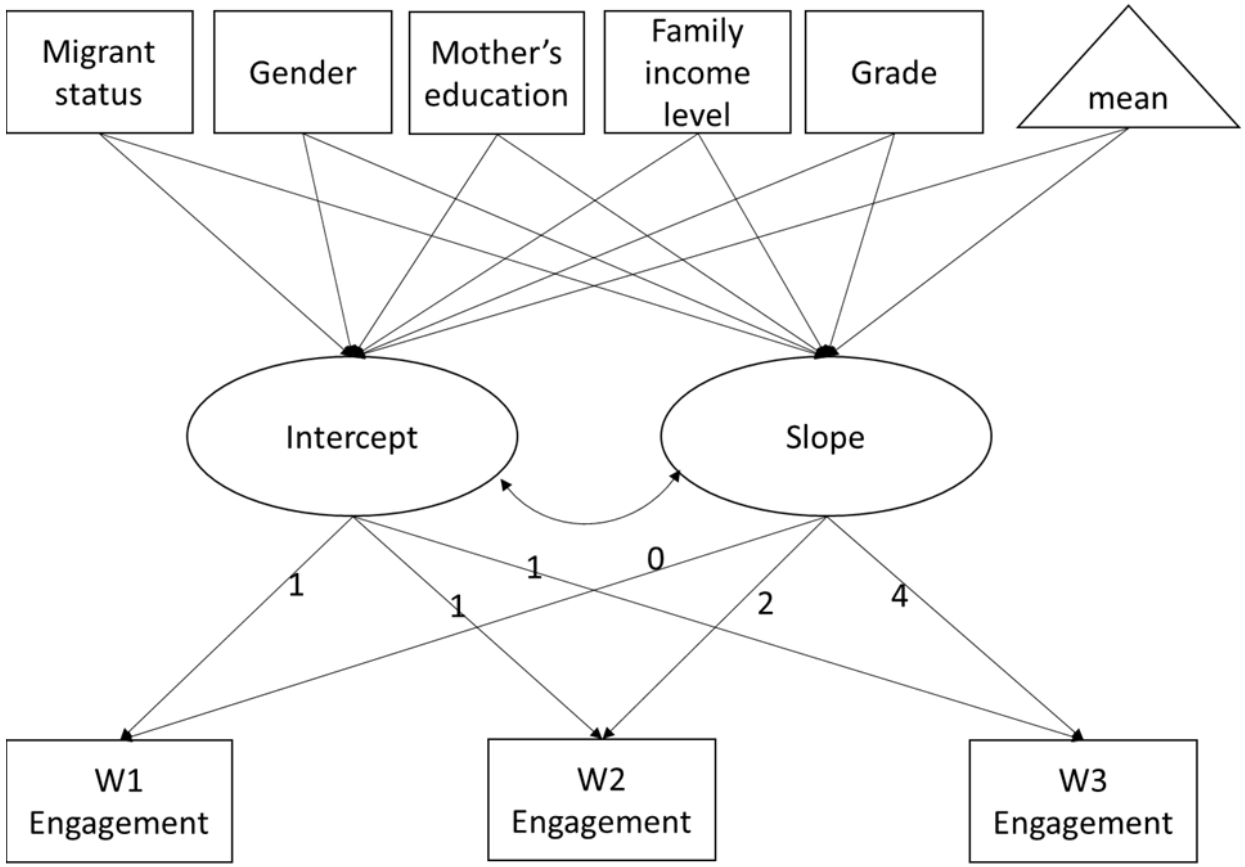

Figure 2. The latent growth model of academic engagement, controlling for demographic variables and students' migrant status.

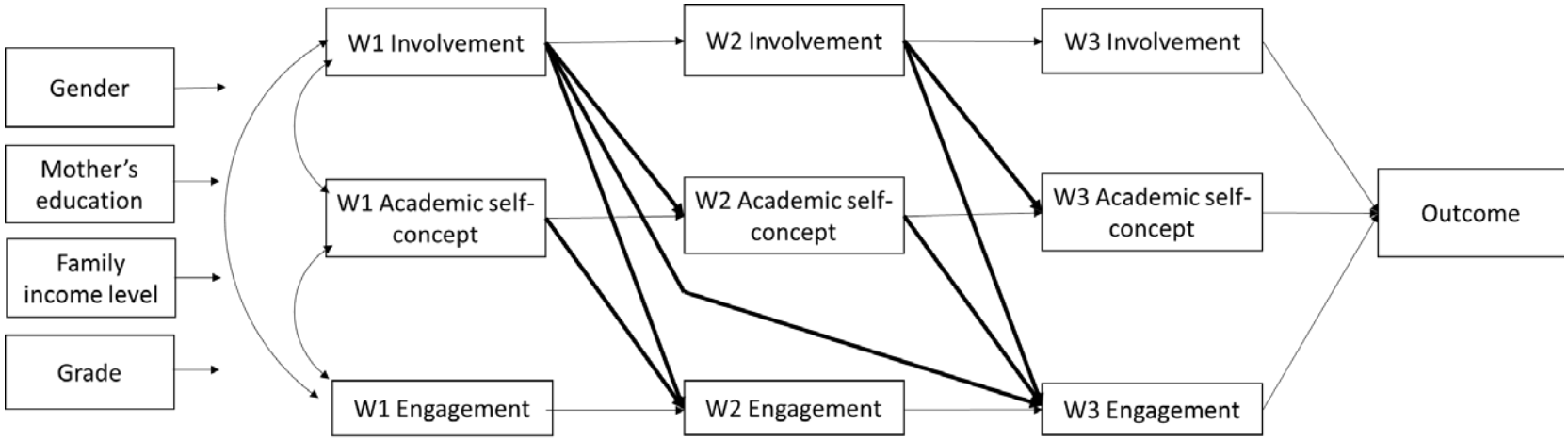

Figure 3. Longitudinal mediation analysis examining the longitudinal associations among academic involvement, self-concept, and academic engagement that predict academic outcomes, controlling for demographic variables. Paths highlighted in bold indicated a nested model with all between time-adjacent measurements of different measures set to be equal across groups (moderation effect).

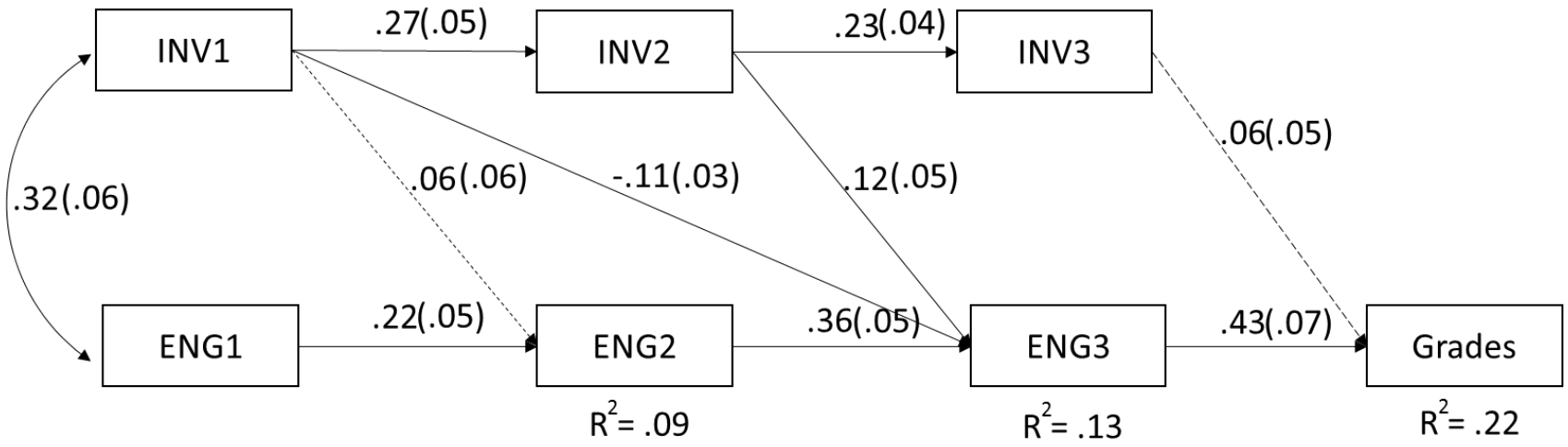

Figure 4. Direct path between caregiver involvement and engagement. Solid lines indicate significant path coefficients ($p < .05$).

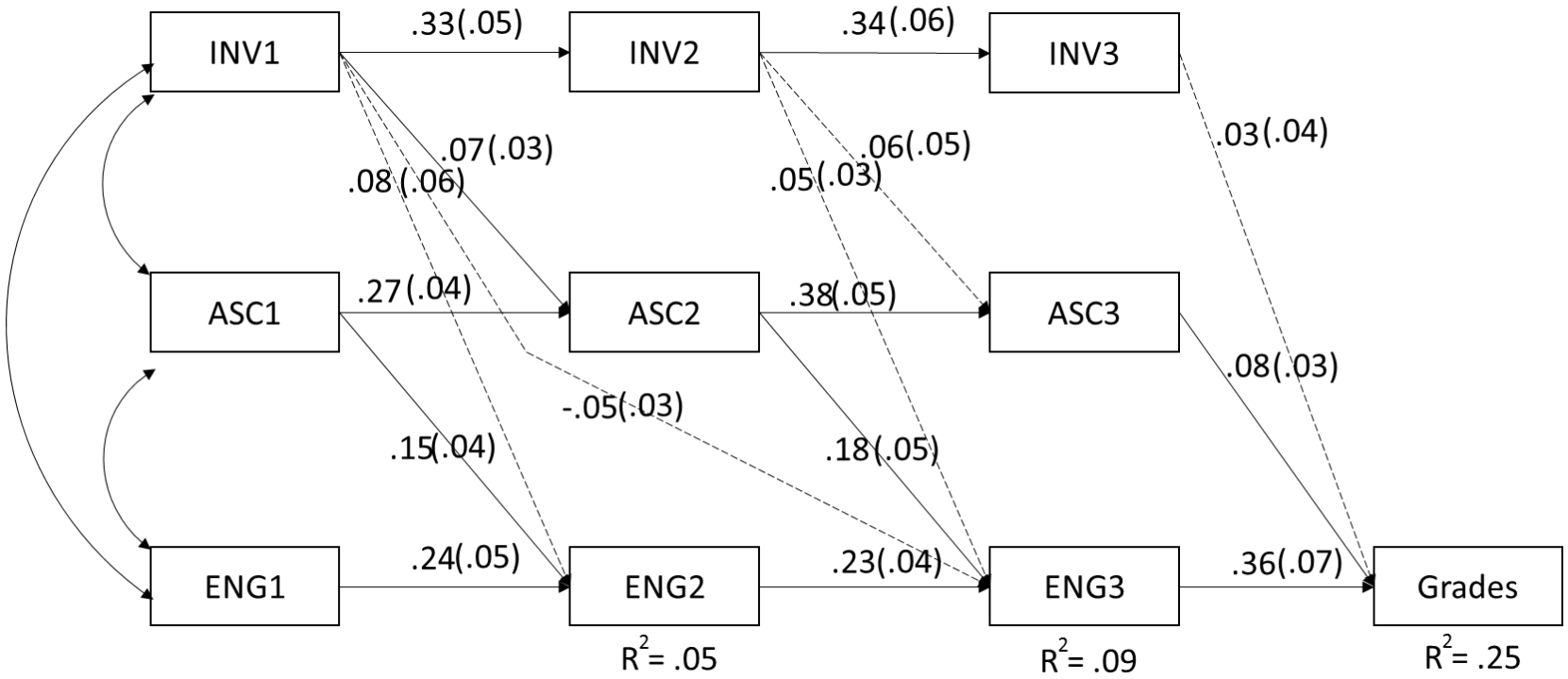

Figure 5. Longitudinal mediation model showing the longitudinal association among caregiver involvement, academic self-concept, and academic engagement. Solid lines indicate significant path coefficients ($p < .05$).

Note: Chi-square = 252.90, *df* = 140, $p < .001$; CFP = .96, TLI = .93, RMSEA = .05, SRMR = .07. Model controlled for gender, family income, and mother's education. Fixed effect on community.

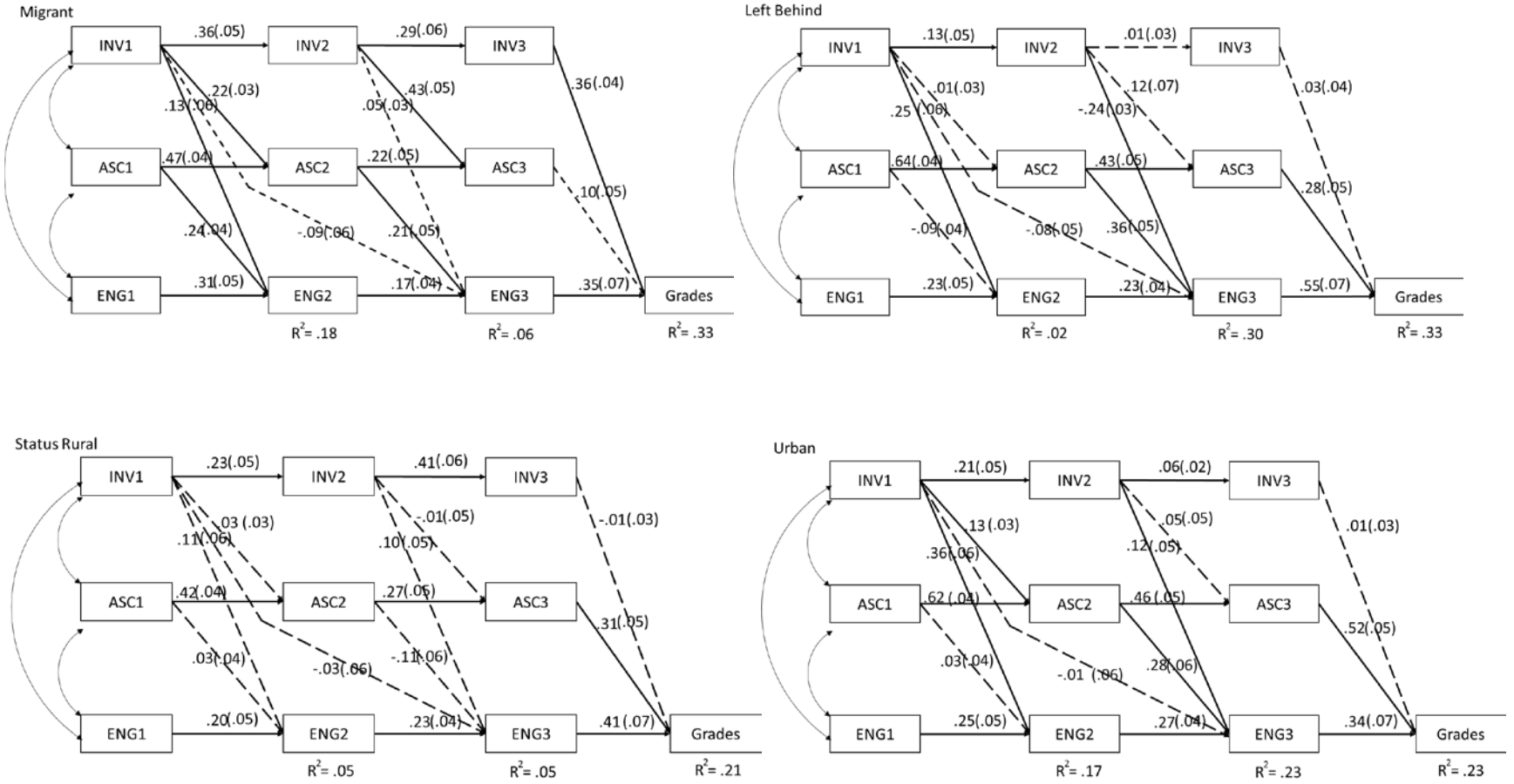

Figure 6. The longitudinal associations among caregiver involvement, academic self-concept, and academic engagement across different migrant groups. Solid lines represent significant path coefficients ($p < .05$), and dash lines represent insignificant path coefficients.