

## Parental Autonomy Support in Two Cultures: The Moderating Effects of Adolescents' Self-Construals

Kristine N. Marbell-Pierre, Wendy S. Grolnick, Andrew L. Stewart, and  
Jacquelyn N. Raftery-Helmer  
*Clark University*

Parental autonomy support has been related to positive adolescent outcomes, however, its relation to outcomes in collectivist cultural groups is unclear. This study examined relations of specific autonomy supportive behaviors and outcomes among 401 adolescents ( $M_{\text{age}} = 12.87$ ) from the United States ( $N = 245$ ) and collectivist-oriented Ghana ( $N = 156$ ). It also examined whether adolescents' self-construals moderated the relations of specific types of autonomy support with outcomes. Factor analyses indicated two types of autonomy support: perspective taking/open exchange and allowance of decision making/choice. In both countries, perspective taking/open exchange predicted positive outcomes, but decision making/choice only did so in the United States. With regard to moderation, the more independent adolescents' self-construals, the stronger the relations of decision making/choice to parental controllingness and school engagement.

Parental autonomy support is a parenting practice that has been related to adjustment in adolescents, including self-regulation, academic achievement, and enhanced emotional functioning (Grolnick & Ryan, 1989; Soenens & Vansteenkiste, 2005; Wang, Pomerantz, & Chen, 2007). There has been controversy about the importance and effects of autonomy support in different cultural contexts, with some researchers believing that it is of less benefit in more collectivist cultures and others seeing benefit across cultural context. Recent research has suggested that this issue needs to be approached in a more nuanced manner, pointing out that some types of autonomy support may have more universal effects than others (Marbell & Grolnick, 2013; Soenens et al., 2007). In particular, types of autonomy support that focus on support for volitional functioning may be more universal, while other types, such as decision making, may be more distinct. What has received less attention is why differences in the effects of different types of autonomy support exist. In particular, what might make children more likely to experience certain types of purported autonomy support, such as their parents allowing them to make decisions, as supportive of

their autonomy? This study adds to the literature by examining one such possible characteristic, children's self-construals. In particular, it is argued that children with more independent self-construals will be more likely to experience parents allowing them to make decisions as autonomy supportive, while children with more interdependent self-construals, in which parents are included in children's conceptions of themselves, will be less likely to see such interventions as autonomy supportive. The study used a self-determination theory (SDT) conceptualization of autonomy and autonomy support to examine (a) whether specific types of autonomy support are beneficial in two divergent cultural contexts: the United States and Ghana, and (b) whether children's self-construals moderated the associations between different components of autonomy support and both controlling parenting and children's motivational and emotional functioning in these two contexts.

### *Autonomy and Autonomy Support Defined*

From an SDT perspective, autonomy refers to acting volitionally and the sense of being behind one's actions (Deci & Ryan, 1985). SDT posits that the need for autonomy (as well as those for relatedness and competence) is an innate human need.

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Correspondence concerning this article should be addressed to Kristine N. Marbell-Pierre, Ghana International School, 2nd Circular Rd, P.O. Box GP 2856, Accra North, Ghana. Electronic mail may be sent to [kmarbell-pierre@gis.edu.gh](mailto:kmarbell-pierre@gis.edu.gh).

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Environments that support autonomy, that is, those that encourage the experience of one's actions as volitional and self-endorsed rather than coerced, are conducive toward autonomous motivation and psychological well-being. In contrast, controlling environments, which pressure people toward specific outcomes and solve problems for them, conduce toward external motivation and ill-being (Ryan & Deci, 2006).

Within parenting, autonomy support involves taking children's perspectives, encouraging self-initiation, and allowing for input and opinion exchange (e.g., Assor, Kaplan, & Roth, 2002; Grolnick, Ryan, & Deci, 1991; Soenens et al., 2007). Autonomy supportive contexts facilitate children internalizing the value or importance of behaviors such that they are more likely to engage in them for autonomous (e.g., because they see the value in them) rather than controlled (i.e., because they would get in trouble if they did not) reasons. Furthermore, autonomy supportive environments should conduce toward experiences of competence as more ownership is felt for behavior. Consistent with these ideas, parental autonomy support has been associated with children's and adolescents' more autonomous motivation for school behavior (Grolnick & Ryan, 1989) and physical activity (Vierling, Standage, & Treasure, 2007), and perceived competence (Grolnick et al., 1991). Controlling parenting, by contrast, has been linked with negative affect and both internalizing and externalizing symptomatology (e.g., Barber, Stolz, & Olsen, 2005).

SDT proponents assert that satisfaction of the need for autonomy leads to positive outcomes regardless of culture, though they acknowledge that the manifestation of the need, as well as which behaviors are experienced as supporting the need may differ in different contexts. However, theorists from other orientations (e.g., Chao, 1994; Iyengar & Lepper, 1999; Markus & Kitayama, 1991) suggest that in cultures that prioritize the well-being of the group above the individual, autonomy may not be as relevant, and thus, supporting autonomy may not have the same positive effects. Similarly, supporting children's autonomy may conflict with the value of maintaining a social hierarchy, leading to maladjustment. Hofstede (2001), in his development of cultural indexes (cultures scored 1–100 on various indexes), called societies with these values collectivist and hierarchical, respectively.

One such country is Ghana. Ghana was one of three West African countries categorized as highly collectivist, with a low individualist index of 15

(Hofstede, Hofstede, & Minkov, 2010). Many Ghanaians live in multifamily compounds with extended family members engaged in mutually beneficial collaborations around child care, household labors, and social and financial resources (Hanson, 2005). Ghana is also categorized as highly hierarchical, with a high power index score of 80. Older people are seen as superior to younger ones and are valued as reservoirs of wisdom. Children are expected to defer to the authority of their elders. In a collectivist and hierarchical culture like Ghana, children's behaviors are typically decided by others in the community, with the understanding that this is in the child's and community's best interests.

The United States, on the other hand, despite its composition of many different cultures including Asian Americans, African Americans, Euro-Americans, Latinos, and Native Americans, is described as one of the most individualist countries in the world, with an individualist index of 91 (Hofstede et al., 2010). In the United States, self-reliance and the ability to take initiative are highly valued. The low score of 40 on the power distance index indicates egalitarian values.

SDT proponents have noted that a problem with researchers' criticisms of autonomy as not universal is that these researchers conceptualize autonomy differently from SDT (Ryan & Deci, 2006). SDT theorists define autonomy as the degree to which behaviors are enacted with a sense of volition and individuals stand behind their actions. By contrast, independence refers to not relying on others and, within the family, a process of separation–individuation in which children distance themselves from family members and stop depending on them (Blos, 1979). Markus and Kitayama (1991) define autonomy as self-reliance and acting to meet one's own needs rather than those of the group. This definition is closer to independence, which differs markedly from the SDT definition of autonomy. With a view of autonomy as acting for oneself, autonomy is seen as incompatible with the values of interdependent cultures where one is expected to act for the good of the group.

Paralleling the argument for autonomy versus independence, parental support of autonomy can be distinguished from parental support of independence. In some studies, autonomy support has been operationalized as parents' encouragement of assertive and self-reliant behaviors such as independent decision making (Silk, Morris, Kanaya, & Steinberg, 2003; Steinberg & Silk, 2002). Soenens et al. (2007) distinguished autonomy support, defined as

promotion of volitional functioning, from promotion of independence, and showed that they are two separate concepts with distinct effects on children's outcomes. In particular, promotion of volitional functioning predicted adolescents' feelings of self-worth, social well-being, and decreased depressive feelings, whereas promotion of independence did not. Marbell and Grolnick (2013), in a study of Ghanaian sixth graders, found that endorsement of certain autonomy support items (e.g., "My parents allow me to decide things for myself," "My parents let me do things my own way") did not correlate negatively with controlling items (e.g., "My parents insist I do things their way") in the way they typically have in U.S. samples (e.g., Grolnick et al., 2014), though in this study there was no comparison group of U.S. adolescents. Results of a follow-up study suggested that these autonomy support items were interpreted by some Ghanaian participants as lack of parental concern. This suggests that children from interdependent cultures may experience some potentially autonomy supportive behaviors differently than Western adolescents. Given that some components of autonomy support may function differently in non-Western cultures, this study included several types of autonomy support used in previous studies.

#### *Components of Autonomy Supportive Parenting*

Four types of autonomy support were included. *Perspective taking*, or acknowledging children's point of view and empathizing with their thoughts and feelings, has been suggested as an effective way to support autonomy (Grolnick, 2003; Joussemet, Koestner, Lekes, & Houliort, 2004; Koestner, Ryan, Bernieri, & Holt, 1984). Parents' communication of empathy and understanding of possible contrary feelings the child may have to a request have been shown to predict intrinsic motivation to engage in the behavior, children's reports of feeling understood, positive affect, and autonomous self-regulation for the task (Joussemet et al., 2004; Koestner et al., 1984).

Studies have included *allowance of decision making* as a technique for facilitating children's self-regulation and adjustment (Fletcher, Steinberg, & Williams, 2004; Grolnick et al., 2014). Within the autonomy support literature, measures have included parents allowing children to make decisions (e.g., my parents allow me to decide things for myself) and these items have been associated with positive child outcomes (e.g., Grolnick et al., 1991). Notably, these items are not equivalent to items assessing unilateral

adolescent decision making in the decision-making literature, which typically assess the frequency with which adolescents alone make key decisions such as curfew. Such scales show negative relations with adjustment (e.g., Lamborn, Dornbusch, & Steinberg, 1996).

This component of autonomy support, however, raises questions regarding cultural groups with interdependent orientations. In hierarchical societies, allowing children to make decisions may upset the social hierarchy and contradict the idea of deferring to adult authority. In support of this reasoning, Helwig, Arnold, Tan, and Boyd (2003) found that Chinese adolescents from more traditional regions tended to endorse decision making by adult authority over decision making by children more than Chinese adolescents from urban regions. However, even these adolescents preferred joint decision making (reaching a consensus) when it came to family decisions. Lamborn et al. (1996) also found that for all adolescents, regardless of ethnicity, joint decision making was associated with positive adjustment. Interestingly, they also found that unilateral parental decision making was correlated with less involvement in deviance and higher grades for African American adolescents. Similarly, Smetana, Campione-Barr, and Daddis (2004) found that African American adolescents reporting increased decision-making autonomy (i.e., input and say) over personal issues (e.g., how to spend free time) from early adolescence to later adolescence showed better self-worth and less depression in late adolescence. While there is some evidence that children from more collectivist cultures are more likely to believe they should obey their mothers when they prohibit personal decisions (Yau, Smetana, & Metzger, 2009), Smetana, Wong, Ball, and Yau (2014) showed that both Chinese and American children believed that behaviors judged as within the personal realm should be permitted. How decision making facilitates adjustment and autonomous motivation across cultures requires further exploration.

A third component of autonomy support is *allowance of open exchange* (Grolnick et al., 2014), that is, parents allowing children to express their viewpoints and opinions, including criticism (Assor et al., 2002), and responsiveness to questions and comments (Reeve & Jang, 2006). While evidence suggests that encouraging children to express negative affect promotes emotional and social competence in Western cultures (Roberts & Strayer, 1987), in collectivist cultures, it is considered inappropriate for children to be assertive (Bernstein, Harris, Long,

Iida, & Hans, 2005). In Ghana, children's expression of opinions conflicting with those of parents may be viewed as disrespectful. However, studies in both China and Ghana (Marbell & Grolnick, 2013; Wang et al., 2007) have included opinion exchange items in their assessment of autonomy support and found them to be associated with positive child outcomes.

Provision of *choice* is another component of autonomy support shown to be associated with intrinsic and autonomous motivation (e.g., Cordova & Lepper, 1996). The effectiveness of choice has been examined in non-Western samples with mixed results. Wang et al. (2007) found that among seventh-grade Chinese adolescents, autonomy support, measured as provision of choice and allowance of opinion exchange, was positively associated with life satisfaction, positive emotions, self-esteem, and academic functioning. Although a recent meta-analysis showed that choice, overall, has positive effects on motivation (Patall, Cooper, & Robinson, 2008), there is some evidence that cultural context may moderate such effects. Bao and Lam (2008), for example, found that for Chinese students who had positive relationships with their mothers, who chose their activity (mother or child), did not affect children's motivation to pursue the activity. On the other hand, students with a less positive relationship were more motivated when they versus their mothers chose the activity. Iyengar and Lepper (1999) found that, for Asian American children, having their mothers choose a task for them did not undermine their intrinsic motivation the way it did for Euro-American children. Iyengar and Lepper (1999) concluded that having choice was not relevant to Asian Americans. However, in the same study, choices made for Asian American children by strangers had detrimental effects on intrinsic motivation. Thus, it may be more accurate to conclude that choice was relevant—though who made the choice was crucial. One possible explanation for the different results for Euro-American versus Asian American children concerns their self-construal, that is, their view of themselves in relation to others. Thus, the present study measured self-construals as one possible factor moderating the effects of different types of autonomy support on child outcomes.

#### *Cultural Differences in Self-Construals*

Researchers have proposed two divergent concepts of the self: the independent self and the interdependent self (Markus & Kitayama, 1991). The

independent self refers to the self as a contained, bounded unit that is separate from others. Behaviors are seen as influenced and motivated by one's own internal thoughts, feelings, and actions rather than those of others. This view of the self is more common in individualistic societies, where assertiveness and individual achievement are valued and encouraged (Rubin, 1998).

People with an interdependent view of the self, on the other hand, view themselves as less differentiated from others, and relationships with family and community members contribute to their identity. This view of the self is more common in interdependent cultures, in which people view themselves as part of a social group and prioritize relationships with others (Markus & Kitayama, 1991). Trusted others (e.g., mother) are an integral part of one's identity. Thus, the experience of autonomy for individuals with interdependent selves may include behaviors initiated by significant others. Self-construal can be used to explain Iyengar and Lepper's (1999) findings. For Asian American children, since mothers are included in their identity, their mother's choice was not seen as coming from an external source, but, rather, felt as autonomous as if they had chosen it themselves. Thus, children's self-construal may influence the way in which some aspects of autonomy support, such as choice, function to support children feeling volitional.

Several studies support the importance of independent versus interdependent self-construals. For instance, Pomerantz, Qin, Wang, and Chen (2009) examined the extent to which American and Chinese adolescents included their relationship with their parents in their self-construals (e.g., My relationship with my parents is an important part of who I am). They found that, while both American and Chinese adolescents included parents in their self-construals in seventh grade, U.S. adolescents did so less over time, while Chinese adolescents continued to do so over the course of seventh and eighth grades. They also found that the more children included their parents in their self-construal, the more positively they viewed the relationship with their parents. However, when quality of relationship was accounted for, U.S. adolescents still tended to decrease and Chinese adolescents increase in their inclusion of their parents in their self-construals. Thus, these findings show that self-construal is distinct from quality of relationship with parents.

Children's self-construals may explain differences in the effects of autonomy support across cultures.

Having an interdependent view of the self may influence how one interprets some autonomy supportive behaviors. Specifically, an autonomy supportive behavior such as choice may be more likely to promote a sense of autonomy for those with independent self-construals than for those with interdependent selves. While we expect self-construals to differ by country, with U.S. children being more independent and Ghanaian children more interdependent, cultural orientation does not have a one-to-one correspondence to country (Oyserman, Coon, & Kemmelmeier, 2002). Thus, we were interested in examining the effects of country (The United States and Ghana) and self-construal as potential moderators of the effects of different types of autonomy support.

### *Current Study and Hypotheses*

Previous studies have addressed whether autonomy supportive parenting is beneficial in collectivist cultures via cross-country comparisons of the relations of global or single measures of autonomy support to child outcomes, resulting in conflicting findings (e.g., Iyengar & Lepper, 1999 vs. Wang et al., 2007). The current study went a step further and, using an SDT perspective, examined the relations of four specific autonomy supportive behaviors with adolescents' motivation and well-being in Ghana (a collectivist and hierarchical society) and the United States (an individualist and egalitarian society). Although overall there are distinct cultural differences between the United States and Ghana, with the United States more individualist and Ghana more collectivistic, the U.S. sample included a considerable proportion of adolescents who may have collectivist backgrounds (e.g., Asian and Hispanic). Given that we wished to study a U.S. group, we included all participants, noting that combining U.S. adolescents with Euro-American, Hispanic, and other backgrounds makes U.S./Ghana comparisons a conservative test of our hypotheses. However, to be cautious, we also made further comparisons between those with Euro-American backgrounds in the United States and Ghanaians. We included as outcomes key aspects of motivation that have been related to achievement and adjustment and have been included in other studies of autonomy support (e.g., Wang et al., 2007), including academic engagement (Skinner & Belmont, 1993), autonomous motivation (Ryan & Connell, 1989), and self-worth (Harter, 1982). We also included a measure of depression (Kovacs, 1992) as depression has been linked both theoretically and

empirically to controlling parenting (Barber et al., 2005).

We hypothesized that two of the types of autonomy support, perspective taking and open exchange, would be negatively correlated with controlling parenting and positively correlated with adaptive outcomes among both Ghanaian and U.S. adolescents. We also expected that, in the United States, choice and decision making would correlate positively with adolescent adjustment, would be related positively to the other types of autonomy support, and would be negatively related to controlling parenting. However, in Ghana, we expected that choice and decision making would not be strongly correlated with either the other types of autonomy support or with child outcomes. Finally, we hypothesized that the relations of choice and decision making with adolescent outcomes and controlling parenting would be moderated by children's self-construals such that the more independent children's view of self, the stronger the relations of choice and decision making with positive outcomes and the more they would be negatively associated with controlling parenting.

## **Method**

### *Participants*

Participants were 401 adolescents (156 boys and 145 girls) in seventh and eighth grades ( $M_{\text{age}} = 12.87$ ,  $SD = 0.68$ ) from Ghana and the United States. U.S. participants ( $N = 245$ ; 99 boys [40.4%] and 146 girls [59.6%]) were recruited from two urban public schools in the northeast. Ghanaian participants ( $N = 156$ ; 57 boys [36.5%] and 99 girls [63.5%]) were recruited from an urban public school in the capital city of Ghana, Accra. Of the U.S. participants, 93 (38%) identified as Euro-American/White, 81 (33.1%) as Hispanic, 26 (10.6%) as African American, 25 (10.2%) as Asian, 2 (0.8%) as Native American, and 18 (7.3%) as biracial or other.

Highest education attained by caregivers varied in both the United States and Ghana. The United States: For mothers and fathers, respectively, 45 (18.4%) and 48 (19.6%) did not finish high school, 35 (14.3%) and 49 (20%) finished high school, 31 (12.7%) and 18 (7.3%) had some college or an Associate's degree, 69 (28.2%) and 52 (21.2%) had a college degree, 39 (15.9%) and 36 (14.7%) had a degree beyond college. Education level for 26 (10.6%) U.S. mothers and 42 (17.1%) U.S. fathers was not reported. In Ghana, fathers tended to have higher levels of education than mothers: For mothers and

fathers, respectively, 43 (27.6%) and 13 (8.3%) had not finished high school, 42 (26.9%) and 19 (12.2%) finished high school, 8 (5.1%) and 6 (3.8%) had some university, 19 (12.2%) and 39 (25%) finished college, and 16 (10.3%) and 46 (29.5%) had a degree beyond college. Education level was not reported for 28 (17.9%) mothers and 33 (21.2%) fathers.

In the United States, most participants, 98 (40%), lived with both parents, 67 (27.3%) lived with mother only, 29 (11.8%) with father only, 23 (9.4%) with mother and stepfather, 7 (2.9%) with father and stepmother, 5 (2%) with grandparents, and 15 (6.1%) lived with another caregiver such as a foster parent or extended relative. Similarly, in Ghana, most participants, 105 (67.3%), lived with both parents, 20 (12.8%) with mother only, 4 (2.6%) with father only, 6 (3.8%) with father and stepmother, 8 (5.1%) with grandparents, and 12 (7.7%) with an aunt or other extended relative.

Chi-square analyses indicated that the two samples were comparable on child gender,  $\chi^2(1) = 0.73$ ,  $p < .39$ , but the Ghanaian sample was higher in maternal education,  $\chi^2(4) = 30.51$ ,  $p < .001$ , and paternal education,  $\chi^2(4) = 24.22$ ,  $p < .01$ .

#### *Recruitment and Procedure*

In both Ghana and the United States, students were visited in their classrooms and given letters to take home describing the study and asking parents for permission to have their child participate. In the United States, letters were provided in both Spanish and English. In Ghana, letters were provided in English as this is the official language of the country and the language used in schools. In the United States, 59.2% of the parents returned the letters and of these, 93.9% consented to have their child participate. In Ghana, 28.7% of parents returned the letters and of these, 95% agreed to have their child participate.

Questionnaires were administered in classroom groups to children whose parents gave consent. The questionnaires took approximately 1 hr. To thank them for their participation, participants were given small gifts, for example, snacks, \$5 gift cards.

#### *Parenting Measures*

##### *Autonomy Support*

Parental autonomy support was assessed using items from previous measures (Grolnick & Wellborn, 1988; McPartland & Epstein, 1977; Robbins, 1994; Skinner, Wellborn, & Regan, 1986) tapping

four components: six items assessed perspective taking (e.g., My parents care about how I feel and what I think), four assessed choice (e.g., My parents allow me to make choices whenever possible), four assessed decision making (e.g., My parents allow me to decide things for myself), and four assessed open exchange (e.g., My parents encourage me to give my ideas and opinions when it comes to decisions about me). Reliability of autonomy support subscales from previous studies have been in the .70–.80 range. Analyses assessed the validity and reliability of the subscales in both countries as well as measurement equivalence across countries.

##### *Controllingness*

The extent to which parents were controlling was assessed using the controllingness subscale of the Parenting Context Questionnaire (PCQ; Grolnick & Wellborn, 1988) and the coercion subscale of the Parents as Social Context Questionnaire (PASCQ; Skinner et al., 1986). The PCQ controllingness subscale consists of five items, for example, "My parents expect too much of me in school," and the PASCQ coercion subscale consists of four items, for example, "My parents boss me." Responses for both subscales are coded on a 4-point scale from 1 (*not true at all*) to 4 (*very true*). Items were averaged into a single score with higher scores indicating higher levels of controllingness. In the current study, Cronbach's alpha was .85 in the United States and .72 in Ghana.

#### *Adolescent Outcome Measures*

##### *Academic Self-Regulation*

The Academic Self-Regulation Questionnaire (Ryan & Connell, 1989) assesses the degree to which children's motivation for engaging in school behaviors (e.g., doing homework) is autonomous or controlled. Children endorse reasons why they engage in school behaviors on Likert-type scales from 1 (*not at all true*) to 4 (*very true*). Reasons fall into four subscales based on the level of autonomy. The external subscale (six items), for example, "because I'd get in trouble if I didn't," and the introjected subscale (five items), for example, "because I'd feel ashamed if I didn't," are the more controlled forms of motivation. The identified subscale (five items), for example, "because doing school work is important to me," and the intrinsic subscale (seven items), for example, "because I enjoy doing school-

work well," are the more autonomous forms of motivation. This questionnaire has been validated in other cultures including China (Vansteenkiste, Zhou, Lens, & Soenens, 2005), Japan (Tanaka & Yamauchi, 2000), Russia (Chirkov & Ryan, 2001), and Germany (Levesque, Zuehlke, Stanek, & Ryan, 2004). In the current study, Cronbach's alpha was adequate for all four subscales in the United States: external = .72, introjected = .83, identified = .72, and intrinsic = .85. However, in Ghana, the external ( $\alpha = .68$ ) and intrinsic ( $\alpha = .71$ ) subscales had adequate reliability, while the identified ( $\alpha = .47$ ) and introjected ( $\alpha = .29$ ) subscales did not. This was similar to a previous study conducted in Ghana (Marbell & Grolnick, 2013). Given the low reliability of the introjected and identified subscales in Ghana, they were not included in further analyses.

#### *Academic Engagement*

The 10-item Academic Engagement Scale (Wellborn, 1991) assesses children's behavioral engagement in school, for example, "I pay attention in class," "I don't try very hard at school" (reverse coded). Based on previous studies conducted in Ghana, minor modifications were made to two items so that they were more easily understood: "When I'm in class I just act like I'm working" was rephrased to "When I'm in class I just pretend that I'm working," and "When I'm in class I do just enough to get by" was rephrased to "When I'm in class I only do what I have to, to get by." Children indicated how true each item was on a 4-point scale 1 (*not true at all*) to 4 (*very true*). This scale has been validated with Taiwanese students (Lin, 2010). In the current study, Cronbach's alpha was .81 in the United States and .63 in Ghana.

#### *Self-Worth*

The Self-Perception Profile for Children (Harter, 1982) was used to assess children's general perceived competence, also referred to as self-worth. The self-worth subscale consists of six items which present two types of children and ask children to identify which is most like themselves, and the extent to which the description is true for them (really true = 1/4; sort of true = 2/3), for example, "Some kids are often unhappy with themselves; other kids are pretty pleased with themselves." This questionnaire has been validated in collectivist cultures like Greece and the United Arab Emirates (Eapen, Naqvi, & Al-Dhaheri, 2000; Van Dongen-Melman, Koot, & Verhulst, 1993). In the current

study, reliabilities (U.S.  $\alpha = .84$ ; Ghana  $\alpha = .71$ ) were acceptable in both countries.

#### *Depression*

Adolescents' depression was measured with the Child Depression Inventory (CDI) shortened version (Kovacs, 1992). Each item consists of three statements and participants select the one that best describes their feelings for the past 2 weeks, for example, "I'm sad once in a while; I'm sad many times; I'm sad all the time." Items were averaged to form a single score. The CDI has been used in a variety of countries including Puerto Rico (Molina, Gómez, & Pastrana, 2009) and collectivist Tanzania (Traube, Dukay, Krbya, Reyes, & Mellins, 2010). In the current study, Cronbach's alpha was .84 in the United States and .73 in Ghana.

#### *Self-Construal*

Children's self-construals were assessed using the Parent-Child Self-Construal Scale (Pomerantz et al., 2009) based on Cross, Bacon, and Morris's (2000) Relational Interdependent Self-Construal Scale and modified by Pomerantz et al. (2009) to assess the extent to which children include their relationship with their parents in their self-construals. Items, which include, "I often see my parents as a part of me," are rated on 5-point scale ranging from 1 (*not at all true for me*) to 5 (*very true for me*). The scale has been validated with Chinese and U.S. adolescents. In this study, eight of the most highly correlated items were selected to maximize reliability of the scale. Cronbach's alphas of the final scales were .87 in the United States and .68 in Ghana.

## **Results**

### *Missing Data*

First, data were screened for missing values; 1.4% of values in the Ghanaian sample and 1.1% of values in the U.S. sample were missing. Little's MCAR test indicated that data in both samples were missing completely at random: Ghanaian sample,  $\chi^2 = 8.1$  ( $df = 792$ ,  $p = 1.0$ ); U.S. sample  $\chi^2 = 10,298.97$  ( $df = 10,133$ ,  $p = .12$ ). We then used a full information maximum likelihood method, which has been recommended over other methods of dealing with missing data (Schlomer, Bauman, & Card, 2010), to estimate parameters using implied values of the missing data.

### *Analysis of Autonomy Support Items*

Eighteen items, selected from previous autonomy support measures (Grolnick & Wellborn, 1988; McPartland & Epstein, 1977; Robbins, 1994; Skinner et al., 1986), were hypothesized to factor into four components: perspective taking, open exchange, choice, and decision making. To examine this, confirmatory factor analyses (CFAs) using full information maximum likelihood estimation were conducted. In assessing model fit, four recommended statistics were used: the chi-square statistic, the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean residual (SRMR). Acceptable model fit is suggested by a nonsignificant chi-square statistic (through difficult with large sample sizes) and scores above .95 for the CFI, and below .08 for the RMSEA and SRMR (Meyers, Gamst, & Guarino, 2006).

A multigroup CFA was conducted with country (the United States or Ghana) as the grouping variable. The four-factor model had adequate model fit,  $\chi^2(258) = 481.44$ ,  $p < .001$ , CFI = .91, RMSEA = .07 (90% CI: [.06, .08]), SRMR = .063. However, for the U.S. sample, the factor correlation between perspective taking and open exchange was .96, and the factor correlation between decision making and choice was .88. These high correlations indicate that these two constructs lacked divergent validity (Kline, 2010), suggesting that we create a two-factor model. In order to maintain configural invariance, we also specified the two-factor model for Ghana. Several items in the Ghanaian sample had low factor loadings: two items for perspective taking ( $\lambda$ 's = .273 and .299) and two items for choice ( $\lambda$ 's =  $-.001$  and .332). We therefore removed these four items for both countries to maintain configural invariance from further analyses. The two-factor model showed good model fit,  $\chi^2(152) = 279.95$ ,  $p < .05$ , CFI = .93, RMSEA = .07, SRMR = .06 (see Figure 1), and is discussed further in the section on tests for measurement invariance.

Both autonomy support factors were reliable in the United States and Ghana with perspective taking/open exchange higher (U.S.  $\alpha = .88$ ; Ghana  $\alpha = .74$ ) than decision making/choice (U.S.  $\alpha = .84$ ; Ghana  $\alpha = .60$ ).

Construct validity of the autonomy support subscales was additionally assessed by correlating them with each other and with controllingness, with which they would be expected to show negative correlations. In both countries, perspective taking/open exchange and decision making/choice

were positively correlated (U.S.  $r = .57$ ,  $p < .001$ ; Ghana  $r = .15$ ,  $p < .05$ ). Perspective taking/open exchange was negatively correlated with parent controllingness in both countries (U.S.  $r = -.51$ ,  $p < .001$ ; Ghana  $r = -.48$ ,  $p < .001$ ). Decision making/choice, however, was negatively correlated with controllingness in the United States ( $r = -.38$ ,  $p < .001$ ), but not in Ghana ( $r = -.07$ ,  $p > .05$ ).

### *Analytic Strategy*

In a first step, we tested for measurement invariance for each construct across the United States and Ghana. After establishing that constructs were measured equivalently, we tested our hypotheses by conducting a series of theoretically informed regression analyses.

### *Measurement Invariance*

Measurement equivalence between Ghanaian and U.S. samples for each construct was assessed using multiple groups CFA, with country as the grouping factor. Each construct was specified as a latent variable with each of their respective items as indicators (see Measures earlier). For each construct separately, we estimated three models, (a) a fully unconstrained model where all factor loadings and item intercepts were set to vary freely across countries, (b) a model constraining only the factor loadings to be equal to assess metric invariance, (c) a model constraining only the item intercepts to be equal across countries to assess scalar invariance. When metric variance is established (i.e., equal factor loadings across groups), it is possible to compare relations among constructs across groups. Scalar invariance (i.e., intercepts are equal across groups) is required to compare means across groups. For each construct and variance type we compared the unconstrained and constrained models (see Table 1). To compare models, we report the difference in the CFI instead of chi-square difference tests because of high degrees of freedom (see Chen, Sousa, & West, 2005). The difference in CFI should be around or below .01 to establish invariance.

For autonomy support, we specified a two-factor model: one latent factor had the perspective-taking and open exchange items as indicators, and the second latent factor had choice and decision-making items. The unconstrained model was an adequate fit and neither the metric,  $\Delta\text{CFI} = .0006$ , nor the scalar model,  $\Delta\text{CFI} = .011$ , showed a worse fit, indicating both scalar and metric invariance.



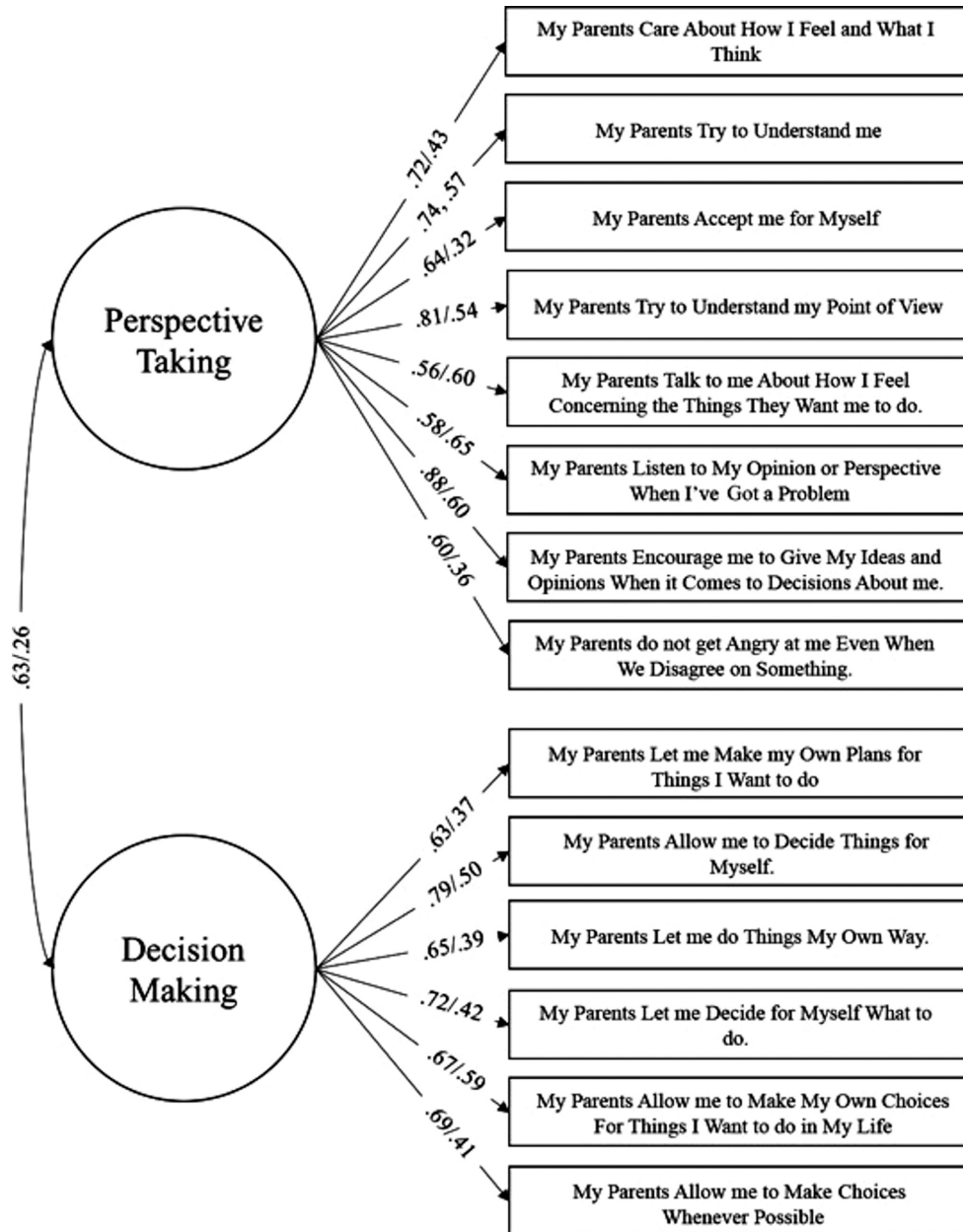


Figure 1. Unconstrained measurement model for autonomy support with standardized estimates. Model fit  $\chi^2(152) = 279.95, p < .05$ , comparative fit index = .93, root mean square error of approximation = .07, standardized root mean residual = .06. Estimates for the United States are displayed first, and estimates for Ghana are displayed second.

We then tested for metric and scalar invariance for the other variables with one latent factor specified for each with items for the construct as indicators (see Table 1). For self-construal, after specifying two item–error correlations, the unconstrained model had good model fit. We found support for metric invariance,  $\Delta CFI = .005$ , and scalar invariance,  $\Delta CFI = .014$ . For controllingness, the unconstrained model had a good fit, and we found

support for metric invariance,  $\Delta CFI = .007$ . In order to obtain good fit for the scalar invariance model, we set three item intercepts to vary freely across countries,  $\Delta CFI = .003$ . For external motivation, the unconstrained model had good fit after specifying three item–error correlations, and there was evidence for metric,  $\Delta CFI = .001$ , and scalar invariance,  $\Delta CFI = .012$ . For intrinsic motivation, the unconstrained model had good model fit after

Table 1

*Model Fit Statistics for Different Models to Test for Measurement Invariance Across the United States and Ghana*

Model	$\chi^2(df), p$	CFI	RMSEA [90% CI]	SRMR
Autonomy support				
Unconstrained	279.95 (152), < .001	.929	.065 [.053, .077]	.059
Scalar invariance	379.06 (202), < .001	.918	.067 [.056, .079]	.069
Metric invariance	379.57 (204), < .001	.923	.065 [.053, .076]	.071
Controlling				
Unconstrained	75.32 (54), .029	.979	.044 [.015, .067]	.038
Scalar invariance	83.057 (59), .021	.976	.045 [.018, .066]	.047
Metric invariance	89.86 (62), .012	.972	.047 [.023, .068]	.065
Self-construal				
Unconstrained	64.66 (36), .002	.955	.063 [.037, .087]	.046
Scalar invariance	80.79 (43), < .001	.941	.066 [.043, .088]	.066
Metric invariance	68.30 (43), .008	.960	.054 [.028, .078]	.051
External motivation				
Unconstrained	21.62 (12), .042	.975	.063 [.012, .105]	.034
Scalar invariance	31.35 (17), .018	.963	.065 [.026, .100]	.051
Metric invariance	26.76 (17), .062	.975	.054 [< .001, .091]	.051
Intrinsic motivation				
Unconstrained	47.59 (20), < .001	.969	.083 [.053, .114]	.045
Scalar invariance	60.14 (25), < .001	.961	.084 [.057, .111]	.063
Metric invariance	58.23 (26), < .001	.964	.079 [.052, .106]	.060
Depression				
Unconstrained	90.689 (64), .016	.971	.046 [.021, .066]	.042
Scalar invariance	106.34 (71), .004	.962	.050 [.029, .069]	.046
Metric invariance	103.72 (73), .011	.967	.046 [.023, .065]	.057
Engagement				
Unconstrained	102.49 (58), < .001	.950	.062 [.042, .081]	.051
Scalar invariance	116.22 (66), < .001	.943	.062 [.043, .080]	.063
Metric invariance	118.29 (67), < .001	.942	.062 [.043, .080]	.072
Self-worth				
Unconstrained	14.43 (4), .006	.961	.117 [.056, .185]	.041
Scalar invariance	16.29 (5), .006	.957	.109 [.053, .170]	.044
Metric invariance	20.21 (7), .005	.950	.100 [.050, .152]	.056

Note. CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean residual.

specifying four item–error correlations. We found evidence for metric invariance,  $\Delta\text{CFI} = .005$ , and for scalar invariance,  $\Delta\text{CFI} = .008$ , after freeing one item intercept across countries. For depression, the unconstrained model was a good fit after specifying three item–error correlations, and we established metric invariance,  $\Delta\text{CFI} = .004$ . To establish scalar invariance, we freed two item intercepts to vary across countries,  $\Delta\text{CFI} = .009$ . For engagement, the unconstrained model had good model fit after specifying four item–error correlations. We found evidence for metric,  $\Delta\text{CFI} = .008$ , and scalar invariance,  $\Delta\text{CFI} = .009$ , after freeing one intercept. For self-worth, the unconstrained model had good fit, and we found evidence for metric invariance,  $\Delta\text{CFI} = .011$ . To obtain scalar invariance, we had to free three item intercepts across countries,  $\Delta\text{CFI} = .004$ .

In sum, metric invariance was established for all measures. Scalar invariance was established for autonomy support, self-construal, external motivation, intrinsic motivation, depression, and engagement. For controllingness and self-worth, three intercepts had to be freed to obtain scalar invariance and thus, to be conservative, we do not compare means across countries for these variables.

#### *Descriptive Results for Parenting, Self-Construal, and Adolescent Outcomes in the United States and Ghana*

Means, standard deviations, and correlations of all variables are presented in Table 2—results for the United States are below the diagonal and for Ghana are above the diagonal. Perspective taking/open exchange was associated with higher intrinsic

Table 2

Means (Standard Deviations) and Correlations Among Parenting, Self-Construal, and Child Outcome Variables in the United States and Ghana

		1	2	3	4	5	6	7	8	9	10	11
	M (SD)	1.64 (0.48)	2.40 (1.41)	3.29 (0.51)	2.44 (0.54)	2.83 (0.50)	6.20 (0.81)	3.31 (0.55)	2.94 (0.57)	3.37 (0.38)	1.29 (0.29)	3.02 (0.80)
1. Child gender	1.60 (0.49)	1.0	-.01	.08	-.27**	-.05	.01	.09	-.01	-.04	.13	-.18*
2. Mother education	3.10 (1.42)	-.07	1.0	.23**	.01	-.03	.21*	-.05	-.06	.07	.05	.04
3. Autonomy support (AS) perspective taking/open	3.21 (0.63)	.01	.21**	1.0	.15*	-.48***	.44***	.08	.18 <sup>+</sup>	.35***	-.39***	.23**
4. AS decision making/choice	2.89 (0.62)	-.05	.15*	.57***	1.0	-.07	.11	.09	.04	-.03	.02	.04
5. Parent controllability	2.54 (0.64)	.07	-.14*	-.51***	-.38***	1.0	-.18*	.13	-.08	-.16*	.21**	.08
6. Self-construal	5.12 (1.16)	.10	.04	.50***	.25***	-.28***	1.0	.15 <sup>+</sup>	.23**	.21**	-.16*	.13
7. External motivation	3.14 (0.52)	.14*	.02	.10	.11 <sup>+</sup>	.19**	.18**	1.0	.09	-.05	.07	-.06*
8. Intrinsic motivation	2.17 (0.67)	-.06	-.10	.27***	.36***	-.18**	.17**	-.14*	1.0	.14 <sup>+</sup>	-.05	.16*
9. Academic engagement	3.09 (0.49)	.02	.22**	.28***	.26***	-.31***	.17**	-.14*	.33**	1.0	-.25**	-.47***
10. Depression	1.36 (0.36)	.13*	-.20**	-.41***	.25***	.38***	-.25**	.01	-.19**	-.27***	1.0	-.40***
11. Self-worth	3.29 (0.75)	.02	.22**	.32***	.21***	-.27***	.17**	.04	.26***	.52***	-.40***	1.0

Note. Correlations below the diagonal are for the United States. Correlations above the diagonal are for Ghana. <sup>+</sup>*p* < .10. \**p* < .05. \*\**p* < .01. \*\*\**p* < .001.

motivation, academic engagement, and self-worth, and lower levels of depression in both the United States and Ghana. In the United States, higher decision making/choice was related to higher intrinsic motivation, engagement, and self-worth, and lower levels of depression. However, none of the relations between decision making/choice and outcomes was significant in Ghana. Perspective taking/open exchange was positively correlated with more interdependent self-construals in both countries, while decision making/choice was positively correlated with interdependent self-construals only in the United States.

*Relations of Demographic Variables With Parenting and Adolescent Outcomes*

Relations of demographics with parenting and adolescent outcomes were examined to determine whether parent education and gender should be included in further analyses. In the United States, maternal education was correlated with all parenting variables: perspective taking/open exchange (*r* = .21, *p* < .01), decision making/choice (*r* = .15, *p* < .05), and controllability (*r* = -.15, *p* < .05). It was also correlated positively with academic engagement (*r* = .22, *p* < .01) and self-worth (*r* = .22, *p* < .01), and negatively with depression (*r* = -.20, *p* < .01). In Ghana, maternal education was correlated with

perspective taking/open exchange (*r* = .24, *p* < .01) and interdependent self-construals (*r* = .21, *p* < .05).

In the United States, gender was correlated with depression, with girls higher than boys (*r* = .13, *p* < .05). In Ghana, gender was correlated with decision making/choice, with boys more likely to report parents as allowing decision making and choice than girls (*r* = -.27, *p* < .01). Because of these relations, both gender and maternal education were controlled for in relevant analyses.

*Unique and Moderating Effects of Country, Autonomy Support, and Self-Construal*

To examine effects of decision making/choice and perspective taking/open exchange on parental controllability and child outcomes and to determine whether the effects of decision making/choice would be moderated by country and self-construal, we conducted a series of regression analyses. Maternal education and child gender were included as covariates in all analyses. In Model 1, we examined whether there were differences in outcomes by country, controlling for maternal education and child gender. In Model 2, we examined the effects of decision making by adding it and the Decision Making × Country interaction. In Model 3, we included perspective taking/open exchange and its interaction with country (excluding decision

making/choice). In Model 4, we examined the unique effects of the two autonomy support variables by including both of them and their interactions. In a final step, we examined whether self-construal moderated the effects of autonomy support variables by adding self-construal, the two Autonomy Support  $\times$  Self-Construal interactions, and the two 3-way interactions between country, autonomy support, and self-construals. There were several additional potential interactions that could be examined and we did so prior to conducting these regressions. These included maternal education by autonomy support and country by self-construal. In no case were there significant relations between these variables and outcomes in the models. Because these interactions were not predicted and there were a large number of variables in the models increasing the risk of spurious effect, these interactions were not included in the final models.

#### *Model 1: Country Differences*

Before examining outcomes, we determined if there were country differences in self-construal, and the autonomy support indexes, controlling for maternal education and child gender. For perspective taking/open exchange, the country effect was significant,  $t = 2.12, p < .03, \beta = .11$ , with the mean for Ghana higher ( $M = 3.29, SD = 0.51$ ) than the United States ( $M = 3.21, SD = 0.63$ ). The country effect for decision making/choice,  $t = -6.84, p < .001, \beta = -.33$ , showed a higher level for the United States ( $M = 2.89, SD = 0.62$ ) relative to Ghana ( $M = 2.44, SD = 0.54$ ). For self-construal, the effect for country was also significant ( $t = 9.58, p < .001, \beta = .47$ ); children reported more interdependent self-construals in Ghana ( $M = 6.20, SD = 1.19$ ) relative to the United States ( $M = 5.12, SD = 1.16$ ).

Table 3 shows the models for the outcomes. For Model 1, there were country differences for external motivation, intrinsic motivation, and engagement. Ghanaian adolescents reported higher external motivation ( $M = 3.31, SD = 0.55$  vs.  $M = 3.14, SD = 0.56$ ), intrinsic motivation ( $M = 2.94, SD = 0.57$  vs.  $M = 2.17, SD = 0.67$ ), and academic engagement ( $M = 3.37, SD = 0.38$  vs.  $M = 3.09, SD = 0.49$ ), and lower depression ( $M = 1.29, SD = 0.29$  vs.  $M = 1.36, SD = 0.36$ ).

#### *Model 2: Effects of Decision Making/Choice*

Controlling for maternal education, child gender, and country, higher provision of decision making/

choice was associated with lower levels of children's perceptions of controlling parenting. There was significant interaction between decision making and country. Higher decision making/choice was associated with lower levels of parental control in the United States ( $t = -8.51, p < .001, \beta = -.48$ ) but not in Ghana ( $t = -0.76, p < .45, \beta = -.06$ ). There were also significant interactions for academic engagement and self-worth indicating positive relations between decision making and outcomes in the United States but not Ghana; for engagement, the United States:  $t = 4.27, p < .001, \beta = .26$ ; Ghana:  $t = -0.33, p < .74, \beta = -.03$ , and for self-worth, the United States:  $t = 3.76, p < .001, \beta = .25$ ; Ghana:  $t = -0.18, p = .86, \beta = -.02$ . Similarly for child depression, there was a negative relation in the United States ( $t = -3.05, p < .003, \beta = -.20$ ) but not Ghana ( $t = 0.94, p = .35, \beta = .09$ ).

#### *Model 3: Effects of Perspective Taking/Open Exchange*

Controlling for maternal education, child gender, and country, use of perspective taking/open exchange was associated with lower controlling parenting ( $t = -4.00, p < .001, \beta = -.57$ ) and child depression ( $t = -3.32, p < .001, \beta = -.50$ ), and higher intrinsic motivation ( $t = 2.54, p < .01, \beta = .23$ ) and self-worth ( $t = 2.29, p < .05, \beta = .35$ ). There were no significant interactions between perspective taking/open exchange and country.

#### *Model 4: Unique Effects of Autonomy Support Indexes*

When including both decision making/choice and perspective taking/open exchange in the regressions, for children's perceptions of parental control, there was a unique effect of decision making/choice, with higher levels of decision making associated with lower levels of perceived parental control ( $t = -2.52, p < .01, \beta = -.15$ ) and an interaction by country indicating a significant negative relation in the United States but not Ghana. There were unique positive effects of perspective taking/open exchange for intrinsic motivation ( $t = 2.13, p < .05, \beta = .22$ ) and self-worth ( $t = 1.98, p < .05, \beta = .31$ ), and a negative effect for child depression ( $t = -3.10, p < .01, \beta = -.54$ ). There were no significant Perspective Taking/Open Exchange  $\times$  Country interactions.

#### *Model 5: Effects of Self-Construal and Self-Construal by Autonomy Support*

Model 5 added self-construal, interactions between self-construal and each of the two

Table 3  
Regression of Outcomes Onto Country, Autonomy Support, Self-Construals, and Interactions

	Model 1			Model 2			Model 3			Model 4			Model 5		
	T	B	SE	T	B	SE	T	B	SE	T	B	SE	T	B	SE
Parental control															
Gender	0.11	.01	.07	-0.31	-.02	.06	0.75	.04	.06	0.41	.02	.06	0.46	.02	.06
Mother education	-1.84 <sup>+</sup>	-.10	.02	-1.04	-.05	.02	0.10	.01	.02	0.19	.01	.02	-0.12	-.01	.02
Country	2.95**	.16	.07	1.67 <sup>+</sup>	.09	.04	4.36***	.21	.03	3.20**	.17	.03	3.58***	.22	.04
Decision making/choice (DC)				-4.73***	-.27	.06				-2.52**	-.15	.06	-0.48	-.04	.08
DC × Country				4.18***	.22	.06				2.62**	.14	.06	1.93*	.15	.08
Perspective taking/open (PO)							-4.00***	-.57	.15	-1.56	-.25	.17	-1.16	-.25	.23
PO × Country							0.68	.10	.12	-0.12	-.77	.12	-0.67	-.12	.15
Self-construal															
DC × Self-Construal															
PO × Self-Construal															
DC × Country × Self-Construal															
PO × Country × Self-Construal															
External motivation															
Gender	2.46**	.13	.06	2.66**	.14	.06	2.40*	.13	.06	2.62**	.14	.06	2.58**	.14	.06
Mother education	0.03	.00	.02	-0.18	-.01	.02	-0.17	-.01	.02	-0.18	-.01	.02	0.02	.00	.02
Country	2.60**	.14	.07	2.98**	.18	.04	2.53**	.14	.03	2.87**	.18	.04	1.14	.08	.04
Decision making/choice				1.72 <sup>+</sup>	.11	.06				1.44	.10	.06	0.17	.02	.09
DC × Country				-0.21	-.01	.06				-0.03	-.00	.06	-0.49	-.04	.09
Perspective taking/open															
PO × Country							1.21	.20	.16	0.52	.10	.18	-0.33	-.08	.24
Self-construal							-0.90	-.15	.12	-0.49	-.08	.13	0.09	.02	.16
DC × Self-Construal													2.63**	.20	.04
PO × Self-Construal													-1.21	-.35	.19
DC × Country × Self-Construal													0.56	.15	.16
PO × Country × Self-Construal													1.15	.34	.15
Intrinsic motivation													-0.76	-.17	.11
Gender	-1.35	-.06	.07	-1.19	-.06	.07	-0.59	-.07	.07	-1.52	-.07	.07	-1.60	-.08	.07
Mother education	-1.62	-.08	.02	-1.83 <sup>+</sup>	-.09	.02	-2.36*	-.12	.02	-2.36*	-.12	.03	-2.27*	-.11	.03
Country	9.88***	.47	.07	9.49***	.50	.04	9.56***	.46	.04	8.72***	.46	.04	7.13***	.45	.05
Decision making/choice				1.34	.07	.06				0.21	.01	.07	0.43	.04	.10
DC × Country				-0.74	-.04	.06				0.13	.01	.07	0.44	.03	.10
Perspective taking/open															
PO × Country							2.54**	.23	.18	2.13*	.22	.20	1.97*	.38	.27
Self-construal							-0.25	-.04	.13	-0.23	-.03	.14	-1.11	-.21	.18
DC × Self-Construal													1.98*	.13	.04
PO × Self-Construal													0.28	.07	.21
													1.68	.39	.17

Table 3  
Continued

	Model 1			Model 2			Model 3			Model 4			Model 5		
	T	B	SE	T	B	SE	T	B	SE	T	B	SE	T	B	SE
DC × Count × Self															
PO × Country × Self-Construal															
Academic engagement															
Gender	-0.32	.02	.05	-0.23	-.01	.05	-0.71	-.04	.05	-0.68	-.03	.05	-0.74	-.04	.05
Mother education	3.17***	.17	.05	2.74**	.14	.02	1.98*	.10	.02	1.94*	.10	.02	2.30*	.12	.02
Country	6.22***	.33	.05	6.19***	.35	.03	5.75***	.29	.03	5.28***	.30	.03	3.63***	.24	.03
Decision making/choice															
DC × Country				1.72 <sup>+</sup>	.10	.04				0.48	.03	.05	-0.54	-.05	.07
Perspective taking/open				-2.71**	-.15	.04				-1.98*	-.11	.05	-0.18	-.01	.06
PO × Country							1.27	.19	.12	0.16	.03	.14	1.02	.23	.18
Self-construal							0.64	.10	.09	1.30	.20	.10	0.17	.03	.12
DC × Self-Construal													1.72 <sup>+</sup>	.12	.03
PO × Self-Construal													-2.12*	-.56	.14
DC × Country × Self-Construal													1.44	.35	.12
PO × Country × Self-Construal													1.21	.33	.11
Child depression													-0.91	-.19	.08
Gender	1.83 <sup>+</sup>	.10	.04	1.81 <sup>+</sup>	.10	.04	2.39**	.12	.04	2.58**	.13	.04	2.56**	.13	.04
Mother education	-2.09**	-.11	.01	-1.72 <sup>+</sup>	-.09	.01	-0.66	-.03	.01	-0.65	-.03	.01	-0.55	-.03	.01
Country	-2.24*	-.12	.04	-2.25*	-.13	.02	-1.65 <sup>+</sup>	-.09	.12	-0.96	-.06	.02	-0.78	-.05	.02
Decision making/choice				-1.13	-.07	.02				1.21	.08	.03	-0.21	-.02	.05
DC × Country				2.51**	.15	.03				0.59	.04	.03	-0.56	-.05	.05
Perspective taking/open							-3.32***	-.50	.09	-3.10**	-.54	.10	-2.93**	-.69	.14
PO × Country							0.96	.15	.07	1.01	.16	.07	1.62	.32	.09
Self-construal													-0.60	-.04	.02
DC × Self-Construal													-1.21	-.33	.10
PO × Self-Construal													0.07	.02	.09
DC × Country × Self-Construal													1.87 <sup>+</sup>	.41	.08
PO × Country × Self-Construal													-0.46	-.10	.06
Self-worth															
Gender	-0.81	-.04	.08	-0.60	-.03	.08	-1.29	-.07	.07	-1.21	-.06	.08	-1.20	-.06	.08
Mother education	2.95**	.16	.03	2.53**	.14	.03	1.58	.08	.03	1.56	.08	.03	1.60	.09	.03
Country	1.82	.10	.08	2.34*	.14	.04	1.16	.06	.04	1.19	.07	.04	0.83	.06	.05
Decision making/choice				2.32*	.14	.07				0.42	.03	.07	0.02	.00	.10
DC × Country				-1.84 <sup>+</sup>	-.11	.07				-0.44	-.03	.07	-0.18	-.02	.10
Perspective taking/open							2.29*	.35	.19	1.98*	.31	.20	1.22	.29	.29
PO × Country							-0.02	-.00	.14	0.22	.04	.15	0.17	.03	.19
Self-construal													0.27	.02	.04

Table 3  
Continued

	Model 1			Model 2			Model 3			Model 4			Model 5			
	T	B	SE	T	B	SE	T	B	SE	T	B	SE	T	B	SE	
DC x Self-Construal																
PO x Self-Construal																
DC x Country x Self-Construal																
PO x Country x Self-Construal																

+p < .1. \*\*p < .05. \*\*\*p < .01. \*\*\*\*p < .001.

autonomy support variables, as well as the two 3-way interactions between country, self-construal, and autonomy support. For children’s perceptions of parent controllingness, there was an interaction between self-construal and decision/making choice. The interaction was probed according to the procedure recommended by Aiken and West (1991). For the low interdependent (high independent) group, there was a strong negative relationship between decision making/choice and control,  $t = -7.87, p < .001, \beta = -.51, R^2 = .25$ . For the high interdependent group, there was a negative though weaker relation,  $t = -3.42, p < .001, \beta = -.22, R^2 = .06$  (see Figure 2).

For external and intrinsic motivation, there were no significant Self-Construal x Autonomy Support interactions. For engagement, there was an interaction between decision making/choice and self-construal. Simple slopes analysis indicated that for the low interdependent (high independent) group, higher levels of decision making/choice were

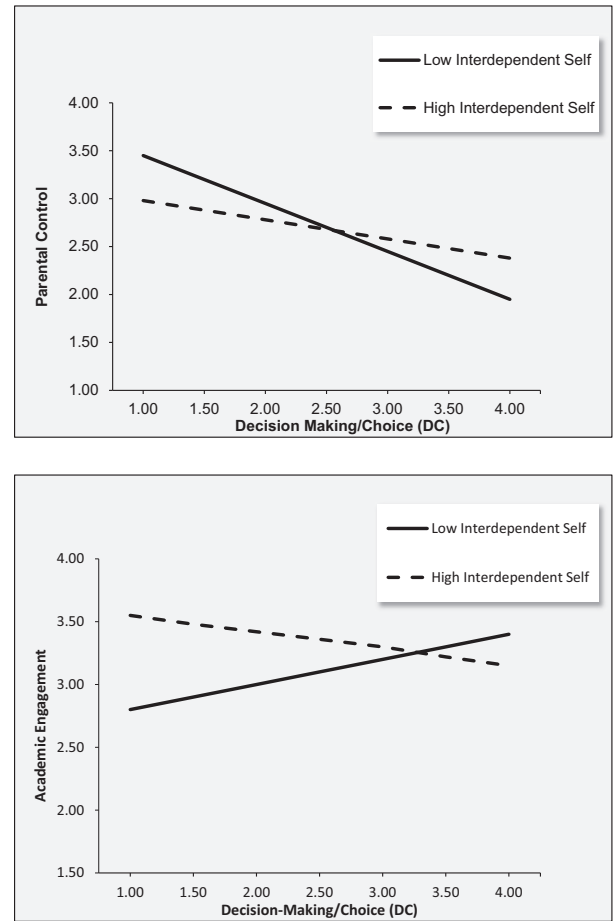


Figure 2. Moderating role of self-construal on the relations between decision making and outcomes in all participants.

associated with more engagement,  $t = 3.67$ ,  $p < .001$ ,  $\beta = .18$ ,  $R^2 = .06$ , while for the high interdependent group, higher levels of decision making/choice were associated with lower levels of engagement,  $t = -2.64$ ,  $p < .01$ ,  $\beta = -.12$ ,  $R^2 = .03$  (see Figure 2). For depression, there was a marginally significant Country  $\times$  Decision Making/Choice  $\times$  Self-Construal interaction indicating that, in Ghana, for adolescents with more interdependent self-construals, the more parents allowed children decision making/choice, the higher their depression,  $\beta = .05$ ,  $p < .05$ ,  $R^2 = .02$ . For adolescents with more independent self-construals, the relationship was virtually zero,  $\beta = .00$ ,  $R^2 = .00$ . Finally, for self-worth, there were no significant interaction effects.

#### *Mediated Moderation Analyses*

In a final set of analyses, we tested whether self-construal mediated country differences in the effects of decision making/choice. We conducted the mediation analyses for the dependent variables for which there were Self-Construal  $\times$  Decision Making/Choice interactions, parental control and academic engagement. We tested whether the effects of the interaction between decision making and country on the two dependent variables was mediated by self-construal, controlling for maternal education and child gender. These analyses were conducted using Mplus, (Muthén & Muthén, 2014) and hypothesis tests for the indirect effects were estimated by bootstrapping 5,000 samples. For parental control, there was no statistically significant indirect effect through self-construal,  $\beta = -.02$ ,  $SE(\beta) = .02$ ,  $p = .25$ . There was a statistically significant direct effect of the interaction on parental control,  $\beta = -.41$ ,  $SE(\beta) = .09$ ,  $p < .001$ . For engagement there was also no statistically significant indirect effect through self-construal,  $\beta = .01$ ,  $SE(\beta) = .01$ ,  $p = .30$ , and there was a statistically significant direct effect of the interaction on engagement,  $\beta = .22$ ,  $SE(\beta) = .09$ ,  $p = .01$ .

#### *Post Hoc Analyses With Euro-Americans*

With regard to relations of autonomy support with other parenting variables and with adolescent outcomes, results for Euro-Americans alone were similar to that of the larger U.S. sample. The two types of autonomy support were positively correlated ( $r = .36$ ,  $p < .001$ ), and negatively correlated with parental controllingness (perspective taking/open exchange,  $r = -.48$ ,  $p < .001$ , decision making/

choice,  $r = -.39$ ,  $p < .001$ ). Both types of autonomy support were also correlated with positive outcomes; intrinsic motivation (perspective taking/open exchange  $r = .26$ ,  $p < .01$ , decision making/choice  $r = .22$ ,  $p < .05$ ) and academic engagement (perspective taking/open exchange  $r = .40$ ,  $p < .001$ ; decision making/choice  $r = .33$ ,  $p < .001$ ). However, only perspective taking/open exchange was positively correlated with self-worth ( $r = .24$ ,  $p < .05$ ) and negatively correlated with depression ( $r = -.22$ ,  $p < .05$ ). Conversely, parental controllingness was negatively correlated with academic engagement ( $r = -.37$ ,  $p < .001$ ) and self-worth ( $r = -.31$ ,  $p < .01$ ), and positively related to depression ( $r = .44$ ,  $p < .001$ ). Thus, there were more significant correlations between decision making/choice and outcomes in the full relative to the Euro-Americans alone sample.

We also compared the two largest U.S. groups, those with Euro-Americans and Hispanic backgrounds, on our culturally relevant variable—self-construal. Consistent with findings of Oyserman et al. (2002), there were no significant differences in adolescents' self-construals (Euro-Americans:  $M = 5.03$ ,  $SD = 1.20$ ; Hispanic:  $M = 5.30$ ,  $SD = 1.10$ ),  $t(171) = -1.53$ ,  $p = .13$ . These findings, along with the fact that they are both living in the United States, provide justification for combining them into one group.

## Discussion

This study examined types of parental autonomy support and their relations with children's perceptions of parental control, and their motivation and depression in two cultural contexts: the United States, an individualist and egalitarian society, and Ghana, a collectivist and hierarchical society. Results yielded three major findings. First, in line with SDT, autonomy supportive parenting was related to positive outcomes in both the United States and Ghana. Second, parenting behaviors falling under autonomy support differed across countries such that some behaviors considered autonomy supportive in the United States did not function as such in Ghanaian adolescents. Third, adolescents' self-construals appeared to influence which behaviors adolescents viewed as autonomy supportive and to a lesser extent how they were related with outcomes.

A first goal was to determine whether autonomy support items would group into four subscales based on the literature: perspective taking, open exchange, allowance of decision making, and choice. An earlier study with Ghanaian adolescents



showed allowance of decision making to be unrelated to other types of autonomy support and to controlling parenting and outcomes, but this previous study did not include a U.S. comparison. Factor analyses indicated that, in both the United States and Ghana, items factored into two, rather than four, factors with perspective taking and open exchange falling under one factor, and decision making and choice under the second. Perspective-taking and open exchange items both tapped parents allowing children to be heard and acknowledged, and thus to feel that their points of view were recognized. Thus, it made sense that they factored together. Decision-making and choice items both indexed parents' allowing children to select options for themselves. Thus, that these two subscales factored together was expectable.

Given the cross-cultural nature of the study, it was important to establish measurement equivalence of the constructs. Multigroup CFA indicated that all of the measures showed metric invariance and thus could be examined in the regression analyses. However, controllingness and self-worth did not show scalar invariance and thus their means were not compared across countries.

While the study generally supported the positive effects of autonomy support, a nuanced picture emerged with the effects of autonomy support on outcomes dependent on the type. In particular, in the regression analyses, perspective taking/open exchange functioned similarly in the United States and Ghana, relating to higher intrinsic motivation, engagement, and self-worth, and lower depression in both countries. Decision making/choice, however, functioned differently in the two cultures, with interactions by country indicating some positive outcomes in the United States, but not in Ghana. Unlike in the United States, in Ghana, decision making/choice was not negatively related with parental controllingness. Thus, it may be that in a country where hierarchy is valued and parents making decisions for children is culturally sanctioned, this does not feel controlling to children. However, it appears that feeling as though your perspective and input are not valued is undermining for all. It is interesting that, controlling for perspective taking there were only two significant effects for decision making/choice in the United States—for controlling parenting and engagement. This, along with the fact that it was facilitative across the two cultures, suggests that perspective taking may be a more fundamental part of autonomy support.

These results reconcile findings previously thought to be conflicting. On one hand, they support

SDT which asserts that supporting children's autonomy facilitates positive outcomes even in non-Western cultures. On the other hand, they support research suggesting that autonomy supportive behaviors like allowing choice are not always related to intrinsic motivation in nonindividualist groups (e.g., Bao & Lam, 2008; Iyengar & Lepper, 1999). These findings are consistent with Shweder and Sullivan's (1993) notion of "universalism without uniformity" in the role of culture, that is, autonomy support is universally beneficial, however, it is not uniform and does not present in the same manner across cultures (e.g., Wang et al., 2007; Soenens, Vansteenkiste, & Van Petegem, 2015).

It is important to go beyond simply examining country differences to examine individual difference variables that might serve to moderate the effects of autonomy support on child outcomes. Self-construal, that is, whether adolescents viewed their parents as a part of their self or as independent units from their parents, was hypothesized to moderate the relations of decision making and choice and parental controllingness and adolescents' outcomes. It was expected that adolescents who viewed parents as an integral part of their identity would be less likely to feel controlled if parents made decisions for them, in essence, they would feel like this was equivalent to making the decision themselves. As expected, across countries, the more adolescents viewed themselves as independent, the stronger was the negative relation between parental allowance of decision making and parents' controllingness. Thus, adolescents with independent self-construals were more likely to experience denial of decision making as controlling compared to adolescents with more interdependent self-construals. This is consistent with the finding that not having a choice is not always undermining of intrinsic motivation in experimental studies (e.g., Bao & Lam, 2008; Iyengar & Lepper, 1999).

There was also some, though weaker, evidence that decision making was more facilitative for adolescents with more independent self-construals. In particular, for academic engagement there were positive relations between decision making/choice and engagement for those with more independent self-construals, however, for those with more interdependent self-construals, those reporting more parental provision of choice and decision making were lower in academic engagement. It is interesting that the strongest results were for academic engagement. One explanation is that for the interdependent group, parents making decisions is seen as a resource to help them engage in school. This

might be less so for more affective variables. In addition, that these findings were seen in the United States as well as Ghana underscores the idea that even in individualist cultures children display a wide range of self-construals due to diverse backgrounds and values and the need to move beyond cross-cultural comparisons to examine processes within culture.

Only in one case was there an interaction between decision making and self-construal specific to country, and this should be considered with caution as it was only marginally significant. For Ghanaian adolescents with more interdependent self-construals depression was actually higher with increasing allowance of decision making. This effect was not evident in the United States. This finding is interesting as it is specific to depression which has been associated with low levels of parental control to make decisions may sometimes be perceived as lack of concern (Marbell & Grolnick, 2013).

While there were some interactions between self-construal and decision making/choice, this was only the case for two outcome variables. Thus, self-construals cannot completely explain why decision making/choice is less positive for adolescents. Focusing on children's appraisals and emotional reactions to similar parental behaviors, possibly using vignettes (Chen, Soenens, Vansteenkiste, Van Petegem, & Beyers, 2016), may illuminate other factors.

One supplemental analysis examined whether self-construals mediated the differential effects of decision making by country to see whether self-construals could explain country differences. Our results did not support mediation. Thus, there are likely other variables that differ between countries that explain these differential relations in the two countries, such as cultural values for respect and hierarchy. Clearly further research is necessary to identify possible mediators of country differences.

There were some limitations of the study. First, only self-report measures were included and, while children's experiences of parenting are most central to their motivation, it would be important to include broader measures in future studies. Furthermore, participants reported on the behaviors of "parents" and not mothers and fathers separately. Given that parents may differ in their parenting styles, it is unclear to what extent each caregiver influenced outcomes. Moreover, in the Ghanaian context, caregivers often include older persons such as aunts, in-laws, and grandparents. Future studies could include multiple caregivers in a community-oriented setting. Second, the study design was

cross-sectional. It would be important to replicate the findings using longitudinal designs that examine change in adolescent outcomes as a result of autonomy supportive parenting.

A third limitation concerns the makeup of the sample. First, both samples contained more girls than boys, and the generalizability of findings to boys could be an issue. With regard to the comparability of the two samples, while the percent of girls and boys in the samples was the same, the Ghanaian sample was higher in parental education level. While we controlled for education level in our analyses, the issue of comparability in background is complex. For example, within Ghana, a developing country, individuals in a higher social status may still be unable to buy a house or car. Furthermore, quality of education can differ substantially between the two countries. Given that lower education has been shown to be associated with more collectivist attitudes (Markus & Kitayama, 2003), the fact that the Ghanaian sample was somewhat higher in education would work against our hypotheses and thus make our tests more conservative. Nevertheless, generalizability of the results to the Ghanaian population could be constrained. Related is the lower sample size and participation rate in the Ghanaian sample. The lower rate is likely due to higher absenteeism in Ghana. Nonetheless, differences in the samples could be due to bias in participation.

The two autonomy support components explained a relatively low percentage (30%) of the variance in Ghana, while in the United States they explained over 50%, suggesting that there is need for further studies to better understand autonomy support in Ghana and other collectivist-oriented countries. In addition, although the model fits in this study were adequate, and the sample sizes met criteria of 100–200, and sample size to variable ratio of at least 10:1 (Thompson, 2000), the samples were relatively small for CFA using structural equation modeling and should be replicated with larger samples.

In conclusion, the results of this study support the assertion that parental autonomy support is beneficial in both individualist societies like the United States and collectivist societies like Ghana. Results indicate that while behaviors that support adolescents' autonomy differ across cultures (e.g., allowance of decision making), those behaviors that function as autonomy support in a specific context are related to positive outcomes. These findings have implications for the manner in which parents in various cultural contexts can effectively help children to willingly engage in desired behaviors. The study also suggests the moderating role of

self-construal in the relation of specific autonomy supportive behaviors with motivation. This finding encourages us to identify other factors that may influence how autonomy support affects children's motivation and adjustment.

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