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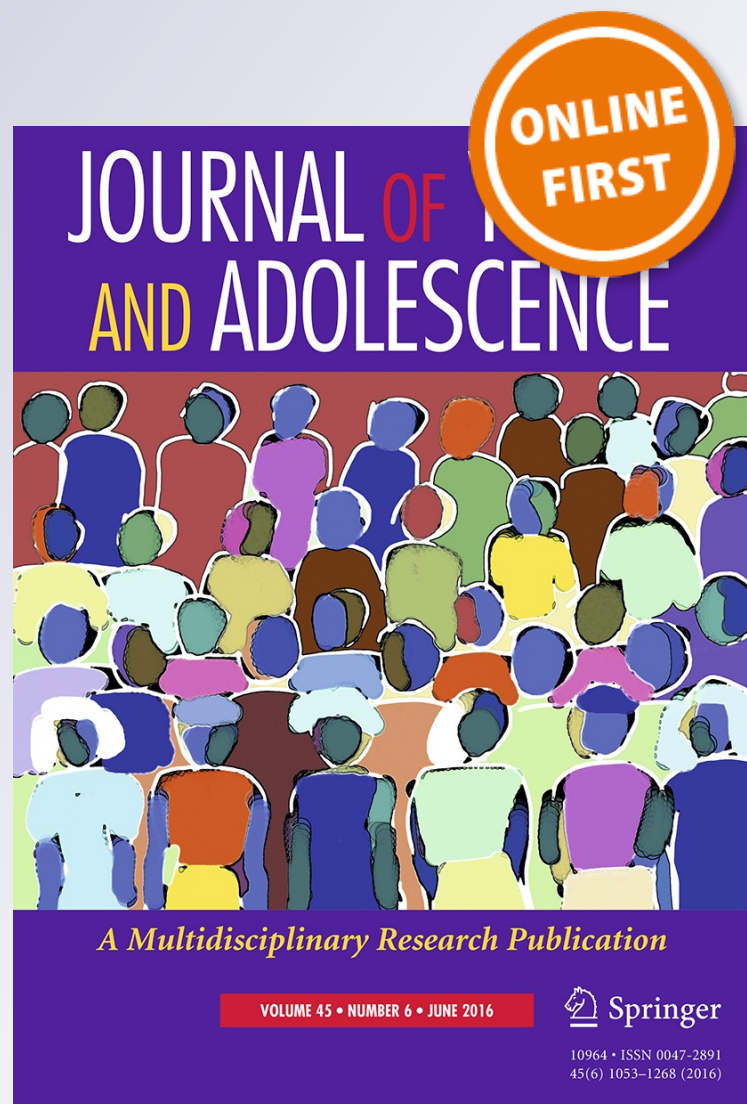
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# Conceptions of Adolescence: Implications for Differences in Engagement in School Over Early Adolescence in the United States and China

Yang Qu<sup>1</sup> · Eva M. Pomerantz<sup>1</sup> · Meifang Wang<sup>2</sup> · Cecilia Cheung<sup>3</sup> · Andrei Cimpian<sup>1</sup>

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**Abstract** American youth are more prone to storm and stress during adolescence than are Chinese youth (e.g., American youth's engagement in school declines more). However, it is unclear why. This research examined differences in conceptions of adolescence in the United States and China. Using both open- and closed-ended measures, youth ( $N = 397$ ; 50 % female; mean age = 13.19 years) reported on their views of teens. American (vs. Chinese) youth were more likely to see adolescence as a time of decreased family responsibility along with increased individuation from parents, school disengagement, and peer orientation. Conceptions of adolescence as a time of dampened family responsibility and heightened school disengagement contributed to American (vs. Chinese) youth being less engaged in school over the seventh and eighth grades. The findings suggest that culture shapes ideas about adolescence, which contribute to differences in American and Chinese youth's engagement in school over this phase.

**Keywords** Academics · Adolescence · China · School engagement · Motivation

## Introduction

An examination of American lay books on adolescence reveals many titles conveying that youth are often transformed over this phase of development into difficult individuals with a variety of undesirable characteristics—for example, *Have a New Teenager by Friday: From Mouthy and Moody to Respectful and Responsible in 5 Days* (Leman 2013) and *I'd Listen to My Parents if They'd Just Shut Up: What to Say and Not Say When Parenting Teens* (Wolf 2011). Although research conducted in the United States indicates that the teen years are not a time of severe storm and stress (Arnett 1999; Larson and Ham 1993), such years can be difficult for youth (e.g., Larson et al. 2002; McGue et al. 2005), with increased negative affect in their interactions with parents initially (for a review, see Laursen et al. 1998). Western scholars characterize the entry into adolescence as a first step toward adulthood in which youth seek to individuate from parents, often focusing more on peers in the process (e.g., De Goede et al. 2009; Grotevant and Cooper 1986; Tsai et al. 2013; Youniss and Smollar 1985). Such ideas about adolescence are echoed in American lay views of teens (e.g., Buchanan and Holmbeck 1998; Hines and Paulson 2006), which are often negative (e.g., Nichols and Good 2004).

Although biological changes appear to contribute to some of the storm and stress of adolescence (e.g., Casey et al. 2008; Steinberg 2008), social constructions of this phase also appear to be of import (e.g., Buchanan and Hughes 2009; Madon et al. 2003). Anthropologists have long depicted adolescence as shaped in large part by culture (e.g., Mead 1928; Schlegel and Barry 1991). Drawing on this work, Arnett (1999) makes the case that the storm and stress considered normative during adolescence in the West is not universal in that it is absent in many regions of

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the world. Indeed, recent evidence suggests that although there are some similarities in how youth navigate the teen years in the United States and China (e.g., Cheung et al. 2013; Wang and Pomerantz 2009), there are also noteworthy differences (e.g., Pomerantz et al. 2009, 2011; Wang and Pomerantz 2009). Unfortunately, there is a dearth of knowledge as to what undergirds the differences in the United States and China. This is a serious lacuna given the importance of understanding the mechanisms by which culture shapes individuals (e.g., Bond 2002; Keller and Greenfield 2000).

To address this lacuna, the current research examined the possibility that ideas about adolescence in the United States and China differ, thereby creating differences in the pathways youth take over this phase of development. The first aim was to evaluate whether Western ideas about adolescence as a phase when youth individuate from parents, often ignoring responsibilities (e.g., chores and schoolwork) and focusing on peers are held by youth to the same extent in China as in the United States during the initial years of adolescence. The second aim was to identify whether differences in American and Chinese youth's views of adolescence underlie the tendency for American (vs. Chinese) youth to become less engaged in school—as manifest in their use of self-regulated learning strategies—over early adolescence. In pursuing these aims, we were guided by the notion that most youth are exposed to their country's mainstream ideas about adolescence via the media and other avenues. Although there is likely variability in youth's exposure to, as well as acceptance of, such ideas, it is likely nested within a limited distribution of ideas within each country. Hence, on average, ideas about adolescence, and thus the pathways youth take through this phase of development, are likely to differ in the United States and China.

### Conceptions of Adolescence

Decades of theory and research make it clear that both youth and adults hold beliefs about the characteristics of individuals based on their membership in social categories—for example, being female (Ceci et al. 2009; Bigler et al. 1997; Tiedemann 2000). Although such stereotypes are often inaccurate, they often guide individuals' affect, cognition, and behavior (e.g., Ambady et al. 2001; Good et al. 2012; Jacobs et al. 2005; Smith et al. 2013; Steele and Aronson 1995). Buchanan and Holmbeck (1998) make the case that a salient social category is developmental phase (see also Holmbeck and Hill 1988). These investigators find that laypeople in the United States hold distinct conceptions of adolescents compared to younger children. Although such conceptions may be based on accurate base rate information to some extent, they are also likely to be based on exaggerated media portrayals of teens as well as extreme, but

memorable, instances of abnormal teen behavior (Gilliam and Bales 2001; Nichols and Good 2004). Hence, it is not surprising that American parents, teachers, and college students tend to see adolescence in a negative light (e.g., Buchanan and Holmbeck 1998; Hines and Paulson 2006), despite only mild storm and stress that is not evident among all children during this phase of development (Arnett 1999; Laursen et al. 1998).

Focusing on variability within the United States, Buchanan and Hughes (2009) make the case that youth's views of teens act as self-fulfilling prophecies shaping the pathways they take over the adolescent years. Youth's conceptions of adolescence may shape the expectations they hold for themselves (for evidence that mothers' views of teens predict their expectations for their children, see Buchanan 2003), which ultimately guide their behavior (Buchanan and Hughes 2009; Meece et al. 1990). For example, if youth expect that they will be disengaged from school, they may let themselves drift off during class. In addition, youth's ideas about adolescence reflect what they see as normative during this phase of development, which youth may use as a standard for their behavior (Galván et al. 2011). If youth see it as normative to neglect family responsibilities, for example, they may feel it is acceptable not to complete their chores. Hence, even when they are not based in reality, youth's views of teens may play a significant role in how they navigate the adolescent phase.

### Do American and Chinese Youth's Conceptions of Adolescence Differ?

Most cultures have a marked phase of adolescence (Arnett 2012). In much of the West, the phase is frequently identified as beginning around 10–13 years, which is often when youth start middle school. Some investigators suggest that it lasts until approximately 18 years, which is often when youth finish high school, with emerging adulthood following (e.g., Arnett 2000; Collins and Steinberg 2006). However, others describe this later phase as late adolescence (Smetana et al. 2006; Steinberg 2014). Youth's entry into adolescence in the West is characterized as a first step toward adulthood in which there is a focus on individuating from parents to establish a distinct identity with this process involving a heightened orientation toward peers (e.g., Grotevant and Cooper 1986; Youniss and Smollar 1985; Collins and Steinberg 2006). This view of the teen years is evident in American lay views as well (e.g., Buchanan et al. 1990; Hines and Paulson 2006). Buchanan and Holmbeck (1998) asked parents, teachers, and college students in the United States to rate both adolescents and elementary school children on a variety of characteristics that Buchanan and Holmbeck's earlier research indicated were seen as descriptive of adolescents. Overall, teens were regarded more negatively than their elementary school

counterparts. For example, teens were seen as more rebellious (e.g., testing limits) and conforming, particularly to peers (e.g., easily influenced by friends). American youth also see disengagement from school as increasingly normative across early adolescence (Galván et al. 2011).

As in the United States, adolescence in China generally begins with the middle school years; the end is considered to coincide with the end of high school at around 18 years (Chen and Chang 2012). Given that filial piety is still of much significance in contemporary China (Ikels 2004; Wong 2013; Sinha and Niedermeyer 2012), what constitutes youth's initial step toward adulthood may be different than in the United States. Filial piety includes, among other things, youth repaying the family for their efforts in raising them, bringing honor to the family, making sacrifices for the family, and materially as well as psychologically supporting the family (Chao and Tseng 2002; Ho 1996). Consequently, youth's progress toward maturity in China may be marked in large part by fulfilling responsibilities to parents (Nelson and Chen 2007; Yu 1996) rather than individuating from them as in the United States (Pomerantz et al. 2011). Given the practical (e.g., youth's performance on an exam at the end of middle school determines if and where they will go to high school) and moral (e.g., effort in school is viewed as honorable; Li 2005) significance of youth's achievement in school during adolescence in China, youth's fulfillment of responsibilities to parents may be reflected in part through their engagement in school. Unlike their American counterparts who spend increasing time with their peers over adolescence, youth in East Asian countries spend more time on their schoolwork (Larson and Verma 1999).

### What are the Implications for American and Chinese Youth's Engagement in School?

The differences in youth's conceptions of adolescence in the United States and China may contribute to differences in how they navigate adolescence. Of particular note, youth in the two countries approach school differently over the early adolescent years, with the decline in engagement in school (e.g., use of self-regulated learning strategies) common in the United States (for a review, see Wigfield et al. 2006) being weaker or even nonexistent in China (Wang and Pomerantz 2009; Yang et al. 2013). If American youth see it as normative to disregard family responsibilities, including school, during adolescence, they may come to hold expectations and standards for themselves that set the stage for being irresponsible. As a consequence, their engagement in school may decline over this phase. Chinese youth, however, may maintain their engagement as they may not see disregarding family responsibilities as part of being a teen to the same extent as do their American counterparts.

### Overview of the Current Research

The goal of the current research was to evaluate whether youth's ideas about adolescence in the United States and China differ, thereby creating differences in how they navigate this phase of development. To this end, this research examined youth in the United States and Mainland China during early adolescence. Youth reported on four key attributes that prior theory and research suggest differ between the two countries: (1) Individuation from parents, (2) family responsibility, (3) school disengagement, and (4) peer orientation. It was anticipated that as in prior research conducted in the United States, there would be variation among youth within both the United States and China in their conceptions of adolescence. However, in line with Western depictions of adolescence, it was also expected that on average American youth would view teens as more likely than younger children to individuate from parents, disengage from school, and be peer oriented, but less likely to feel responsible to the family. In contrast, Chinese youth were expected on average to see less of a difference between teens and younger children on these attributes, with if anything an increased sense of responsibility and engagement in school during the teen years. To avoid imposing constraints on how youth see the teen years and to ensure that the four target attributes were relevant to youth, in addition to completing a closed-ended measure, youth also completed an open-ended measure in which they listed the attributes of teens in general.

Prior research suggests that youth's sense of responsibility to parents underlies the tendency for American but not Chinese youth's engagement in school to decline over early adolescence (Qu and Pomerantz 2015). Thus, we anticipated that conceptions about family responsibility as well as disengagement from school, which may represent neglect of a key responsibility, would be most likely to undergird differences in the United States and China in youth's engagement in school over time. We examined youth's engagement in school as manifest in their use of self-regulated learning strategies (e.g., monitoring their understanding of the material they are learning at school), which is a major dimension of engagement in school (Fredricks et al. 2004). Moreover, prior research indicates that such engagement declines over early adolescence in the United States, but not China (Wang and Pomerantz 2009).

Our two-wave longitudinal design, which spanned 6 months over the seventh and eighth grades, allowed us to capture differences in how American and Chinese youth's engagement in school changes during early adolescence. In addition, it was possible to take into account youth's earlier engagement in school when predicting their later engagement, thereby ensuring that the effects of youth's conceptions of adolescence were not simply due to youth's engagement shaping their conceptions (e.g., more engaged

youth see adolescence as a time of less disengagement). Youth also reported on their pubertal development because such development appears to contribute to how they navigate adolescence (for a review, see Rudolph 2014), which may shape youth's views of teens. Hence, if American and Chinese youth differ in their pubertal development, it may be such development that drives differences in their views of teens. We also took into account other potential factors (e.g., youth's gender) that may contribute to youth's views as well as their engagement in school. Most notably, because educational attainment is higher in the United States than China (United Nations Statistics Division 2014), it is possible that differences in parents' educational attainment could drive differences between the two countries, particularly given that parents' educational attainment appears to play a role in youth's achievement (for reviews, see Duncan and Brooks-Gunn 1997; Sirin 2005).

## Method

### Participants

This research was part of the University of Illinois American-Chinese Middle School Motivation Project in which youth were studied over the seventh and eighth grades in the United States and China. In the United States, 203 (110 boys) youth (mean age = 13.26 years in the spring of seventh grade) participated. Youth were recruited from five middle schools in a small urban area in the Midwest. The middle schools achieved at the state average, with much variation in achievement within schools. American youth were primarily (73 %) European American, with 16 % being African American, 5 % more than one race (e.g., African American and European American), 3 % Asian American, and less than 2 % Hispanic. A majority of American mothers reported that their highest educational degree was a college degree or greater (74 %); 25 % reported a high school diploma, with only one mother not reporting such a diploma. In this area at the time of the study, 38 % of adults over the age of 25 years had at least a college degree, with 9 % having not completed high school (US Census 2010).

In China, 194 (89 boys) youth (mean age = 13.13 years in the spring of seventh grade) participated. They were recruited from two middle schools in small urban areas in a large province located in the northeast part of China. One school was a high-achieving school and the other was an average-achieving school. Although students' achievement within each of the schools was relatively homogenous due to region-wise selection and ability streaming, there was still variability in achievement within schools. Reflecting the ethnic composition of the area from which the sample was recruited, Chinese youth were predominantly (99 %) of Han decent, which is the

major ethnicity in China. Slightly over half (60 %) of mothers reported at least a college degree as their highest level of educational attainment; 25 % reported a high school diploma, but 15 % did not. At the time of study, 9 % of the population over 25 years in the area had a college degree or higher, and 14 % had a high school diploma (National Bureau of Statistics of China 2011). Hence, as was the case for the American participants, a substantial proportion of the Chinese participants came from families in which parents were more educated than average in their region.

### Procedure

This report focuses on youth's responses to surveys in the spring of seventh grade completed in the laboratory and 6 months later in the fall of eighth grade completed at home or school. Youth's conceptions of adolescence were assessed in the spring of seventh grade, with their engagement in school (i.e., self-regulated learning strategies) being assessed at both time points. American youth and mothers received a total of \$140 for their participation in the project; their Chinese counterparts received a total of RMB370. Attrition from the spring of seventh grade to the fall of eighth grade was 6 %. This was due entirely to the 9 % of youth in the United States who did not complete the assessment in the fall of eighth grade—there was no attrition in the Chinese sample. American youth completing both assessments did not differ from those completing only the first assessment on any of the variables assessed at the first assessment examined in this report.

### Measures

The measures were initially created in English. Standard translation and back-translation procedures (Brislin 1980) were followed to generate the Chinese versions, with repeated discussion among American and Chinese members of the research team to modify the wording of the items to ensure equivalence in meaning (Erkut 2010). Linguistic factors were taken into account so that the measures were easily understandable to youth in both the United States and China (e.g., difficult and unfamiliar words were avoided).

#### *Conceptions of Adolescence*

We used both open- and closed-ended measures to assess youth's conceptions of adolescence. The open-ended measure was designed to assess youth's spontaneous ideas about teens. We also developed a closed-ended measure. Such a measure permits continuous ratings which allow for a more fine-tuned assessment of youth's conceptions (i.e., the extent to which youth view an attribute as characteristic

of teens rather than simply whether or not they saw it as characteristic). The closed-ended measure also targets teen-specific conceptions more accurately as it asks youth to make ratings comparing teens to younger children (see below). Moreover, the closed-ended measure does not depend on youth's vocabulary as may be the case with the open-ended measure. This is particularly important because teens may be fairly general in regards to what they list in the open-ended measure, which would not allow us to capture specific dimensions (e.g., family responsibility and school disengagement). Hence, although we used both the open- and closed-ended measures to evaluate differences and similarities in American and Chinese youth's conceptions of adolescence, we used only the closed-ended measure to examine the role of youth's conceptions in their engagement in school.

**Open-Ended Measure** During the spring of seventh grade, youth listed attributes (e.g., attitudes and behaviors) of teens (i.e., youth their age) in general. Youth were given a sheet of paper with ten boxes on it, so that they could place each characteristic in a separate box. On the basis of prior work (Buchanan and Holmbeck 1998), the closed-ended measure, and an examination of 20 % of the responses, we coded the descriptions into 11 types (e.g., "independence strivings" and "peer orientation"; see Table 1) that fell into four major areas: (1) *individuation*, (2) *responsibility*, (3) *social relationships*, and (4) *emotionality*. American and Chinese youth's descriptions were coded in their original language by trained native coders who had spent 90 % or more of their lives in the United States (Cohen's  $\kappa = .82$ ) or China (Cohen's  $\kappa = .84$ ). To ensure the coding was equivalent across the United States and China, a bi-cultural coder who had spent considerable time in both countries coded 20 % of the descriptions from each country; the bi-cultural coder's agreement with the American (Cohen's  $\kappa = .80$  and  $.87$ ) and Chinese (Cohen's  $\kappa = .83$  and  $.93$ ) coders was substantial. The total number of descriptions youth provided ranged from 0 to 9 ( $M = 3.68$ ,  $SD = 1.73$  in the United States and  $M = 3.45$ ,  $SD = 1.38$  in China). The coded categories were mutually exclusive, such that each description could receive only a single code.

**Closed-Ended Measure** After completing the open-ended measure, youth completed a new closed-ended measure assessing youth's views of teens along the four target attributes suggested by prior research (see Appendix): (1) *individuation* (e.g., "want to be independent from parents",  $\alpha = .91$  in the United States and  $.90$  in China), (2) *family responsibility* (e.g., "work hard to meet parents' expectations",  $\alpha = .63$  in the United States and  $.71$  in China), (3) *school disengagement* (e.g., "don't care very much about

school",  $\alpha = .84$  in the United States and  $.87$  in China), and (4) *peer orientation* (e.g., "want to spend most of their time with friends",  $\alpha = .80$  in the United States and  $.93$  in China). When possible, we based the items on scales used to assess the extent to which youth themselves possess each of the attributes. For example, the items for the family responsibility scale were modified from the Fuligni et al. (1999) and Ng et al. (2000) scales of family obligation such that youth indicated the extent to which family obligation attitudes and behaviors were more common among teens versus younger children.

Notably, youth made comparisons of teens with younger children to ensure their conceptions were specific to teens. Specifically, for each of the four attributes, youth rated to what extent each of six attitudes or behaviors are true during versus before the teen years (1 = *more true before teen years*, 5 = *equally true before and during teen years*, 9 = *more true during teen years*). The mean of the six items comprising each attribute was taken, with lower numbers indicating that the dimension is more common *before* the teen years and higher numbers indicating it is more common *during* the teen years. As shown in Table 2, the four attributes were sizably associated with one another, such that in both the United States and China youth who tended to hold relatively stereotypical Western views on one attribute (e.g., dampened family responsibility) held them on others (e.g., heightened individuation from parents), with peer orientation being the most weakly associated with the other attributes.

A series of Confirmatory Factor Analyses (CFAs) were conducted in the context of two-group Structural Equation Modeling (SEM) to examine the equivalence of the four conceptions of adolescence scales between the United States and China. We evaluated metric and scalar invariance, which are essential and sufficient in making valid comparisons of the associations and means, respectively (e.g., Chen 2007; Little 1997). A set of CFAs was conducted for each scale. Each was represented as a latent variable with the six items of the scale serving as indicators, which were allowed to correlate (McDonald and Ho 2002). For each set of CFAs, an unconstrained (i.e., baseline) model was compared to constrained (i.e., metric and scalar invariance) models. The indicators in the unconstrained models were freely estimated without any between-country constraints. In the constrained models, the factor loadings and intercepts of the same indicators were forced to be equal between the two countries; otherwise the models were identical to the unconstrained models. Based on statistical modeling, Chen (2007) recommends that changes in the CFI from the unconstrained to constrained model be used as the main criterion for assessing measurement invariance, with a difference of .01 or less reflecting invariance. All the models fit the data adequately,  $\chi^2$ s ( $N = 397$ )  $< 35.47$ , CFIs  $> .98$ , TLIs  $> .90$ , RMSEAs  $< .07$ . The differences in the CFIs between each of the unconstrained and constrained



**Table 1** Percentage of American and Chinese youth mentioning each category of conceptions of adolescence

Category	Type	Definition	Examples	American (%)	Chinese (%)
Individuation	Independence strivings	Want to be autonomous and independent; have their own opinions; resist authority; push the limits	“Have their own opinions”	55	54
	Identity exploration	Concerned with figuring out who they are; confused about their identity	“Try to figure out who they are”	15 <sub>a</sub>	4 <sub>b</sub>
Responsibility	Responsibility	Goal oriented, persistent, responsible for self and others, fulfill obligations to others	“Work hard”	35 <sub>a</sub>	58 <sub>b</sub>
	Irresponsibility	Lack of persistence and self-control; not capable of being responsible for self	“Lazy”	54	46
Social relationships	Respect	Respect parents and others	“Respect parents”	4 <sub>a</sub>	16 <sub>b</sub>
	Disrespect	Inconsiderate; self-centered	“Don’t care about others”	34 <sub>a</sub>	16 <sub>b</sub>
	Peer orientation	Platonic and romantic relationships with peers; sociability; peer pressure	“Spend so much time with friends”	45 <sub>a</sub>	32 <sub>b</sub>
	Prosocial	Kind, understanding, and helpful	“Compassionate”	25	19
	Bullying	Bullying and mean	“They are more mean to people”	28 <sub>a</sub>	6 <sub>b</sub>
Emotionality	Positive	Positive emotions; optimistic	“Happy”	19 <sub>a</sub>	28 <sub>b</sub>
	Negative	Negative and instable emotions; overreactive	“Very anxious”	59	54

Within row, numbers with different subscripts are different from one another ( $ps < .01$ )

**Table 2** Associations between the variables in the spring of seventh grade (Wave 1)

	1	2	3	4	5	6	7	8
1. Individuation conception	–	–.62***	.42***	.39***	–.16*	.03	.19**	.05
2. Family responsibility conception	–.56***	–	–.72***	–.20**	.19**	.01	–.10	.09
3. School disengagement conception	.58***	–.69***	–	.16*	–.09	–.05	.09	–.17*
4. Peer orientation conception	.57***	–.18**	.32***	–	–.08	.00	.12	.04
5. Child gender	–.07	–.08	.11	–.03	–	–.27***	.09	–.05
6. Pubertal status	.08	.16*	–.08	.19**	–.48***	–	–.15*	–.10
7. Maternal educational attainment	.11	–.07	.01	–.02	–.04	–.10	–	.12
8. School engagement	–.01	.19**	–.16*	.10	.00	.01	–.09	–

Correlations for the American sample are presented in the lower triangle; those for the Chinese sample are presented in the upper triangle. For youth’s gender, –1 = female and 1 = male; for mothers’ educational attainment, –1 = less than a college degree and 1 = a college degree or higher

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

models were less than .01, indicating that each of the four conception measures possesses metric and scalar invariance between the United States and China.

### School Engagement

During the spring of seventh grade and fall of eighth grade, youth’s self-regulated learning strategies were assessed with the 18 items from Dowson and McInerney’s (2004) Goal Orientation and Learning Strategies Survey asking about use of meta-cognitive strategies—that is, monitoring, planning, and regulating strategies (e.g., “If I get confused about

something at school, I go back and try to figure it out.”). Youth rated how true (1 = *not at all true*, 5 = *very true*) each item was of them. The 18 items were averaged, with higher numbers indicating greater engagement in school ( $\alpha$ s = .90–.93 in the United States and .89–.91 in China). Comparison of the unconstrained and constrained models for this measure using three conceptually-determined parcels (i.e., one for each type of strategy) as indicators for the latent construct at each assessment point,  $\chi^2$ s ( $N = 397$ )  $< 25.48$ , CFIs  $> .99$ , TLIs  $> .97$ , RMSEAs  $< .05$ , yielded differences of less than .01 in the CFIs, indicating metric and scalar invariance between the United States and China.

### Pubertal Development

Youth completed Petersen, Crockett, Richards, and Boxer's (1988) Pubertal Development Scale (PDS) during the spring of seventh grade. The scale is comprised of five items (1 = *no development*, 4 = *development is complete*). Both boys and girls reported on growth spurt, hair growth, and skin changes; boys also reported on voice change and facial hair and girls on breast development and menarche status (1 = *no*, 4 = *yes*). The mean was taken with higher numbers indicating more advanced pubertal development ( $\alpha = .79$  in the United States and  $.72$  in China). Metric, but not scalar, invariance between the United States and China was established: The CFIs for the unconstrained model and the model in which the factors were constrained to be equal across the two countries,  $\chi^2$ s ( $N = 397$ )  $< 12.67$ , CFIs  $> .98$ , TLIs  $> .90$ , RMSEAs  $< .07$ , differed by less than  $.01$ , but this was not case for the comparisons involving the model in which the intercepts were constrained to be equal, CFI =  $.73$ , TLI =  $.09$ , RMSEA =  $.19$ .

### Results

Two major sets of analyses were conducted. First, we evaluated the idea that youth in the United States and China hold different conceptions of adolescence. To this end, we compared American and Chinese youth's conceptions using the open- and closed-ended measures. Second, we examined whether youth's conceptions of adolescence predict their engagement in school, with attention to whether such conceptions mediate differences in American and Chinese youth's engagement over time.

#### Do American and Chinese Youth's Conceptions of Adolescence Differ?

##### Open-Ended Measure

We first examined youth's response in the open-ended measure to evaluate if American and Chinese youth differ in their spontaneous descriptions of teens. To this end, we conducted Chi-square tests on the percentage of youth mentioning each coded category. The analyses revealed that although American and Chinese youth share some views of teens, their views also diverge as hypothesized. As shown in Table 1, American and Chinese youth similarly saw teens as seeking independence and autonomy,  $\chi^2$  ( $N = 397$ ) =  $.03$ ,  $p = .86$ , but more American than Chinese youth saw identity exploration as characteristic of the typical teen,  $\chi^2$  ( $N = 397$ ) =  $13.38$ ,  $p < .001$ . Moreover, more Chinese (vs. American) youth viewed teens as being

responsible,  $\chi^2$  ( $N = 397$ ) =  $19.87$ ,  $p < .001$ . This heightened view of teens as responsible was accompanied by Chinese youth describing the typical teen as more respectful than did their American counterparts,  $\chi^2$  ( $N = 397$ ) =  $17.64$ ,  $p < .001$ . Although American youth did not see teens as less irresponsible than did Chinese youth,  $\chi^2$  ( $N = 397$ ) =  $2.32$ ,  $p = .13$ , they did view them as more disrespectful,  $\chi^2$  ( $N = 397$ ) =  $18.18$ ,  $p < .001$ . American youth also viewed teens as oriented toward their peers more than did Chinese youth,  $\chi^2$  ( $N = 397$ ) =  $7.77$ ,  $p < .01$ . Moreover, American youth described more bullying,  $\chi^2$  ( $N = 397$ ) =  $32.60$ ,  $p < .001$ , but not necessarily less prosocial behavior,  $\chi^2$  ( $N = 397$ ) =  $1.95$ ,  $p = .17$ , about teens than did their Chinese counterparts. American youth portrayed the typical teen as experiencing fewer positive emotions than did their Chinese counterparts,  $\chi^2$  ( $N = 397$ ) =  $8.71$ ,  $p < .01$ . However, American and Chinese youth were equally like to see the typical teen as experiencing negative and instable emotions,  $\chi^2$  ( $N = 397$ ) =  $.35$ ,  $p = .56$ .

##### Closed-Ended Measure

Multivariate Analysis of Variance (MANOVA) on the closed-ended measures of youth's conceptions of adolescence yielded a multivariate effect of country, Wilks' lambda =  $.87$ ,  $F(4, 390) = 14.28$ ,  $p < .001$ , with the univariate tests revealing a pattern consistent with that for the open-ended measure, but the differences between the United States and China were more pronounced (see Table 3). Specifically, both American and Chinese youth saw the teen (vs. earlier) years as a time of individuation from parents, but American youth were more likely to characterize the teen years as such,  $F(1, 393) = 5.94$ ,  $p < .02$ . American youth indicated more than did Chinese youth that feeling responsible to the family was less true of the teen years than earlier,  $F(1, 393) = 21.51$ ,  $p < .001$ ; in fact, Chinese youth actually saw family responsibility as equally characteristic of the teen and earlier years (see Table 3). As anticipated, American youth viewed the teen (vs. earlier) years as a time of heightened disengagement from school more so than did their Chinese counterparts,  $F(1, 393) = 48.70$ ,  $p < .001$ , who saw the teen years as a time of dampened disengagement compared to the earlier years. Both American and Chinese youth rated teens as more peer oriented than were their younger counterparts, but consistent with youth's descriptions in the open-ended measure, this was stronger among American youth,  $F(1, 393) = 12.55$ ,  $p < .001$ . The differences between American and Chinese youth's conceptions remained evident even when children's gender and pubertal development as well as mothers' educational attainment were taken into account,  $F_s(1, 386) > 3.91$ ,  $p_s < .05$ .

**Table 3** Means and standard deviations of conceptions of adolescence for American and Chinese youth

Subscale	United States	China	Cohen's <i>d</i>
Individuation	7.05 (1.69) <sub>a1</sub>	6.57 (2.23) <sub>b1</sub>	0.24
Family responsibility	4.47 (1.35) <sub>a2</sub>	5.22 (1.81) <sub>b</sub>	0.47
School disengagement	5.97 (1.61) <sub>a1</sub>	4.59 (2.27) <sub>b2</sub>	0.70
Peer orientation	6.76 (1.38) <sub>a1</sub>	6.22 (1.65) <sub>b1</sub>	0.36

The conceptions of adolescence measure uses a 9-point scale with 1 = *more true before teen years*, 5 = *equally true before and during teen years*, 9 = *more true during teen years*. Different letter subscripts indicate a significant ( $ps < .05$ ) difference between countries. The number subscripts indicate a significant ( $ps < .05$ ) difference from the mid-point of the scale (i.e., *equally true before and during teen years*), with a 1 reflecting that the characteristic is more true of the teen (vs. earlier) years and a 2 reflecting that the characteristic is less true of the teen (vs. earlier) years

### What are the Implications for Youth's Engagement in School?

In the next set of analyses, we examined if American and Chinese youth's conceptions of adolescence predict their engagement in school (i.e., self-regulated learning strategies) over time, with attention to whether such conceptions contribute to differences in youth's engagement in school in the United States and China. Given prior theory and research, it was anticipated that conceptions about family responsibility and school disengagement would be particularly important.

We first conducted multiple regression analyses examining the effect of each conception on youth's self-regulated learning strategies over time. We predicted youth's self-regulated learning strategies in the fall of eighth grade from each of the four closed-ended measures of conceptions of adolescence in the spring of seventh grade on their own (Step 2) after adjusting for youth's earlier (i.e., spring of seventh grade) learning strategies as well as country ( $-1 =$  the United States,  $1 =$  China), which were included in Step 1 (for the rationale behind using only the closed-ended measures, see above). Youth's gender ( $-1 =$  girl,  $1 =$  boy), pubertal development, and mothers' educational attainment ( $-1 =$  less than a college degree,  $1 =$  a college degree or higher) were also included (Step 1) given that they were sometimes associated with youth's conceptions (see Table 2). The more youth saw teens (vs. younger children) as responsible to the family, the more they used self-regulated learning strategies 6 months later over and above their earlier learning strategies as well as the other covariates (for the zero-order concurrent correlations, see Table 2),  $\beta = .08$ ,  $p < .05$ . It was also the case, that the less youth viewed teens as disengaged from school, the more they used self-regulated learning strategies 6 months later,  $\beta = -.11$ ,  $p < .05$ . Youth's views of teens in terms of individuation from parents,  $\beta = .00$ ,  $p = .99$ , and peer orientation,  $\beta = -.06$ ,

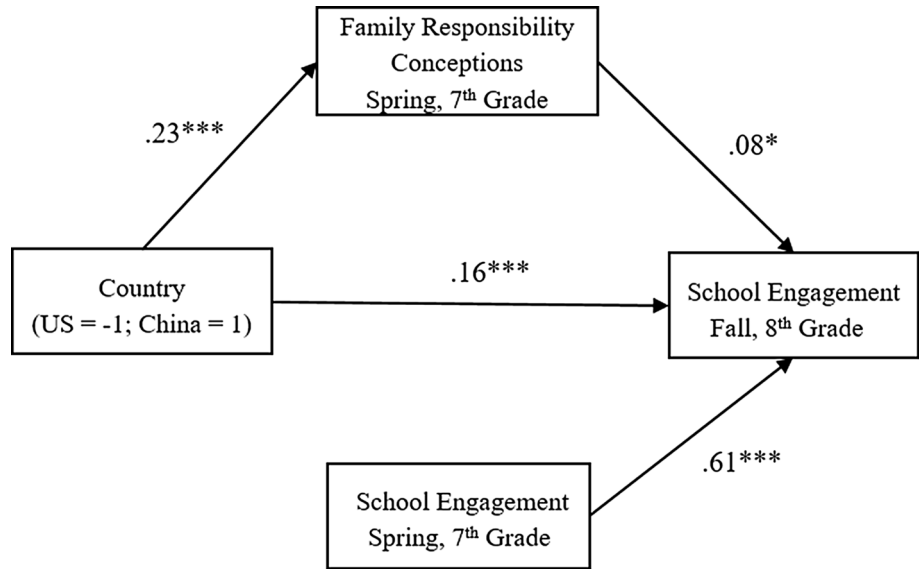
$p = .15$ , did not predict youth's later self-regulated learning strategies. The addition of Country  $\times$  Conception interactions to the regressions allowed us to evaluate whether the effects of the conceptions varied by country. Only one of the four interactions reached significance—that for school disengagement conceptions,  $t(375) = -2.43$ ,  $p < .05$ : Such conceptions predicted dampened use of self-regulated learning strategies over time among Chinese,  $\beta = -.20$ ,  $p < .001$ , but not American,  $\beta = .04$ ,  $p = .51$ , youth.

Because the first step of the regressions included youth's self-regulated learning strategies in the spring of seventh grade and country, it was possible to determine if American and Chinese youth's self-regulated learning strategies changed differently over time as in prior research. Indeed, there was an effect of country,  $\beta = .18$ ,  $p < .001$ . Examination of the means indicated that American youth's use of self-regulated learning strategies decreased from the spring of seventh grade ( $M = 3.61$ ,  $SD = .71$ ) to the fall of eighth grade ( $M = 3.53$ ,  $SD = .76$ ) although the change did not reach significance,  $t(193) = 1.66$ ,  $p = .10$ . In contrast, use of self-regulated learning strategies among Chinese youth increased ( $M = 3.58$ ,  $SD = .65$  in the spring of seventh grade and  $M = 3.77$ ,  $SD = .68$  in the fall of eighth grade),  $t(193) = 4.89$ ,  $p < .001$ .

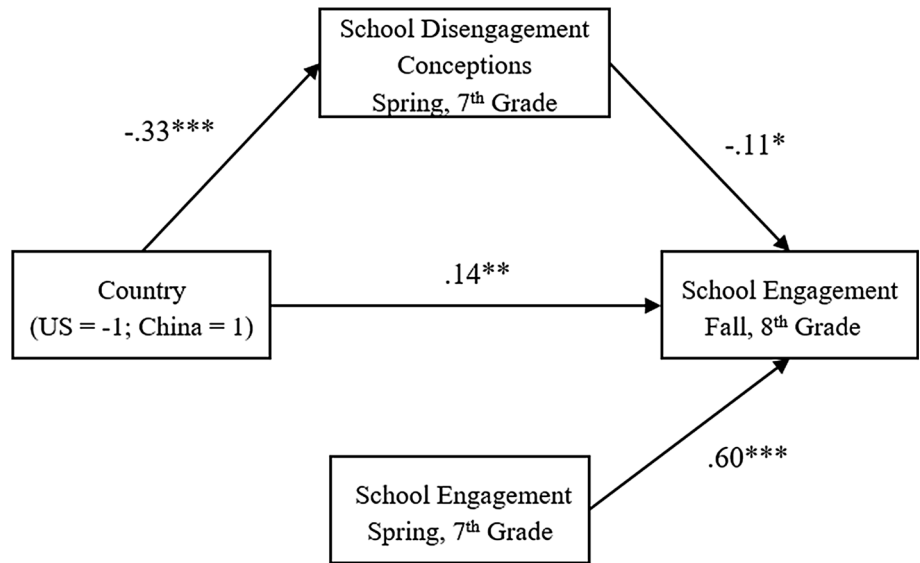
To evaluate if differences in American and Chinese youth's family responsibility and school disengagement conceptions contribute to the differences in their use of self-regulated learning strategies over time, we used bias-corrected bootstrapping resampling techniques to test the indirect effect with each conception as a mediator (Preacher and Hayes 2008). Using 1000 bootstrap resamples, the indirect path from country to family responsibility conceptions (spring of seventh grade) to later (fall of eighth grade) use of self-regulated learning strategies adjusting for earlier (spring of seventh grade) use of learning strategies was significant (see Fig. 1), 95 % CI [.01, .07]. The difference in American and Chinese youth's self-regulated learning strategies over time was reduced by 11 %, although the difference remained significant. Similarly, school disengagement conceptions partially mediated the differences in American and Chinese youth's self-regulated learning strategies over time (see Fig. 2), 95 % CI [.01, .10], with a 22 % reduction. Simultaneous inclusion of the two paths indicated that they accounted for overlapping variance as neither reached significance, 95 % CI  $[-.02, .04]$  for family responsibility, and 95 % CI  $[-.01, .10]$  for school disengagement.

We conducted a set of sensitivity analyses to ensure that the inclusion of the covariates (i.e., youth's gender and pubertal development, along with mothers' educational attainment) was somehow not biasing the effects. To this end, the regressions described above were conducted excluding the covariates. Youth's conceptions of adolescence as a time of family responsibility and school disengagement still

**Fig. 1** Youth's conceptions of adolescence as a time of family responsibility partially mediate the difference in American and Chinese youth's engagement in school over the seventh and eighth grades. *Note* Mediation was evaluated in the context of multiple regression analyses. The standardized coefficients yielded by these analyses are presented. \* $p < .05$ ; \*\*\* $p < .001$



**Fig. 2** Youth's conceptions of adolescence as a time of school disengagement partially mediate the difference in American and Chinese youth's engagement in school over the seventh and eighth grades. *Note* Mediation was evaluated in the context of multiple regression analyses. The standardized coefficients yielded by these analyses are presented. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$



predicted children's later engagement in school adjusting for their earlier engagement,  $\beta = .08$ ,  $p < .05$  and  $\beta = -.11$ ,  $p < .05$ , respectively. As in the original analyses, the other conceptions did not predict children's engagement. When the mediation analyses were conducted without the covariates, there was also evidence for the indirect path via family responsibility conceptions, 95 % CI [.01, .06], and disengagement conceptions, 95 % CI [.01, .10].

**Discussion**

Over a decade ago, Arnett (1999) pointed out that the mild storm and stress among many American youth during adolescence is often not evident outside the West. Unfortunately,

there has been little empirical attention to the mechanisms underlying such differences. Because there appears to be less storm and stress as youth enter adolescence in China (vs. the United States; e.g., Wang and Pomerantz 2009; Pomerantz et al. 2011), the current research examined whether views of teens differ in the two countries, thereby creating differences in the pathways they take over this phase of development. Although there were some similarities in how youth in the United States and China viewed adolescence, there were also notable differences, with American youth seeing the phase more of a time of moving away from parents and toward peers. Notably, views of adolescence as a time of dampened family responsibility and heightened school disengagement contributed to American (vs. Chinese) youth being less engaged in school—as manifest in their self-regulated

learning strategies—over the seventh and eighth grades. Taken together, the findings suggest that culture may shape adolescents' engagement in school during early adolescence in part through the ideas it transmits to youth about this phase of development.

### Conceptions of Adolescence in the United States and China

American youth's views of teens in the current research were consistent with Western scholars' depiction of this phase (e.g., Grotevant and Cooper 1986; Youniss and Smollar 1985) as well as prior research on lay conceptions of adolescence in the United States (e.g., Buchanan and Holmbeck 1998; Hines and Paulson 2006). However, perhaps because of the emphasis on filial piety in China, Chinese youth's views diverged from the portrait that has been painted by prior theory and research in the West. Particularly striking is that American youth saw responsibility as less characteristic of teens than did Chinese youth in both the open- and closed-ended measures. In the context of the closed-ended measure in which youth made comparative judgments between teens and younger children, American youth saw teens as less responsible to the family than younger children; Chinese youth felt teens were as responsible as younger children. A similar pattern was evident in the closed-ended measure when it came to school disengagement, with American youth rating disengagement as more common during than before the teen years—which is consistent with prior research (Galván et al. 2011)—and Chinese youth rating it as less common. Surprisingly, explicit mention of disengagement was not frequent among American or Chinese youth in the open-ended measure. This may be due to youth's descriptions being fairly general; for example, "hard working" may have referred in part to school engagement. Indeed, supplementary analyses indicated that when youth spontaneously described teens as responsible in the open-ended measure, they also reported teens (vs. younger children) as less disengaged in school ( $r = -.17, p < .01$ ) in the closed-ended measure.

There was divergence for other attributes as well, but also some convergence. In regards to individuation from parents, on the closed-ended measure, both American and Chinese youth viewed this as more common among teens than younger children, suggesting that individuation from parents is a common theme for adolescents in the two countries. However, American (vs. Chinese) youth endorsed the idea that adolescence is a time of individuation from parents more. Individuation was also spontaneously generated more frequently by American than Chinese youth, but this was due almost entirely to American youth mentioning identity exploration (e.g., concern over figuring out who they are) more than Chinese youth rather than independence strivings (e.g., desiring

autonomy). As was the case for individuation from parents in the closed-ended measure, both American and Chinese youth viewed teens as more oriented toward their peers than younger children, but this was more true among American youth. Echoing this difference, American youth spontaneously characterized teens as more peer oriented than did Chinese youth in the open-ended measure in which teens were also described as engaging in more bullying by American (vs. Chinese) youth. Consistent with prior research in the United States (e.g., Buchanan and Holmbeck 1998), youth spontaneously described teens as emotional in the open-ended measure: Over half of both American and Chinese youth said negative or instable moods were common, with American (vs. Chinese) youth seeing positive emotions as less common.

The differences in ideas about adolescence among youth in the United States and China should be interpreted in light of the substantial variability in such ideas among youth within each country. Youth in both countries are exposed to their country's mainstream views of teens via the media and other avenues. However, there is likely variability in their exposure to such views, with some youth also being more receptive to them than others. Prior research indicates that within the United States, there is variation in conceptions of adolescence among youth and mothers from the same geographical region (e.g., Buchanan and Hughes 2009). Moreover, in the current research, for some attributes, there was variation in the United States due to youth's pubertal development. Variation within countries due to geography and ethnicity as well as attributes of youth and families are likely nested within the mainstream culture. Notably, comparison of the standard deviations in the United States and China using Levene's test indicated that the variance in youth's views of teens was smaller in the United States than China for all four of the dimensions (see Table 3),  $F_s > 5.82, p_s < .05$ . This may be due to the fact that although there is substantial exposure to Chinese culture in China, there is also exposure to Western culture. There may be differences among Chinese youth in how much access they have to the latter, as well as their receptivity to it.

### Implications for Youth's Engagement in School in the United States and China

A key reason for examining whether there are differences in ideas about the teen years in the United States and China is because such ideas may contribute to how youth navigate this phase of development. Consistent with prior research (Wang and Pomerantz 2009; Yang et al. 2013), American and Chinese youth's school engagement changed differently over time: There was a non-significant decrease in the United States, but a significant increase in China. Prior research finds that the tendency for American but not Chinese youth's sense of responsibility to parents to

decline over early adolescence accounts for the difference in American and Chinese youth's engagement over this phase of development (Qu and Pomerantz 2015). Therefore, we expected conceptions of adolescence about this attribute to be key. Because youth's maintenance of engagement in school may be a central responsibility, we also anticipated conceptions about school disengagement to be important. Indeed, the difference in American and Chinese youth's engagement in school over the seventh to eighth grade was accounted for in part by differences in how they viewed adolescence in regards to family responsibility and school disengagement.

It is of note that youth's conceptions of family responsibility and school disengagement and not their conceptions of other attributes were predictive of youth's engagement in school. This is not surprising given prior theory and research implicating family responsibility, with engagement in school often being an important responsibility, in youth's engagement in school (e.g., Pomerantz et al. 2011). Moreover, being peer oriented may have both constructive and unconstructive consequences, depending on youth's peer group (e.g., Brown et al. 2008); hence, the effects of conceptions of this attribute may be difficult to detect without information about the peer group. Individuation from parents may similarly be dependent on other factors. It is also of note that the effects of the family responsibility and school disengagement conceptions on youth's engagement in school identified in the current research fall in the small range suggesting that they are one of a variety of forces that shape engagement. Indeed, these conceptions only partially mediated the difference in American and Chinese youth engagement in school over time; the extent to which youth's views of teens translate into more proximal influences (e.g., a sense of responsibility to the family) may also depend on a host of other factors.

### Limitations and Future Directions

The current research has several limitations that point to directions for future research. First, despite our inclusion of a number of important covariates (e.g., youth's pubertal status, gender, and mothers' educational attainment), causal conclusions cannot be made. By taking into account youth's prior adjustment in our analyses, we ruled out the possibility that youth's conceptions of adolescence predict their later engagement in school simply because they reflect youth's earlier engagement. However, other forces (e.g., youth's temperament or their parents' practices) may shape both their conceptions of adolescence and engagement in school, thereby accounting for the effects of youth's conceptions. Experimental research will be instrumental in identifying the causal role of conceptions of adolescence in youth's psychological adjustment. For example, youth's conceptions of adolescence

could be manipulated via base rate information or salient personal stories. In addition, future research should examine the extent to which youth's conceptions of adolescence and their psychological adjustment over this phase of development reinforce one another. For example, views of teens as engaged in school predicts greater engagement in school as youth enter adolescence which may in turn lead youth to see teens as engaged. Longitudinal research in which both youth's conceptions and adjustment are assessed simultaneously at multiple time points will provide insight into such a process.

Second, we examined ideas about teens only among early adolescents. Future studies should move beyond this limited slice of development to determine whether youth's conceptions change such that American and Chinese youth either converge or diverge more after early adolescence. Notably, however, although more advanced pubertal development was associated with more Western views of adolescence in terms of family obligation and school disengagement in the United States (Table 1), pubertal development did not account for the differences in American and Chinese youth's conceptions of adolescence. In addition, the major exam in China that determines if and where children will go to high school takes place at the end of ninth grade. Given that we examined school engagement from seventh to eighth grade, it is possible that the different trajectories of school engagement between American and Chinese youth are due, in part, to the timing of this exam, which is absent in the United States. Indeed, the differences in how American and Chinese children approach school appear to be smaller as children enter into high school, although such differences remain significant (Yang et al. 2013).

Third, the current research focuses on the implications of youth's conceptions of adolescence for their engagement in school, a key dimension of psychological adjustment on which American and Chinese follow different trajectories during early adolescence (e.g., Wang and Pomerantz 2009). However, such conceptions may also play an important role in shaping other dimensions of youth's psychological adjustment, such as relationships with parents and peers, conceptions of the self, and antisocial behavior (e.g., risk taking and delinquency), on which American and Chinese youth differ during adolescence (e.g., Greenberger et al. 2000; Pomerantz et al. 2009, 2011; Setoh et al. 2015). Hence, future research investigating the role of conceptions of adolescence in different dimensions of psychological adjustment over adolescence would be fruitful.

### Conclusions

The current research indicates that although there are some similarities in how American and Chinese youth view adolescence, there are also differences, which contribute to

differences in their engagement in school over early adolescence. In general, American youth saw adolescence as more of a time of moving away from parents and toward peers than did their Chinese counterparts. Ideas that the teen years are a time of responsibility to the family and engagement in school predicted increased engagement in school among youth over time, partially accounting for Chinese (vs. American) youth's increased engagement. These findings suggest that culture shapes youth's conceptions of adolescence in the United States and China, which contribute to differences in youth's engagement in school over this phase in the two countries.

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**Author Contributions** YQ was involved in developing the hypothesis motivating the reported research. He also took a major role in designing the measures, collecting the data in the United States and China, and conducting the data analyses. He drafted the manuscript as well. EP was also involved in hypothesis development, measure design, data analysis, and manuscript preparation. MW was responsible for data collection in China. CC was involved in designing the broader study and collecting data in the United States. AC was involved in hypothesis and measure development in regards to the conceptions of adolescence. All authors read and approved the final manuscript.

**Conflicts of Interest** The authors report no conflict of interests.

**Ethical Approval** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

**Informed Consent** Informed assent was obtained from all individual youth in the study; informed consent was provided by their mothers.

## Appendix: Closed-Ended Conceptions of Adolescence Measure

Instructions: To what extent do you think each of the descriptions below is true of TEENS MORE than younger children. For each item, shade in the circle that shows how much you think it is more true of teens (right side of the scale), more true of younger children (left side of the scale), or equally true of the two (mid-point of the scale).

### Individuation from parents

1. Constantly point out parents' faults.
2. Argue often with parents.
3. Easily become angry with parents.
4. Want to be independent from parents.

5. Demand to make decisions without parents' input.
6. Rebel against parents.

### Family responsibility

1. Work hard to meet parents' expectations.
2. Disrespectful of parents (reverse-scored).
3. Concerned with parents' approval.
4. Care little about fulfilling family obligations (reverse-scored).
5. Act as responsible members of the family.
6. Rarely comply with parents' requests (reverse-scored).

### School disengagement

1. Uninterested in schoolwork.
2. Don't care very much about school.
3. Excited about what they are learning in school (reverse-scored).
4. Pay little attention in class.
5. See schoolwork as important (reverse-scored).
6. Put a lot of effort into school (reverse-scored).

### Peer orientation

1. Want to spend most of their time with friends.
2. Want to fit in with other kids.
3. See friends as an important part of their lives.
4. Very concerned with what other kids think.
5. Enjoy being with friends more than adults.
6. Easily influenced by other kids.

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