



Published in final edited form as:

*Child Dev.* 2014 January ; 85(1): 355–369. doi:10.1111/cdev.12102.

## Why are Chinese Mothers More Controlling than American Mothers? “My Child is My Report Card”

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### Abstract

Chinese parents exert more control over children than do American parents. The current research examined whether this is due in part to Chinese parents' feelings of worth being more contingent on children's performance. Twice over a year, 215 mothers and children (mean age = 12.86 years) in China and the United States (European and African Americans) reported on psychologically controlling parenting. Mothers also indicated the extent to which their worth is contingent on children's performance. Psychologically controlling parenting was higher among Chinese than American mothers, particularly European (vs. African) American mothers. Chinese (vs. American) mothers' feelings of worth were more contingent on children's performance, with this contributing to their heightened psychological control relative to American mothers.

### Keywords

China; culture; contingent self-worth; psychological control; parenting

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There is much evidence that when parents exert control over children by pressuring them or intruding into their thoughts, feelings, and behavior (e.g., with directives and commands), children suffer psychologically (for a review, see Grolnick & Pomerantz, 2009). The large proportion of the evidence comes from research conducted in Western countries, predominantly the United States. However, over the last decade, it has become clear that parents' control undermines children's psychological adjustment in other parts of the world as well (e.g., Barber, Stolz, & Olson, 2005). Most of the attention has been directed to East Asian countries, particularly China, where the more parents attempt to intrude into children's thoughts, feelings, and behavior (e.g., by making decisions for them about personal issues, such as what they wear and who their friends are), the more children suffer emotionally, with some evidence that such parenting also contributes to academic and behavioral problems (e.g., Nelson, Hart, Yang, Olsen, & Jin, 2006; Qin, Pomerantz, & Wang, 2009; Wang, Pomerantz, & Chen, 2007).

Research indicates that parents of Chinese descent tend to be more controlling than are parents of European descent (for reviews, see Chao & Tseng, 2002; Pomerantz, Ng, & Wang, 2008). Although there has been some speculation as to why this is the case (e.g.,

Chao, 1994; Ho, 1996), empirical evidence on the underlying causes is scant with only some indirect evidence (e.g., Chao, 1996; Yamamoto & Holloway, 2010). The current research was guided by the idea that several aspects of Chinese culture lead Chinese parents to base their worth on children's performance more than do American parents. Specifically, we evaluated if parents' *child-based worth* plays a role in the difference in psychologically controlling parenting – that is, “attempts that intrude into the psychological and emotional development of the child (e.g., thinking processes, self-expression, and attachment to the parent)” (Barber, 1996, p. 3296) via such practices as love withdrawal and guilt induction.

## Chinese and American Parents' Use of Control

Initial research comparing Chinese and American parenting focused on differences in authoritarian (vs. authoritative) parenting. This research yielded consistent evidence that parents of Chinese descent, whether residing in China or the United States, are more authoritarian – a parenting style generally characterized by heightened intrusiveness, hostility, and structure (e.g., rules and monitoring) – than are European American parents, who are more authoritative – a parenting style generally characterized by dampened intrusiveness as well as heightened warmth and structure. For example, research relying on parents' reports finds that Chinese parents in the United States and Taiwan are more authoritarian with children than are European American parents (e.g., Chao, 1994, 1996; Chiu, 1987; Kelley & Tseng, 1992; Lin & Fu, 1990). Similarly, children in Hong Kong report their parents as more authoritarian and less authoritative than do European American children (Leung, Lau, & Lam, 1998).

Given that authoritarian parenting comprises multiple parenting practices, including but not limited to parents' control, it is unclear if the differences between Chinese and European American parents in authoritarian parenting reflect differences in their control *per se*. Studies focusing specifically on parents' intrusiveness, however, indicate that Chinese parents are more controlling. Based on observations of parents playing a counting game with children, Jose, Huntsinger, Huntsinger, and Liaw (2000) found that parents of Chinese descent residing in the United States, although not those residing in Taiwan, were more directive in that they were less likely to let children ask questions or make decisions about the task than were European American parents. Similarly, children in Mainland China (vs. the United States) indicate that parents make more decisions about personal issues (e.g., what they wear and who their friends are) for them (Qin et al., 2009).

Additional evidence that Chinese (vs. American) parents are more controlling comes from a few studies on parents' psychological control. Cheung and Pomerantz (2011) used children's reports to assess parents' psychological control at four time points in Mainland China and the United States. Although the significance of the differences between the two countries was not reported, computation of the effect sizes indicates that Chinese (vs. American) parents were more controlling, with differences generally in the moderate range (Cohen's  $d$  = .24 to .53). A large-scale multi-national study found that Mainland Chinese children reported both mothers and fathers as more intrusive than did American children of mostly European descent (Barber et al., 2005); the difference was moderate for mothers (Cohen's  $d$  = .34) and small for fathers (Cohen's  $d$  = .13). Compared to their European American counterparts, Chinese immigrant youth in the United States report more psychologically controlling parenting (Chao & Aque, 2009).

## Chinese and American Parent's Child-Based Worth

The current research was guided by the idea that several aspects of Chinese culture may heighten the tendency for parents to base their worth on children's performance, which may

heighten psychologically controlling parenting. Chinese culture is oriented toward interdependence, with the self often construed with reference to relationships with important others as well as societal expectations (Markus & Kitayama, 1991). Consequently, Chinese parents may incorporate children's accomplishments into their views of themselves. Chinese culture is considered a “face” culture, in which individuals' sense of worth is largely based on others' respect. Such respect, known as face, is determined in part by others' judgments of their fulfillment of societal expectations (e.g., Kim & Cohen, 2010; Kim, Cohen, & Au, 2010). Chinese culture often holds parents responsible for children's development, and considers children's accomplishments, particularly in school, a sign of optimal development. For example, part of the indigenous Chinese notion of *guan* is that parents dedicate themselves to children, with children's fulfillment of societal expectations reflecting successful parenting (Chao, 1994). Thus, Chinese parents' face and thereby their ensuing sense of worth may depend substantially on children's accomplishments.

In contrast, in the independence-oriented culture of the United States, individuals tend to construe the self with reference to their own thoughts, feelings, and actions (Markus & Kitayama, 1991). Hence, although children's accomplishments may be of import to American parents, they may not be as central to these parents' self-views as they are for Chinese parents; even when children's accomplishments are, the implications for American parents' feelings of worth may not be as great. Living in what has been called a “dignity” culture, in which individuals' sense of worth is considered intrinsic rather than determined by others' evaluations of them, Americans have much autonomy in adjusting the basis of their worth, giving them more flexibility in protecting their feelings of worth (Kim & Cohen, 2010; Kim et al., 2010; see also Hui & Triandis, 1986). Moreover, American parents may not consider themselves responsible for children's development to the same extent as Chinese parents (Chao, 1996). This may be particularly true in terms of children's accomplishments given that European American children's exploration in multiple arenas along with their assertion of individuality is often valued (Chao, 1996). Thus, American parents may base their worth on children's accomplishments less than do their Chinese counterparts.

### **The Role of Parents' Child-Based Worth in their Use of Control**

Crocker and colleagues (Crocker & Knight, 2005; Crocker & Wolfe, 2001) maintain that the areas of life on which individuals' sense of worth is contingent regulate their behavior, such that they seek to minimize failure and maximize success in such areas (see also Kernis, 2003). When individuals feel their worth is contingent on an area, they become focused on their performance in that area, often at the cost of their relationships with others; performance may take precedence over sensitivity to others' needs (Crocker & Park, 2004). Hence, when parents base their worth on children's performance, they may attempt to control children's thoughts, feelings, and behaviors to minimize children's failure and maximize their success (Grolnick, Price, Beiswenger, & Sauck, 2007). This may occur even when children are doing well as the potential for failure in the future may pose a threat. In essence, parents may feel compelled to enforce children's compliance with their directives at the cost of children's needs for autonomy, relatedness, and competence. Consequently, they may often use psychologically controlling techniques to ensure immediate acquiescence.

Several findings are consistent with this idea. Studying European American mothers, Grolnick and colleagues (2007) found that those whose sense of worth was contingent on children's social accomplishments reported exerting heightened control over children. This was confirmed by observations of mothers working with children in preparation for interacting with an unknown peer: The more mothers based their worth on children's social accomplishments, the more intrusive they were, particularly when children were to be

evaluated. Outside of the United States, the more Israeli mothers' worth is contingent on a variety of areas such as their achievements and acceptance by others, the more psychologically controlling they are in that their affection toward children is dependent on children's appropriate regulation of their emotions (Israeli-Halevi, Assor, & Roth, 2011). The consequences of parents' basing their worth on children's performance have not been studied among Chinese parents. However, it is likely that they are the same as among European American parents given that Chinese parents may use control to maintain their face – the basis of their feelings of worth (Kim & Cohen, 2010; Kim et al., 2010).

## Beyond European Representation of the United States

Research comparing Chinese and American parents has focused largely on Americans of European descent (e.g., Barber et al., 2005; Qin et al., 2009). However, residents of the United States come from a variety of ethnic backgrounds. African Americans represent the largest racial group after European Americans (U.S. Census Bureau, 2010). Thus, a focus on African Americans, in addition to European Americans, is necessary. African American parents are exposed to mainstream American cultural values via the media, schools, and other sources. Consequently, like European American parents, their sense of worth may be contingent on children's performance less than that of Chinese parents, leading them to exert less control over children than do Chinese parents. However, there is some evidence that African American parents are more controlling than are European American parents (e.g., Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Lansford, Deater-Deckard, Dodge, Bates, & Pettit, 2004; for some exceptions, see Creveling, Varela, Weems, & Corey, 2010; Hill & Bush, 2001), a pattern also evident when comparisons are made between European American and African American parents with comparably low income (Burchinal et al., 2011).

African (vs. European) American parents may be more controlling because of the traditional values of their community as well as the unique challenges they face (García Coll & Pachter, 2002; McAdoo, 2002), as opposed to the contingency of their feelings of worth. It has been argued that intrusive types of control are considered more legitimate by African (vs. European) American parents because of the emphasis on obedience and respect for elders in their culture (García Coll, Meyer, & Brillion, 1995). Moreover, African American parents are particularly likely to be single parents, often with financial difficulties (McAdoo, 2002), which may contribute to their heightened control (Baldwin, Baldwin, & Cole, 1990). Hence, although African American parents may be more controlling than are European Americans, it is likely due to forces other than the contingency of their feelings of worth.

## Overview of the Current Research

The current research evaluated the idea that Chinese parents exert more control over children than do American parents in part because their feelings of worth are based on children's performance to a greater extent. To move beyond European representation of the United States, in addition to European American families, African American families participated. We focused on Chinese and American mothers with children in adolescence given that there is often a heightened emphasis on performance during this phase of development in the United States as well as China (for reviews, see Midgeley & Edelin, 1998; Pomerantz et al., 2008), with a simultaneous decline in interest in school in the two countries (e.g., Lepper, Corpus, & Iyengar, 2005; Wang & Pomerantz, 2009). Children's performance may be especially salient to parents with a heightened tendency to base their worth on it, thereby leading to greater intrusiveness (Grolnick et al., 2007), particularly when children lack interest in school, which may undermine their engagement.

In testing our hypothesis, we examined psychologically controlling parenting. Parents with a heightened tendency to base their worth on children's performance may be driven to use such control to minimize failure and maximize success among children, at the cost of children's psychological needs. The potential for failure in the future may pose a continual threat to parents' sense of worth, leading them to use psychological control even when they know children are doing well. Mothers reported on their worth as contingent on children's performance as well as their psychological control twice with a year between assessments. To obtain multiple perspectives on psychologically controlling parenting both mothers and children served as reporters. This allowed us to not only holistically capture psychologically controlling parenting, but also ensure that social desirability concerns were not driving the findings.

We evaluated four hypotheses. First, regardless of reporter, it was anticipated that as in prior research, Chinese mothers would be more psychologically controlling than would American mothers, particularly European (vs. African) American mothers. Second, we expected this difference to be paralleled by Chinese (vs. American) mothers' feelings of worth being more contingent on children's performance, with no difference between European and African Americans. Third, we postulated that the more mothers based their worth on children's performance, the more psychologically controlling they would be, irrespective of how well they thought children were doing – assessed by asking mothers about their perceptions of children's competence. Fourth, the difference between Chinese and American mothers' tendency to base their worth on children's performance was anticipated to contribute to the difference in their psychologically controlling parenting.

## Method

### Participants

This research was part of the University of Illinois Diverse Adolescent Pathways Project, which spans two waves of data collection a year apart. Participants were 215 mothers and their children in sixth ( $n = 68$ ), seventh ( $n = 88$ ), and eighth ( $n = 59$ ) grades. There were 71 Chinese mothers (mean age = 41.68 years at Wave 1) and their children (35 girls, 36 boys; child mean age = 12.73 years at Wave 1) residing in working- and middle-class areas in one of the largest urban areas on the east coast of Mainland China. Chinese families were recruited from two middle schools attended by children in the sixth, seventh, and eighth grades almost entirely of the *Han* descent, which is the majority ethnicity in China. One school was below average in terms of achievement; the other was above average. In terms of mothers' highest educational attainment, 14% of mothers did not have a high school education, 66% had completed high school, 17% had a bachelor's degree, and 3% had a master's degree or higher (e.g., MD or PhD). This rate of educational attainment is somewhat above the norm for the area, where 57% of those 25 years and older do not have a high school education and 12% do not have a college education (National Bureau of Statistics of China, 2011). Most Chinese mothers (86%) worked outside the home at least part-time. All reported being married. Due to China's one-child policy, Chinese children were frequently the only child (mean number of children = 1.15;  $SD = 0.47$ ).

One-hundred-forty-four American mothers participated with their children. The European American sample consisted of 84 mothers (mean age = 42.87 years at Wave 1) and their children (40 girls, 44 boys; mean age = 12.90 years at Wave 1). The African American sample consisted of 60 mothers (mean age = 38.46 years at Wave 1) and their children (23 girls, 37 boys; mean age = 12.98 years at Wave 1). American families resided in a small urban area in the Midwest; because the area is home to a major state university, a proportion of the residents are highly educated, but an even larger proportion come from working- and middle-class backgrounds. Mothers and children were recruited from three middle schools

attended by children in the sixth, seventh, and eighth grades – mainly European and African Americans; the schools all achieved at the state average, with much variability within each school. Only 2% of mothers (1% of European Americans and 3% of African Americans) had less than a high school education, 51% (32% of European Americans and 78% of African Americans) had completed high school, 23% (29% of European Americans and 15% of African Americans) had a bachelor's degree, and 23% (38% of European Americans and 3% of African Americans) had a master's degree or higher. Such a distribution of educational attainment is close to the norm for the area, where only 8% of adults over the age of 25 years had not completed high school and 41% had a bachelor's degree or higher at the time of the study (U.S. Census Bureau, 2011). As in China, the majority of mothers (88% of European Americans and 82% of African Americans) worked outside the home at least part-time. Most European American mothers (91%) and 53% of African American mothers were married or cohabiting with a partner. On average, European American mothers had 2.62 children ( $SD = 1.06$ ) and African American mothers had 2.82 children ( $SD = 1.42$ ).

## Procedure

Mothers and children took part in two waves of data collection a year apart. In China, they completed the surveys at home as it was relatively far to travel to the laboratory. In the United States, they completed the surveys at the laboratory, which was relatively easy to get to. In both countries, mothers completed the surveys in a private room on their own, with children doing so in another room. Children completed the survey with the assistance of a trained native research assistant who explained how to answer each set of questions, with attention to how to use the rating scales. Mothers were given the option of such assistance, but generally chose to complete the surveys on their own with the opportunity to ask questions about the surveys as needed. At the first wave, subsequent to completing the set of surveys, mothers and children participated in a daily telephone interview for 12 days; however, this data is not included in the current report. Chinese mothers received RMB280 as a token of appreciation for participating; children received some stationery at each of the two waves. American mothers received \$60; children received a \$10 gift certificate at each of the two waves. Attrition from Wave 1 to 2 was 7% in China and 10% in the United States (7% for European Americans and 13% for African Americans). Comparisons of mothers who did and did not remain in the study on the variables included in this report at Wave 1 indicated only that mothers who remained were more likely to be married or cohabiting with a partner,  $\chi^2(1, N = 213) = 5.54, p < .05$ .

## Measures

The measures were initially created in English, by a team of native English and Chinese researchers who were familiar with both cultures as well as the constructs. To ensure the equivalence of the measures in China and the United States, standard translation and back-translation procedures (Brislin, 1980) were followed by the team to generate the Chinese versions, with repeated discussion to modify the wording of the items to ensure similarity in their meanings in the English and Chinese versions (Erkut, 2010). Moreover, linguistic factors were taken into account so that the measures were understandable to mothers and children in both countries. The means, standard deviations, and internal reliabilities of the central measures are presented in Table 1.

**Psychologically controlling parenting**—Psychologically controlling parenting was assessed with the 18 items used by Wang and colleagues (2007), of which the majority came from Barber (1996) and Silk, Morris, Kanaya, and Steinberg (2003). Mothers indicated (1 = *not at all true* to 5 = *very true*) the extent to which they use psychologically controlling practices (e.g., “If my daughter does something I do not like, I sometimes act less friendly to her so that she knows I am disappointed.”). Because the items were originally created for

children to report on psychologically controlling parenting, minor wording changes were made to minimize social desirability concerns (e.g., “when my child does not behave as I wish” was changed to “when my child does something I think is wrong”). Children reported on a parallel measure (e.g., “My parents tell me that I should feel guilty when I do not meet their expectations.”). The mean of the items was taken separately for mothers and children, with higher numbers indicating greater psychological control. In both China and the United States, the psychological control measure was internally reliable as well as temporally stable (see Table 1).

**Child-based worth**—The extent to which mothers' feelings of worth are contingent on children's performance was assessed with 15 items (see Appendix) from the scale developed by Eaton and Pomerantz (2004). Using a 7-point scale (1 = *very much disagree* to 7 = *very much agree*), mothers indicated the extent to which they feel their worth hinges on children's performance (e.g., “When my daughter fails, I feel badly about myself.”). The mean of the items was taken, with higher numbers reflecting heightened feelings among mothers that their worth is contingent on children's performance. In both countries, the measure was internally reliable and temporally stable (see Table 1). Because this is a new measure, we wanted to establish not only its reliability, but also its validity. To this end, we evaluated whether mothers with a greater tendency to base their worth on children's performance placed greater emphasis on children's performance as suggested by prior investigators (Crocker & Park, 2004; Grolnick et al., 2007).

Drawing from Grant and Dweck's (2003) measures, mothers' performance goals for children were assessed with two items for each of the four core school subjects for which children received grades (i.e., math, science, language arts, and English in China; math, science, language arts, and social studies in the United States). Mothers rated how much they agreed (1 = *very much disagree* to 7 = *very much agree*) with statements emphasizing children's demonstration of ability (e.g., “It's important to me that my daughter shows that she is smart in math.”). The mean of the eight items was taken, with higher numbers indicating greater performance goals ( $\alpha$ s > .91 in China and .93 in the United States). Consistent with expectations, the more Chinese and American mothers felt their worth was contingent on children's performance, the more they held performance goals for children ( $r$ s = .58 and .51 in China and .45 and .47 in the United States,  $ps < .001$ ).

**Perceptions of child competence**—Mothers' perceptions of children's competence were assessed following Eccles and colleagues (e.g., Frome & Eccles, 1998; Parsons, Adler, & Kaczala, 1982). Mothers rated how good (1 = *not at all good* to 7 = *very good*) children were at each of the four core subjects for which they received grades (see description of the performance goal measure). They also rated children's relative position in their class in each subject (1 = *at the bottom* to 7 = *at the top*). The mean of the eight items was taken, with higher numbers indicating more positive perceptions. The measure was internally reliable ( $\alpha$ s > .70 in China and .88 in the United States) and temporally stable ( $r$  = .78 in China and .74 in the United States,  $ps < .001$ ).

## Results

Following a preliminary set of analyses in which we evaluated the comparability of the measures between China and the United States across the two waves of the study, we conducted three sets of analyses to test the main hypotheses. In the first, we examined whether Chinese mothers were more psychologically controlling and based their worth on children's performance more than their European American and African American counterparts. In the second set, the issue of whether mothers who based their worth on children's performance more were more psychologically controlling was investigated;

attention was given to whether this was moderated by mothers' perceptions of children's competence. In the third set of analyses, we evaluated whether the difference between Chinese and American mothers' psychological control was mediated by their heightened tendency to hinge their worth on children's performance. Because mothers' educational attainment (1 = less than high school diploma; 2 = high school diploma; 3 = college degree; 4 = postgraduate degree),  $t(211) = 5.13, p < .001$ , and spousal status (1 = married or cohabiting with a partner; 2 = neither married nor cohabiting with a partner),  $\chi^2(1, N = 213) = 20.94, p < .001$ , differed in the two countries and were also associated with some of the central constructs after adjusting for country,  $|r|s > .15, ps < .05$ , they were originally included as covariates in the three sets of analyses. Because they did not substantially influence the results, they were excluded from the final analyses.

### Measure Comparability

In the context of the translation process, we attempted to ensure the equivalence of the measures in China and the United States. However, the case has been made that valid comparisons necessitate metric and intercept invariance of the measures between countries. Metric invariance has been argued to permit comparison of the associations, with intercept invariance permitting comparison of the means (e.g., Little, 1997; Steenkamp & Baumgartner, 1998). We examined the two types of invariance between China and the United States as well as over time with two-group Confirmatory Factor Analyses (CFAs) in the context of Structural Equation Modeling (SEM). For each of the measures, the latent construct for each wave was based on four to six parcels of two or three items determined randomly. For each measure, the latent constructs at the two waves were allowed to correlate with one another; error terms of the same indicators (i.e., parcels) were also allowed to correlate across waves (McDonald & Ho, 2002) based on modification indexes from the SEM without missing data.

For each measure, a set of nested models was examined with comparisons between the unconstrained and constrained models, which were identical except that the parameters of the former were freely estimated, whereas the measurement parameters (i.e., factor loadings and intercepts of the indicators on the latent constructs) of the latter were forced to be equal between countries and across waves. The unconstrained and constrained models for mothers',  $\chi^2(84 \text{ to } 117, N = 215) < 224$ , CFIs  $> .94$ , RMSEAs  $< .07$ , and children's,  $\chi^2(68 \text{ to } 101, N = 215) < 80$ , CFIs  $> .95$ , RMSEAs  $< .06$ , reports of psychologically controlling parenting fit the data adequately. The models for mothers' child-based worth,  $\chi^2(72 \text{ to } 105, N = 215) < 150$ , CFIs  $> .97$ , RMSEAs  $< .05$ , perceptions of child competence,  $\chi^2(26 \text{ to } 47, N = 215) < 105$ , CFIs  $> .95$ , RMSEAs  $< .07$ , and performance goals,  $\chi^2(26 \text{ to } 47, N = 215) < 140$ , CFIs  $> .95$ , RMSEAs  $< .09$ , also fit adequately.

Although changes in chi-square are generally advocated for model comparisons (Kline, 2005; McDonald & Ho, 2002), Little (1997) maintains that changes in the fit indexes are appropriate for evaluating measurement equivalence because such an endeavor is driven by a modeling, rather than statistical, rationale (see also Chen, 2007; Cheung & Rensvold, 2002). In 1997, Little recommended that for measures to be equivalent decreases in CFIs and increases in RMSEAs from the unconstrained to constrained models should all be less than or equal to .05. More recently, however, simulation studies have suggested a cutoff of .01 (Chen, 2007; Cheung & Rensvold, 2002), or even less under some conditions (Chen, 2007). Our measures met Little's original criteria (i.e., change of .05 or less) for metric and intercept invariance, but not the newer criteria (i.e., change of .01 or less) by which our measures met only the requirement for metric invariance.

When the criteria for invariance are not met, Chen (2008) recommends that one way to ensure comparisons between countries are not biased is to make them both allowing the



measurement parameters to vary freely and forcing such parameters to be equal between countries. To this end, given that our measures did not meet the newer criteria for intercept invariance, differences in the means in China and the United States were evaluated with both the unconstrained and constrained measurement models (see above): Using each type of measurement model, we compared models forcing the intercept of the latent constructs at each wave to be equal between countries one by one to a baseline model in which the intercepts were allowed to vary. Country differences were determined by significant chi-square differences ( $\Delta\chi^2$ ) between models. Regardless of whether the measurement parameters were allowed to vary freely (i.e., unconstrained models) or forced to be equal (i.e., constrained models) between countries, the differences between China and the United States were practically identical to those yielded by the Multivariate Analyses of Variance (MANOVAs) reported below (see Table 1). Thus, it is unlikely that such differences are artifacts of a lack of intercept invariance.

### **Are Chinese Mothers More Controlling than American Mothers?**

To examine whether Chinese mothers are more controlling than are European and African American mothers as has been found in prior research, we conducted a mixed-model MANOVA on psychological control, with reporter (mother and child) and time (Wave 1 and 2) as the within-participants factors and ethnicity (Chinese, European American, and African American) as the between-participants factor. As anticipated, the MANOVA yielded a main effect of ethnicity,  $F(2,185) = 43.89, p < .001$ , which was qualified by an interaction with reporter, Wilks' lambda = .93,  $F(2,185) = 6.90, p < .001$ . There was also an Ethnicity  $\times$  Reporter  $\times$  Time interaction, Wilks' lambda = .97,  $F(2,185) = 3.32, p < .05$ . Paired-comparison t-tests indicated that Chinese mothers reported themselves as more psychologically controlling than did European and African American mothers at both waves (see Table 1),  $ts > 2.75, ps < .01$ . Chinese children also reported more psychologically controlling parenting than did European American children across waves,  $ts > 4.30, ps < .001$ , but there was no difference in Chinese and African American children's reports at either wave,  $ts < 1, ns$ . African American mothers and children reported greater psychologically controlling parenting than did their European American counterparts,  $ts > 4.30, ps < .001$ . Inclusion of children's grade in school and gender in the MANOVA yielded only an Ethnicity  $\times$  Grade interaction,  $F(1,183) = 6.57, p < .05$ ; linear and curvilinear trend analyses revealed a linear increase with grade in psychologically controlling parenting among European Americans ( $Ms = 1.99, 1.99, \text{ and } 2.33$ ),  $p < .05$ , but not African Americans ( $Ms = 2.70, 2.53, \text{ and } 2.69$ ) or Chinese ( $Ms = 2.99, 2.86, \text{ and } 2.75$ ).

### **Do Chinese Mothers have Greater Child-Based Worth than American Mothers?**

To examine if Chinese (vs. American) mothers' feelings of worth are more dependent on children's performance, a mixed-model MANOVA was conducted on mothers' child-based worth, with time as the within-participants factor and ethnicity as the between-participants factor. The MANOVA yielded an effect of ethnicity,  $F(2,188) = 11.04, p < .001$ , with paired-comparison t-tests indicating that Chinese mothers based their worth on children's performance more than both European and African American mothers at each wave,  $ts > 2.25, ps < .05$ ; as anticipated, there were no differences in European and African American mothers' child-based worth,  $ts < 1.45, ns$ . There was also an effect of time, Wilks' lambda = .96,  $F(1,188) = 7.41, p < .01$ , such that mothers reported greater child-based worth at Wave 1 than Wave 2. Inclusion of children's grade and gender in the MANOVA indicated that there was no difference in mothers' child-based worth by children's grade or gender on their own, in interaction with one another, or in interaction with ethnicity,  $Fs < 3.65, ns$ .

### Are Mothers with Greater Child-Based Worth More Controlling?

Consistent with the idea that mothers' child-based worth heightens their psychologically controlling parenting, the more mothers' feelings of worth were contingent on children's performance, the more psychologically controlling they were in both China and the United States. Mothers' child-based worth was positively associated with their psychologically controlling parenting concurrently at Wave 1 and 2 as well as prospectively from Wave 1 to 2; the association was evident for both mothers' and children's reports even after adjusting for ethnicity (dummy coded with China coded as the comparison group),  $\beta$ s = .19 to .35,  $p$ s < .01. Regression analyses predicting psychologically controlling parenting from mothers' child-based worth, ethnicity, and the interaction between the two did not reveal a moderating effect of ethnicity,  $t$ s < 1.90,  $ns$ . Additional analyses including mothers' perceptions of child competence on its own and in interaction with their child-based worth indicated that the less mothers perceived children as competent, the more children and mothers – except for mothers at Wave 1 – reported psychologically controlling parenting both concurrently and prospectively,  $\beta$ s = -.16 to -.30,  $p$ s < .05. Notably, across reporters, such perceptions did not interact with mothers' child-based worth,  $t$ s < 1.25,  $ns$ , for which the original effects on psychologically controlling parenting remained,  $t$ s > 3.10,  $p$ s < .01.

It is common in prospective analyses to adjust for the construct being predicted at an earlier time point. However, we did not take this approach in the current analyses as we operated under the assumption that we are investigating a stable system in which child-based worth maintains psychologically controlling parenting, but does not necessarily lead to changes in it. Indeed, the effects of mothers' child-based worth at Wave 1 on their psychological control at Wave 2 were not evident when adjusting for their psychological control at Wave 1,  $t$ s < 1.80,  $ns$ . However, it was also the case that the reverse was not true: Psychologically controlling parenting at Wave 1 did not predict child-based worth at Wave 2, adjusting for child-based worth at Wave 1,  $t$ s < 1,  $ns$ .

### Does Mothers' Child-Based Worth Contribute to Differences in Chinese and American Mothers' Control?

Mediation analyses were conducted to test whether the tendency for Chinese (vs. American) mothers to be more psychologically controlling was due in part to Chinese mothers' heightened child-based worth. Baron and Kenny's (1986) guidelines for detecting mediation were followed. These require that the mediator (i.e., child-based worth) and the dependent variable (i.e., psychologically controlling parenting) are associated when adjusting for the independent variable (i.e., country), and that the association between the independent variable and the dependent variable is reduced when adjusting for the mediator. Although the Sobel test is widely used to test the significance of the indirect effect (Baron & Kenny, 1986), bootstrap analyses have been recommended, particularly when the sample size is not large as in the current study (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; see also Preacher & Hayes, 2008). Thus, bootstrap analyses were conducted with 5000 samples to test the significance of the indirect effect (i.e., from country to child-based worth to psychologically controlling parenting).

Mediation was examined concurrently within Wave 1 and 2 as well as prospectively from Wave 1 to 2. As shown in Table 2, the conditions for mediation outlined by Baron and Kenny (1986) were met. First, for each of the timeframes, mothers' child-based worth predicted psychologically controlling parenting as reported by mothers and children even when country was included in the analyses. Second, the inclusion of child-based worth when predicting psychologically controlling parenting from country reduced the tendency for Chinese (vs. American) mothers to be more psychologically controlling; although the difference remained significant in most cases, the original coefficient was reduced by

approximately a quarter – the average proportion of the reduction was .26 with a range of .15 to .36. As shown in Table 2, bootstrap analyses indicated that the indirect path from country to child-based worth to psychologically controlling parenting was significant in each of the analyses.

## Discussion

Although there has been some speculation as to why Chinese parents exert greater control over children than do American parents (e.g., Chao, 1994; Ho, 1996), there is little direct empirical evidence on the issue. The goal of the current research was to take an initial step toward addressing this gap, by evaluating the possibility that a difference in Chinese and American mothers' tendency to base their worth on children's performance contributes to the difference in their control. As in prior research (for reviews, see Chao & Tseng, 2002; Pomerantz et al., 2008), Chinese mothers were more psychologically controlling than were their American counterparts, particularly European (vs. African) American mothers. Moreover, Chinese mothers' feelings of worth were contingent on children's performance to a greater extent than was the case for both European and African American mothers. Of most significance, mediation analyses indicated that this difference in mothers' child-based worth contributed to Chinese (vs. American) mothers' heightened psychologically controlling parenting.

To holistically capture psychologically controlling parenting as well as ensure that social desirability concerns were not driving our findings, the current research used both mothers' and children's reports of psychologically control. Across both reports, as in prior research using only children's reports (Barber et al., 2005; Cheung & Pomerantz, 2011), Chinese mothers were more psychologically controlling than were European American mothers at both waves of data collection. However, the Chinese-American difference was less consistent when Chinese mothers were compared to African American mothers, which is not surprising given that African (vs. European) American mothers tend to be relatively controlling (e.g., Dornbusch et al., 1987; Burchinal et al., 2011), a pattern also evident in the current research. Although Chinese mothers were more controlling than were African American mothers based on mothers' reports, there were no differences between the two based on children's reports. Attention will need to be given to what underlies the discrepancy between reporters. One possibility is that there is a reference-group effect (Heine, Lehman, Peng, & Greenholtz, 2002) for children's reports, such that African American children feel their mothers are particularly controlling in comparison to the European American norm, of which they are aware via their peers at school.

The difference between Chinese and American psychologically controlling parenting was paralleled by a difference in mothers' child-based worth: Chinese mothers' feelings of worth were more contingent on children's performance than were those of European and African American mothers. In both China and the United States, mothers' child-based worth is a stable psychological construct on which mothers differ. Over the course of a year, there was sizable stability in the extent to which Chinese and American mothers' feelings of worth were contingent on children's performance. Moreover, mothers with heightened child-based worth harbored heightened concern with children's performance, such that children's demonstration of ability was prioritized. Notably, as in prior research in the United States (Grolnick et al., 2007), the more both Chinese and American mothers based their worth on children's performance, the more they used psychological control, with the association being similar in size in China and the United States. This trend was evident among mothers regardless of their perceptions of children's competence, suggesting that they may be wary of failure even when children are successful.

Particularly novel, the current research demonstrated that Chinese (vs. American) mothers' heightened child-based worth partially mediates Chinese mothers' heightened psychological control. Mothers' child-based worth accounted for approximately a quarter of the country difference in psychologically controlling parenting, indicating that it was a sizeable force in the difference. However, even taking this into account, a substantial difference in psychologically controlling parenting in China and the United States remained in most cases. This likely reflects the role of other forces, such as the Chinese notion of *guan*, which entails parents' dedication to children through both love and governance; Chao (1994) suggests that concern with governance, particularly in light of the emphasis placed on children meeting societal standards, heightens parents' exertion of control. Consequently, parents' control may be viewed as normative in China, but not the United States, where the emphasis is placed on the autonomy of the child (Chao, 1995).

Given prior research documenting that parents' heightened psychological control predicts children's dampened emotional adjustment in China and the United States (for a review, see Pomerantz & Wang, 2009), the current findings suggest that the differences among Chinese and American parents in their child-based worth may begin a process that over time creates heightened emotional difficulties for Chinese (vs. American) children. Ultimately, the tendency for Chinese parents to base their feelings of worth on children's performance to a greater extent than do American parents may lead to poorer emotional adjustment among Chinese (vs. American) children. Indeed, Chinese children and adults have been found to be less happy than are their American counterparts (e.g., Crystal et al., 1994; Diener, Suh, Smith, & Shao, 1995). A key direction for future research will be to extend the examination of parents' child-based worth to understand its implications for children.

Although parents' basing their worth on children's performance may have costs for children's emotional adjustment via the ensuing psychologically controlling parenting, it may have some benefits for their academic adjustment. Most notably, because parents with heightened contingent child-based worth are so concerned with children's performance, they may be particularly involved in children's schoolwork as they attempt to ensure that children do well (e.g., by providing instruction to children). Although their involvement may be characterized by psychological control, it may still enhance children's academic adjustment. Indeed, Cheung and Pomerantz (2011) not only found that Chinese (vs. American) parents were more involved in children's learning, but also that heightened involvement occurred in conjunction with heightened psychological control more in China than the United States; however, parents' involvement was similarly predictive over time of children's enhanced investment, engagement, and achievement in the two countries.

The current research moved beyond European representation of the United States by examining African American, in addition to European American, families. African American mothers did not differ from their European American counterparts in the extent to which they based their feelings of worth on children's performance. At first blush this may appear inconsistent with the heightened academic expectations and values held by African (vs. European) Americans (e.g., Harris, 2011; Mickelson, 1990). However, African Americans also tend to perceive structural barriers limiting the extent to which they are rewarded for performing well (Mickelson, 1990). Hence, although African American parents may value children's performance, they may feel that it reflects societal forces beyond their power rather than attributes of them or their children. Consequently, despite their heightened emphasis on education, African American parents may not base their worth on children's performance any more than do European American parents. Moreover, because they are exposed to mainstream American cultural values via the media, schools, and other sources, similar to their European American counterparts, they may feel relatively autonomous in adjusting the basis of their worth.

Consistent with prior research (e.g., Dornbusch et al., 1987; Burchinal et al., 2011), however, African (vs. European) American mothers were more psychologically controlling. Given that African American mothers did not differ from European American mothers in their child-based worth, their heightened psychological control could not be due to this force. African American mothers' heightened control may have been driven by the unique challenges they face. A lack of tangible (e.g., finances) and non-tangible (e.g., spousal support) resources may compel them to adopt low-resource practices such as control to keep children out of trouble (García Coll & Pachter, 2002; McAdoo, 2002). Moreover, controlling parenting is supported by the traditional emphasis on obedience and respect for elders in their cultural community (García Coll et al., 1995).

The current research has several limitations that point to useful directions for future work. First, a challenge in studying what creates differences among parents in how they parent is that it is difficult to identify causation. This is largely because such differences may emerge relatively early in the parenting process so that the system becomes stable early on. In the current case, although parents' child-based worth may drive their psychologically controlling parenting initially, it may maintain such parenting rather than increase it over time. Consequently, it is difficult to establish the direction of effects in correlational research – even with a longitudinal design – because analyses taking into account auto-regression by including earlier psychologically controlling parenting in predicting such parenting later are not feasible, given that they focus on change. It will be crucial for future research to take the experimental approach of several studies on the antecedents of parenting (e.g., Grolnick, Gurland, DeCoursey, & Jacob, 2002; Moorman & Pomerantz, 2010): Parents' feelings that their worth is based on children's performance could be manipulated.

Second, we focused on the role of parents' child-based worth in only one type of parenting – psychological control. Thus, it is unclear whether the extent to which parents' base their worth on children's performance contributes to other types of parenting. Parents' child-based worth may be relevant to parenting oriented toward minimizing children's failure and maximizing their success with little regard for children's psychological needs, but not to other types of parenting. For example, although parents' child-based worth may have implications for their psychological control, this may not be the case when it comes to their behavioral control – also referred to as structure (Grolnick & Pomerantz, 2009) – which includes such practices as monitoring children's behavior as well as establishing and enforcing rules. Behavioral control, unlike psychological control, is not necessarily insensitive to children's psychological needs; thus, it may be used by parents regardless of their child-based worth to protect children. However, it may be that parents who base their feelings of worth on children's performance implement behavioral control in a psychologically controlling manner – for example, enforcing rules about the amount of time children spend away from schoolwork by making them feel guilty if they do not abide.

Third, despite our focus on both European and African Americans, the samples do not represent the diversity within either China or the United States. The Chinese sample, for example, was recruited from an urban area, where most parents have a single child as a result of the one-child policy, and often center their lives around that child (Fong, 2004). Having one child may intensify the cultural pressures that lead Chinese parents to base their worth on children's performance. Thus, Chinese parents from rural areas, who often have more than one child, may be less likely to possess child-based worth. However, the ethnic differences in child-based worth and psychologically controlling parenting remained when analyses adjusted for number of children,  $F_s > 6.40$ ,  $p_s < .01$ . In addition, although the American sample was diverse in its inclusion of both European and African Americans, other American ethnic groups were not included. Thus, it is unclear, for example, if Latino parents in the United States base their worth on children's performance to an extent similar

to their European and African American counterparts. This is of import because the interdependence orientation of the Latino culture (Markus & Kitayama, 1991; Triandis, 1989) may heighten parents' child-based worth.

Despite these limitations, the current research provides the first evidence as to one reason why Chinese parents are more controlling with children than are American parents: Chinese (vs. American) parents are particularly likely to base their feelings of worth on children's performance, which contributes to their heightened control compared to American parents. A critical direction for future research will be to identify the downstream consequences for children of parents hinging their worth on children's performance; it is likely that this contributes to differences among Chinese and American children in their psychological functioning. The current research also suggests that parents' child-based worth may create differences among parents in their controlling parenting within both China and the United States.

## Acknowledgments

This research was supported by National Institute of Mental Health Grant R01 MH57505.

We are grateful to the families who participated in this research. We appreciate the constructive comments provided by Qian Wang and members of the Center for Parent-Child Studies.

## Appendix

### Maternal Child-Based Worth

1. When my daughter fails, I feel badly about myself.
2. How I feel about myself is often linked to my daughter's accomplishments.
3. Although my daughter and I are close, her academic outcomes do not reflect on my sense of self-esteem.
4. My daughter's failures can make me feel ashamed.
5. When my daughter succeeds, I feel good about myself.
6. When my daughter does something bad, I feel ashamed.
7. My daughter's failures are a reflection of my own worth.
8. My daughter's successes have very little influence on how I feel about myself.
9. Although I care about what happens to my daughter, her failures do not reflect on my worth as a person.
10. My daughter's failures have very little influence on my worth as a person.
11. My sense of self-esteem is based on my daughter's accomplishments.
12. Although I care about what happens to my daughter, her successes do not reflect on my worth as a person.
13. How I feel about myself does not depend on what my daughter does.
14. How well my daughter does in school tells me something about my value as a person.
15. My daughter's successes are a reflection of my own worth.

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Table 1

## Descriptives for Psychological Control and Child-Based Worth

	China				United States					
			European Americans		African Americans					
	<i>M</i>	<i>SD</i>	<i>α</i>	Temporal stability	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>α</i>	Temporal stability
Psychological control										
Mother report										
Wave 1	2.81 <sub>a</sub>	0.78	.92	.63 <sup>***</sup>	1.79 <sub>b</sub>	0.44	2.26 <sub>c</sub>	0.71	.88	.71 <sup>***</sup>
Wave 2	2.73 <sub>a</sub>	0.73	.91		1.74 <sub>b</sub>	0.42	2.34 <sub>c</sub>	0.78	.89	
Child report										
Wave 1	2.97 <sub>a</sub>	0.77	.89	.59 <sup>***</sup>	2.41 <sub>b</sub>	0.83	3.10 <sub>a</sub>	0.78	.92	.68 <sup>***</sup>
Wave 2	2.98 <sub>a</sub>	0.83	.92		2.31 <sub>b</sub>	0.75	2.94 <sub>a</sub>	0.91	.92	
Child-based worth										
Wave 1	3.84 <sub>a</sub>	1.11	.89	.64 <sup>***</sup>	3.07 <sub>b</sub>	1.21	3.37 <sub>b</sub>	1.25	.92	.77 <sup>***</sup>
Wave 2	3.84 <sub>a</sub>	0.91	.86		2.86 <sub>b</sub>	1.23	3.15 <sub>b</sub>	1.15	.92	

*Note.* Means in the same row with different letter subscripts are significantly ( $p < .05$ ) different between ethnic groups. For each variable at each wave the difference between China and the United States is significant ( $p < .05$ ).

\*\*\*  
 $p < .001$ .

**Table 2**

## Child-Based Worth as a Mediator of Psychological Control in China and the United States

	$\beta$		95% Bias-corrected and accelerated bootstrap CI
	Step 1	Step 2	
Mother report			
Predicting psychological control (Wave 1)			
Step 1: Country	.50***	.42***	.06 to .25
Step 2: Child-based worth (Wave 1)		.37***	
Predicting psychological control (Wave 2)			
Step 1: Country	.47***	.34***	.12 to .32
Step 2: Child-based worth (Wave 2)		.37***	
Predicting psychological control (Wave 2)			
Step 1: Country	.46***	.39***	.05 to .22
Step 2: Child-based worth (Wave 1)		.29***	
Child report			
Predicting psychological control (Wave 1)			
Step 1: Country	.15*	.10	.03 to .20
Step 2: Child-based worth (Wave 1)		.23***	
Predicting psychological control (Wave 2)			
Step 1: Country	.24***	.17*	.05 to .26
Step 2: Child-based worth (Wave 2)		.22**	
Predicting psychological control (Wave 2)			
Step 1: Country	.23**	.17*	.03 to .21
Step 2: Child-based worth (Wave 1)		.24***	

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