HHS Public Access

Author manuscript

Int J Behav Dev. Author manuscript; available in PMC 2016 May 01.

Published in final edited form as:

Int J Behav Dev. 2015 May 1; 39(3): 285–292. doi:10.1177/0165025414562238.

Confirming the Multidimensionality of Psychologically Controlling Parenting among Chinese-American Mothers: Love Withdrawal, Guilt Induction, and Shaming

Charissa Cheah, **Jing Yu**, **Craig Hart**, **Shuyan Sun**, and **Joseph Olsen**

Abstract

Despite the theoretical conceptualization of parental psychological control as a multidimensional construct, the majority of previous studies have examined psychological control as a unidimensional scale. Moreover, the conceptualization of shaming and its associations with love withdrawal and guilt induction are unclear. The current study aimed to fill these gaps by evaluating the latent factor structure underlying 18 items from Olsen et al. (2002) that were conceptually relevant to love withdrawal, guilt induction, and shaming practices in a sample of 169 mothers of Chinese-American preschoolers. A multidimensional three-factor model and bi-factor model were specified based on our formulated operational definitions for the three dimensions of psychological control. Both models were found to be superior to the unidimensional model. In addition, results from the bi-factor model and an additional second-order factor model indicated that psychological control is essentially empirically isomorphic with guilt induction. Although love withdrawal and shaming factors were also fairly strong indicators of psychological control, each exhibited important additional unique variability and mutual distinctiveness. Implications for the conceptualization of love withdrawal, guilt induction, and shaming as well as directions for future studies are discussed.

Keywords

Chinese-American parenting; guilt induction; love withdrawal; psychological control; shaming

Psychological control as a parenting construct received explicit attention in the early 1960s and was defined as parental behaviors that appeals to pride and guilt, expresses disappointment, withdraws love, and involves shaming (e.g., Becker, 1964). The 10-item psychological control scale from the revised Children's Report of Parental Behavioral Inventory (Schaefer, 1965) was the earliest measure of psychological control, which is unidimensional and captures love withdrawal, guilt induction, and excessive pressure for change (i.e., directiveness). Stemming from Schaefer's work, Barber (1996) conceptualized psychological control as multidimensional and developed 16 items to tap six related dimensions: constraining verbal expressions, invalidating feelings, erratic emotional behavior, personal attack, love withdrawal, and guilt induction. Barber pointed out that Schaefer's items for directiveness are ambiguous as to the extent to which they measure

Corresponding Author: Charissa Cheah, University of Maryland, Baltimore County - Department of Psychology, Baltimore, Maryland, United States, Phone: 410-455-1059, ccheah@umbc.edu.

psychological control versus behavioral control and, therefore, excluded the directiveness items in his adolescent-reported Psychological Control Scale. After factor analysis, Barber retained eight items that represent constraining verbal expressions, invalidating feelings, and love withdrawal.

The measurement of psychological control in Asian cultures will not be adequate without incorporating other dimensions such as guilt induction and shaming that are frequently used by these parents (Fung, 1999). Furthermore, the psychological control construct is relevant to younger children's socialization as well (Olsen et al., 2002) and may be particularly important to examine early in children's development for intervention purposes. To better capture psychological control used by parents of preschool children cross-culturally, Olsen et al. (2002) proposed a larger bank of items (17 new items in addition to Barber's 16 items) and validated the measure among American, Russian, and Chinese mothers of preschoolers. In their study, only items that were linked to child internalizing or externalizing behaviors in at least one culture were retained to tap four dimensions of Barber's (1996) psychological control, i.e., personal attack, erratic emotional behavior, guilt induction, and love withdrawal. Subsequent studies utilizing Olsen et al.'s measure have typically elected to use several items from the larger item bank to create a unidimensional construct of psychological control (e.g., Hart, Nelson, Robinson, Olsen, & McNeilly-Choque, 1998; Nelson, Hart, Yang, Olsen, & Jin, 2006a; Yang et al., 2004) or shaming/love withdrawal (e.g., Nelson et al., 2006b; Wu et al., 2002).

Mixing items from different dimensions to form an omnibus scale might be problematic because any unique influence of individual dimensions can be concealed. This concern was supported by Fung and Lau's (2012) study showing that, unlike hostile and rejecting forms of psychological control (e.g., invalidating feelings, personal attack), the relational induction forms of psychological control (e.g., guilt induction, shaming) were not related to problem behaviors in European-American and Chinese school-aged children. This indicates it may be important to investigate psychological control as a multidimensional construct and examine how individual dimensions are related to children's developmental outcomes. Unfortunately, only two studies conducted with preschool children (Casas et al., 2006; Nelson, Yang, Coyne, Olsen, & Hart, 2013) have taken the dimensional approach. In these studies, Casas et al. (2006) did not examine the factor structure of psychological control, but instead created composite dimensional scores for a sample of U.S. mothers. Alternatively, Nelson et al. (2013) took a factor-analytic approach to confirm the multidimensionality of psychological control in a Russian sample and found the factor loadings of the retained dimensions to be invariant across mothers and fathers.

In addition to few factorial investigations of psychological control measures, the conceptualization of shaming and its relation to guilt induction and love withdrawal are not clear. Barber (1996) described guilt induction as "Family members laid guilt trips on another family member by pointing out that another's behavior had a negative emotional impact on them such as making them worry or feel sad", and depicted love withdrawal as "Family members threatened the withdrawal of their love or attention if another family member did not do what the other expected" (see Appendix B in Barber (1996) for a full description). Even though shaming was described to be an important aspect of psychological control

(Barber, 1996; Becker, 1964), it was not proposed as a separate dimension of psychological control in Barber's scale.

Fung and colleagues examined Chinese parents' shaming practices through observations of spontaneous home interactions, and conceptualized shaming as parental attempts to invoke young children's feelings of shame to teach them right from wrong (Fung, 1999; Fung & Chen, 2001). Their examples of shaming behaviors included guilt-laden warnings of punishment, turning the whole body away from the child, making unfavorable comparisons to the child's peer or sibling, or explicit statements about being embarrassed and ashamed of child misbehavior, some of which seem akin to love withdrawal and guilt induction. Other researchers focused primarily on critical comparison (Camras, Sun, Li, & Wright, 2012) or expressions of disappointment in measuring shaming (Losoncz & Tyson, 2007). Based on these conceptualizations, Olsen et al.'s (2002) guilt induction was quite similar to shaming, indicating that they did not intend to distinguish guilt induction and shaming. Due to the lack of differentiation among the three dimensions, certain items used to characterize love withdrawal and guilt induction (e.g., Hart et al., 1998) were also used to construct shaming in the literature (e.g., Wu et al., 2002; Nelson et al., 2006b). Thus, it remains unclear whether shaming should be considered a combination of love withdrawal and guilt induction or a unique construct. Nelson et al. (2013) provided some evidence that shaming can be differentiated from guilt induction and love withdrawal and that it has predictive significance for Russian children's aggression. It should be noted that their measurement of guilt induction, different from Barber (1996), included an item for personal attack ("I bring up our child's past mistakes when criticizing him/her"). Moreover, their shaming construct included items characterizing directiveness ("I try to change our child") and personal attack ("I tell our child that his/her behavior was dumb or stupid").

Based on the literature reviewed, we formulated operational definitions for the three constructs being considered in this study. Love withdrawal is a "love-oriented" method of child-rearing, which centers on manipulating feelings of parental acceptance by the threat of or actual temporary withdrawal of love and attention, to correct children's misdeeds in order to increase the likelihood of compliance to parental and societal demands (Barber, 1996; Wu et al., 2002). Guilt induction often centers on pointing out how the child's specific acts of omission or commission has affected others, including parents, by arousing feelings of guilt, thus helping children acquire empathy and become more sensitive to the thoughts, feelings, and perceptions of others (Barber, 1996; Mascaolo, Fischer, & Li, 2003). Shaming includes expressions of disappointment, warnings of punishment, and anger intonations that center on inferiority and shortcomings, drawing children's attention to how far out of line their behavior or performance is in comparison to other individuals and/or to referent group norms and expectations (Fung, 1999). By inducing shame felt by the child that contains elements of humiliation and losing face, shaming is thought to help parents socialize their children to be attuned to how others view them so that they will be more likely to behave in culturally appropriate modest, tactful, and respectful ways (Chao & Tseng, 2002; Fung & Chen, 2001).

Guided by these operational definitions and inspired by the work of Nelson et al. (2013), the current study examined the multidimensionality of psychological control by focusing

specifically on love withdrawal, guilt induction, and shaming using Olsen et al.'s (2002) measure in a Chinese-American sample. There is a particular need to focus on these dimensions in Chinese or Chinese-American populations for several reasons. First, many observers of Chinese parenting (e.g., Ho, 1986; Tseng & Wu, 1985) have noted that guilt induction, shaming, and love withdrawal are prevalent Chinese socialization practices intended to help children fit in with group dependent norms, be sensitive to the perceptions of others, and to teach them to avoid future behaviors that would bring shame or embarrassment to themselves, their peer group, or their family (e.g., Chao & Tseng, 2002; Fung, 1999). Second, in a variety of cultural samples, psychologically controlling parenting has been found to be consistently associated with negative outcomes in children and adolescents (e.g., Barber, Stolz, Olsen, Collins, & Burchinal, 2005; Nelson et al., 2006a). However, some recent evidence suggests that the detrimental effects of psychological control are less consistently reported in Chinese samples (e.g., Fung & Lau, 2012). Little research has been conducted on how the use of psychological control and its specific dimensions relate to children's development among Chinese parents in a Western cultural context. Given the somewhat contradictory findings and conjectures, one important first step towards better understanding these processes is to examine the conceptualization and measurement of psychological control as a multidimensional construct. Therefore, the primary goal of this study was to confirm the multidimensional nature of the psychological control construct, which is emphasized in Chinese culture, and to examine whether shaming would emerge as a distinct construct from love withdrawal and guilt induction in a sample of Chinese-American mothers with young children.

Method

Sample

Participants were 169 first-generation Chinese-American mothers (M_{age} = 37.85, *SD* = 4.43) with young children (M_{age} = 4.54, *SD* = 0.91, 54% boys). Mothers had been in the U.S. for 10.45 years on average (*SD* = 5.83). More than 90% of the participants had a bachelor's degree or higher and the sample was middle-class. Participants were recruited from various organizations across the Maryland-Washington DC area, including Chinese churches, preschools, daycare centers, Chinese schools, and grocery supermarkets, to reach potential participants with diverse backgrounds and maximize the representativeness of the sample. With the permission and assistance of the directors in these organizations, announcements were made to the parents regarding the study. Data collection was conducted in the participants' homes by trained research assistants who were fluent in the parents' preferred language (English, Mandarin, or Cantonese). Ethical approval for the study was obtained from the University Institutional Review Board, and parents provided their written consent prior to data collection.

Measures

In addition to the demographic information, participants completed the psychological control questionnaire consisting of 16 items previously used by Barber (1996) and 17 additional items developed by a team of early childhood experts to better reflect dimensions of psychological control for parents of preschoolers (Olsen et al., 2002). The measure was

forward and back-translated by Chinese linguists who were fluent in both English and Chinese. Back-translated items were comparable with the English version. Chinese-American mothers rated how often they exhibit each parenting behavior on a 5-point Likert scale: 1 (*never*), 2 (*once in a while*), 3 (*half of the time*), 4 (*very often*), and 5 (*always*). Given the primary goal of the current study, 18 items (6 items from Barber and 12 new items) capturing love withdrawal, guilt induction, and shaming were selected for the factor analyses, and items for other dimensions such as personal attack and directiveness were purposely excluded.

Analysis Plan

There was only one missing data point, which was found to be missing completely at random (MCAR) with Little's MCAR test χ^2 (15, N = 169) = 12.36, p = .65 (Little, 1998; Little, Jorgenson, Lang & Moore, 2014). The mean- and variance-adjusted weighted least squares estimator (WLSMV) in M*plus* version 7 (Muthén & Muthén, 1998–2012) was used to conduct confirmatory factor analysis (CFA) for the psychological control dimensions. WLSMV treats the items as categorical indicators and makes use of all of the available data in order to estimate the CFA models. Two main approaches were used to examine the dimensionality of psychological control in this study: a traditional multidimensional CFA with each item loading on only one of the three hypothesized dimension factors, and a bi-factor CFA model where each item loaded on both a general factor and a specific factor for each of the hypothesized dimensions. Model fit was evaluated by χ^2 statistic, root mean square error of approximation (RMSEA), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Weighted Root Mean Square Residual (WRMR). Acceptable model fit is indicated by CFI and TLI above .90, RMSEA below .08, and WRMR with values of 1.0 or lower (Brown, 2006; Hu & Bentler, 1998; Yu, 2002). CFI and TLI larger than .95 and RMSEA smaller than .05 are considered good fit.

Results

Initial Multidimensional Correlated Factors Model and Bi-Factor Model

A unidimensional CFA model was first specified in which all of the 18 items were loaded on one and only factor (Model 0). Based on our operational definitions of love withdrawal, guilt induction, and shaming, a multidimensional three-factor CFA model (Model 1) was then specified in which each item was loaded on one and only factor (See Table 1 for items constituting each factor). A Chi-square difference test using the DIFFTEST command for WLSMV in M*plus* showed that Model 1 fit the data better than Model 0, $\Delta\chi^2$ (3, N = 169) = 85.68, p < .001. However, the fit of Model 1 itself was not adequate (see Table 2).

We also estimated a confirmatory bi-factor model (Model 2) which explicitly estimates a general psychological control factor with loadings for all of the items, along with separate group factors for each of the three dimensions. In this model, the group factors are uncorrelated with the general factor, and the group factors were also mutually orthogonal. Model 2 fit the data well (see Table 2) and provided a better fit than Model 0, $\Delta\chi^2$ (18, N = 169) = 251.62, p < .001. However, Model 2 had significant negative group factor loadings for items PC25, PC26, PC8, and PC37, contrary to expectation (see Table 3).

Modified Multidimensional Correlated Factors Model and Bi-Factor Model

To improve the fit of Model 1, measurement error correlations were allowed between love withdrawal items PC13 and PC31 ($\theta = .41$), between guilt induction items PC12 and PC20 ($\theta = .48$), and between shaming items PC8 and PC37 ($\theta = .41$). These modifications were made because the items were similar in content and the estimated measurement error correlations were not trivial. In addition, four secondary factor loadings were added to Model 1, allowing one guilt induction item (PC20) to also load on the shaming factor, and three of the shaming items (PC8, PC24, and PC37) to also load on the guilt induction factor. Because the loading of item PC8 on the shaming factor was no longer statistically significant, it was fixed to zero. The loading of item PC37 on the shaming factor then became negative ($\lambda = -.30$) in the resulting modified three-factor CFA model (Model 3 in Table 3). Items PC20 and PC24 had similar factor loadings on both guilt induction and shaming.

Only one substantial modification was needed to improve the fit of the bi-factor model (Model 2): Guilt induction item PC20 was allowed to have secondary loading on the shaming factor (Model 4). This resulted in a non-significant loading for item PC8 on shaming (which was then fixed to zero) and a remaining significant negative loading of item PC37. Additionally, the group factor loadings for guilt induction items PC25 and PC26 were not statistically significant and were therefore fixed to zero (see factor loadings of Model 4 in Table 3).

Trimmed Multidimensional Correlated Factors Model and Bi-Factor Model

Despite good overall fit of the modified multidimensional and bi-factor models, two items remained somewhat problematic. Item PC4 had a standardized factor loading lower than .40 (Stevens, 1996) across models and thus was not well explained by the modeled latent structure, especially in the bi-factor model (Model 4). Despite loading quite strongly on the guilt induction factor in the multidimensional model (Model 3) and on the general factor in the bi-factor model (Model 4), item PC37 continued to show a small but significant negative loading on the shaming factor in Model 3 and on the shaming group factor in Model 4, contrary to expectation. From a conceptual standpoint, item PC37 focused on the salience of a social comparison with the child's peers, rather than on the parent-child relationship dynamic which is generally seen as more central to the conceptualization of psychological control. For these reasons, we estimated additional multidimensional (Model 5) and bi-factor (Model 6) models with items PC4 and PC37 removed. Both models fit the data well (see Table 2).

The bi-factor model (Model 6) portrays a general psychological control latent variable along with independent group factors for love withdrawal and shaming. Three of the guilt induction items (PC8, PC25, and PC26) functioned as direct indicators of the general psychological control factor in Model 6, which indicated the close correspondence of psychological control and guilt induction. However, there was also some evidence of additional unique variability in the bi-factor model with respect to guilt induction especially with items PC12 and PC20 that may be seen as reflecting particularly blatant guilt induction attempts.

Second-Order Factor Model

To further examine the nature of the relations among the global psychological control construct and its three key dimensions, we estimated a second-order CFA based on Model 5. In this model, the three dimension factors were treated as the first-order indicators of a second-order latent psychological control construct. This accounts for the common and unique variance among the three dimensions of the modified multidimensional model (Model 5). When initially estimated, this model produced a negative but very small estimate of the residual variance for the guilt induction factor. Because this estimate was technically inadmissible, it was constrained to be non-negative and the model was re-estimated. In the resulting model (Model 7) psychological control is essentially isomorphic with guilt induction, but about half of the variance in love withdrawal and nearly three-quarters of the variance in shaming are independent of the overarching psychological control construct (Figure 1). Model 7 fit the data just as well as Model 5, $\Delta\chi^2$ (1, N = 169) = 3.27, p = .071.

Discussion

Since Barber (1996) revisited the psychological control construct, many empirical studies have been conducted to examine how psychological control is related to different child and adolescent outcomes. However, the multidimensional nature of psychological control was not thoroughly examined. By factor analyzing items for love withdrawal, guilt induction, and shaming, this study provided empirical support for the superiority of a multidimensional model and bi-factor model over a unidimensional model for psychological control. In addition, consistent with Nelson et al. (2013), shaming robustly emerged as a unique dimension especially relative to love withdrawal in our sample of mothers with Chinese-American preschoolers.

In the initial multidimensional correlated factors model (Model 1), four items were found to cross-load on more than one dimension: shaming items PC37 (“Tells child he/she is not as good as other children”), PC8 (“Tells child he/she is not as good as I was when I was growing up.”), and PC24 (“Tells child that he/she should be ashamed when he/she misbehaves”) were found to also load on guilt induction, and the guilt induction item PC20 (“Tells child of all the things that I have done for him/her”) was found to also load on shaming. Item PC20 was found have cross-loading in the initial bi-factor model (Model 2) as well. Thus, despite the conceptual soundness, these items did not conform to a clean factor structure suggested by the initial multidimensional and bi-factor model. By allowing these items to have secondary loadings, the modified multidimensional model (Model 3) and bi-factor model (Model 4) achieved adequate model fit, but with some additional model complexity compared to their unmodified counterparts (Model 1 and Model 2). Specifically, the factor loading patterns indicate that items PC8 and PC37 functioned better as indicators of the guilt induction/general factor than shaming, and items PC20 and PC24 continued to cross-load on both the guilt induction/general factor and shaming. In the literature, these items have been used to measure a unidimensional scale of psychological control (e.g., Hart et al., 1998) or to assess both guilt induction and shaming (Olsen et al., 2002; Nelson et al., 2006b), and thus may indeed capture some shared characteristics among the dimensions of psychological control.

In addition, items PC4 (low loadings across models) and PC37 (significant negative factor loading) remained problematic in the modified models and thus eventually removed from the modified models. Based on these trimmed multidimensional (Model 5) and bi-factor (Model 6) models, the measurement of love withdrawal was consistent with the literature (Barber, 1996; Nelson et al., 2013) and our operational definition. The items captured parents' manipulation of their love and attention to coerce children to be obedient to their wishes and regulation of their children's misconduct. The elements of guilt induction were also consistent with Barber's conceptualization and measurement but slightly different from Nelson et al. (2013) in that personal attack was not included. Personal attack is a hostile form of psychological control because parents bring up the child's past mistakes when criticizing him/her as evidence of the child's lack of worth, whereas guilt induction is a relationally inductive form of psychological control where parents invoke guilt to correct children's misbehavior (Barber, 1996; Fung & Lau, 2012). Due to the conceptual inconsistency in the literature and our operational definition, we elected not to use the personal attack item to measure guilt induction.

The shaming dimension in this study primarily encompassed expressions of disappointment, warnings of punishment, and anger intonations (Fung, 1999; Losoncz & Tyson, 2007), and again the social comparison items (i.e., PC8 and PC37) did not work statistically although they fit our definition for shaming well. We did not include personal attack and directiveness items, and thus our shaming dimension differed from the shaming/disappointment construct in Nelson et al. (2013). As discussed earlier, directiveness ("I try to change my child") captures behavioral control rather than psychological control (Barber, 1996). Personal attack ("I tell my child that his/her behavior was dumb") refers to parental behavior that attacks the child's worth, whereas shaming aims to invoke children's feeling of shame and socialize them to be sensitive to others' views and behave in culturally appropriate ways (Fung, 1999). Moreover, no love withdrawal or guilt induction items (e.g., Nelson et al., 2006b) except guilt induction item PC20 loaded on the shaming factor.

Therefore, our results suggest that there is a slight overlap between shaming and guilt induction, but shaming can clearly be distinguished from love withdrawal, as supported by the bi-factor model (Model 6) where independent group factors for love withdrawal and shaming and a close correspondence of guilt induction with the general factor of psychological control were found. Results from the second-order CFA (Model 7) provided further evidence for the centrality of guilt induction in psychological control. At the same time, the first-order love withdrawal and shaming factors were also fairly strong indicators of psychological control, but each exhibited important additional unique variability and mutual distinctiveness.

A major limitation of this study is the lack of criterion measures to confirm the differential effects of psychological control dimensions. However, a recent study (Rudy, Carlo, Lambert, & Awong, 2014) provided some initial empirical support. These authors conceptualized love withdrawal as a component of harsh psychological control, whereas guilt induction (including one shaming item) was considered a more benign form of psychological control. Although both forms of psychological control were related to lower self-esteem in American children, love withdrawal was related to lower self-esteem whereas

guilt induction/shaming was related to higher self-esteem for Indian children, suggesting that the dimensional effects can be further moderated by culture. Love withdrawal may threaten the secure parent-child bond and be associated with children's maladjustment regardless of variations in culture (Rudy et al., 2014), whereas guilt induction and shaming may foster children's greater sensitivity to others and social competence and thus lead to positive child outcomes in cultures that value interpersonal relationships (Fung & Lau, 2012). More empirical studies are needed to test these conjectures.

Another limitation of this study concerns the sample. Although the study participants (i.e., well-educated, middle-class) were generally representative of the larger first-generation Chinese population in the Maryland-DC metropolitan area and other emerging immigrant areas (McCabe, 2012), we did not conduct random sampling. Thus, the generalizability of these findings to other populations, such as mothers of low socioeconomic status, from a different cultural context, and in other geographical regions, is unknown. In addition, because parenting changes with child age, our findings based on preschoolers may not be generalizable to older children and adolescents. Future studies should confirm the factor structure of psychological control prior to its use on children of other ages. Finally, father data were not included in the analysis to run a dyadic measurement model. However, Nelson et al. (2013) did find factorial invariance across mothers and fathers in their dyadic model. Future research should include data from both mothers and fathers to further evaluate factorial invariance across parents and examine how maternal and paternal psychological control relates to various child outcomes.

In summary, this study provides important evidence that psychological control is a multidimensional construct with a consistently differentiated latent factor structure. Moreover, the bi-factor and second-order factor models add empirical evidence that shaming is a unique dimension of psychological control, which is distinct from love withdrawal and can also be largely differentiated from guilt induction although they shared factor loadings for one (PC20 in Model 6) or two (PC20 and PC24 in Model 5) items. We recommend that researchers use a latent variable approach, for example, the final multidimensional or bi-factor model (Model 5 or Model 6) that can better reflect the factor structure of the items, to investigate the unique influences of the love withdrawal and shaming dimensions as well as the global construct of psychological control that we found to be empirically isomorphic with guilt induction. However, researchers who wish to use composite scores based on a simple factor structure can remove items PC20 and PC24 from Model 5 to construct sum or mean scores for each dimension. Further, it is worth exploring whether the dimensional effects might be moderated by culture. That is, specific psychological control dimensions may have distinct effects on child outcomes across cultures, as shown by Rudy et al. (2014). Future studies should take the dimensional approach to further delineate how different psychological control dimensions contribute to child development in various cultural contexts.

Reference

Barber BK. Parental psychological control: Revisiting a neglected construct. Child Development. 1996; 67(6):3296–3319. [PubMed: 9071782]

Barber, BK.; Stolz, HE.; Olsen, JA.; Collins, WA.; Burchinal, M. Monographs of the Society for Research in Child Development. Boston, MA: Blackwell; 2005. Parental support, psychological control, and behavioral control: Assessing relevance across time, culture, and method.

Becker, WC. Consequences of different kinds of parental discipline. In: Hoffnian, ML.; Hoffman, WW., editors. Review of child development research. Vol. 1. New York: Russell Sage Foundation; 1964. p. 169-208.

Brown, TA. Confirmatory factor analysis for applied research. New York, NY: Guilford Press; 2006.

Camras LA, Sun K, Li Y, Wright MF. Do Chinese and American children's interpretations of parenting moderate links between perceived parenting and child adjustment? Parenting: Science and Practice. 2012; 12(4):306–327.

Casas JF, Weigel SM, Crick NR, Ostrov JM, Woods KE, Yeh EAJ, Huddleston-Casas CA. Early parenting and children's relational and physical aggression in the preschool and home contexts. Journal of Applied Developmental Psychology. 2006; 27(3):209–227.

Chao R, Tseng V. Parenting of Asians. Handbook of parenting. 2002; 4:59–93.

Fung H. Becoming a moral child: The socialization of shame among young Chinese children. Ethos. 1999; 27(2):180–209.

Fung H, Chen ECH. Across time and beyond skin: Self and transgression in the everyday socialization of shame among Taiwanese preschool children. Social Development. 2001; 10(3):419–437.

Fung J, Lau AS. Tough love or hostile domination? Psychological control and relational induction in cultural context. Journal of Family Psychology. 2012; 26(6):966–975. [PubMed: 23106102]

Hart CH, Nelson DA, Robinson CC, Olsen SF, McNeilly-Choque MK. Overt and relational aggression in Russian nursery-school-age children: Parenting style and marital linkages. Developmental Psychology. 1998; 34(4):687–697. [PubMed: 9681260]

Hu L, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling. 1999; 6(1):1–55.

Little RJA. A test of missing completely at random for multivariate data with missing values. Journal of the American Statistical Association. 1998; 83:1198–1202.

Little TD, Jorgensen TD, Lang KM, Moore EWG. On the joys of missing data. Journal of Pediatric Psychology. 2014; 29(2):151–162. [PubMed: 23836191]

Losoncz I, Tyson G. Parental shaming and adolescent delinquency: A partial test of reintegrative shaming theory. Australian & New Zealand Journal of Criminology. 2007; 40(2):161–178.

Mascolo, MR.; Fischer, KW.; Li, J. Dynamic development of component systems of emotions: Pride, shame and guilt in China and the United States. In: Davidson, RJ.; Scherer, KR.; Goldsmith, HH., editors. Handbook of affective sciences. New York: Oxford; 2003. p. 375-408.

McCabe, K. Migration Information Source. Washington, DC: Migration Policy Institute; 2012. Chinese immigrants in the United States. (ISSN No. 1946-40370). Retrieved from: http://www.migrationinformation.org/USfocus/display.cfm?id=876

Muthén, LK.; Muthén, BO. Mplus user's guide. 7th ed.. Los Angeles, CA: Muthén & Muthén; 1998–2012.

Nelson DA, Hart CH, Yang C, Olsen JA, Jin S. Aversive parenting in China: Associations with child physical and relational aggression. Child Development. 2006a; 77(3):554–572. [PubMed: 16686788]

Nelson DA, Yang C, Coyne SM, Olsen JA, Hart CH. Parental psychological control dimensions: Connections with Russian preschoolers' physical and relational aggression. Journal of Applied Developmental Psychology. 2013; 34(1):1–8.

Nelson LJ, Hart CH, Wu B, Yang C, Roper S, Jin S. Relations between Chinese mothers' parenting practices and social withdrawal in early childhood. International Journal of Behavioral Development. 2006b; 30(3):261–271.

Olsen, SF.; Yang, C.; Hart, CH.; Robinson, CC.; Wu, P.; Nelson, DA.; Wo, J. Maternal psychological control and preschool children's behavioral outcomes in China, Russia, and the United States. In: Barber, BK., editor. Intrusive parenting: How psychological control affects children and adolescents. Washington, DC: American Psychological Association; 2002. p. 235-262.

Rudy D, Carlo G, Lambert MC, Awong T. Undergraduates' Perceptions of Parental Relationship-Oriented Guilt Induction Versus Harsh Psychological Control Does Cultural Group Status

Moderate Their Associations With Self-Esteem? Journal of Cross-Cultural Psychology. 2014; 45(6):905–920.

Schaefer ES. A conflgurational analysis of children's reports of parent behavior. Journal of Consulting Psychology. 1965; 29:552–557. [PubMed: 5846126]

Stevens, J. Applied multivariate statistics for the social sciences. Mahwah, NJ: Lawrence-Eribaum; 1996.

Wu P, Robinson CC, Yang C, Hart CH, Olsen SF, Porter CL, Wu X. Similarities and differences in mothers' parenting of preschoolers in China and the United States. International Journal of Behavioral Development. 2002; 26(6):481–491.

Yang, C.; Hart, CH.; Nelson, DA.; Porter, CL.; Olsen, SF.; Robinson, CC.; Jin, S. Fathering in Beijing, Chinese sample: Associations with boys' and girls' negative emotionality and aggression. In: Day, RD.; Lamb, ME., editors. Conceptualizing and measuring father involvement. Mahwah, NJ: Lawrence Erlbaum Associates; 2004. p. 185-215.

Yu, CY. Doctoral dissertation. Los Angeles, CA: University of California; 2002. Evaluating cutoff criteria of model fit indices for latent variable models with binary and continuous outcomes.

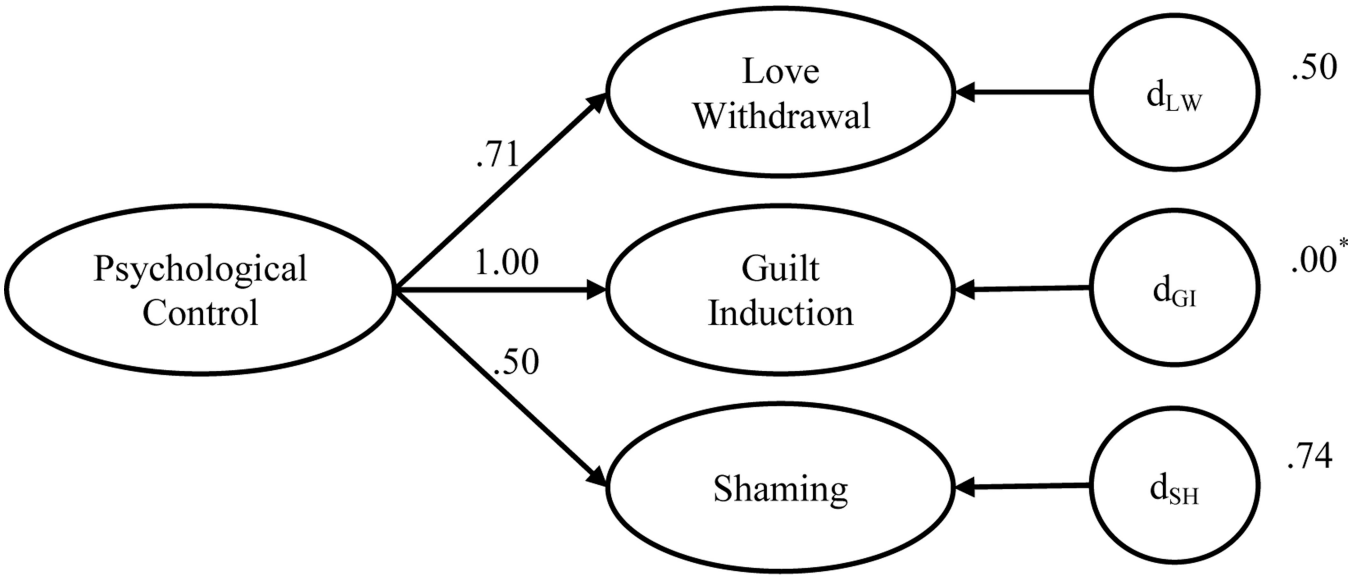

Figure 1.
Second-order factor model (manifest indicators not shown).
Note: d_{LW}, d_{GI}, and d_{SH} refer to the residual variances of love withdrawal, guild induction, and shaming that cannot be explained by the second-order factor of psychological control. *N* = 169.

Table 1

Items that Construct the Proposed Psychological Control Dimensions

Psychological Control (PC) Dimensions
Items: # and Content
Love Withdrawal
PC4. Will avoid looking at child when our child has disappointed me.
PC13. Ignores child when he/she tries to get attention.
PC14. If child has hurt my feelings, stops talking to child until she/he pleases me again.
PC18. Is less friendly with child if child does not see things my way.
PC31. Doesn't pay attention when child is talking to me.
Guilt Induction
PC12. Makes child aware of how much I sacrifice or do for him/her.
PC16. Says, if you really care for me, you would not do things that cause me to worry.
PC20. Tells child of all the things that I have done for him/her.
PC25. Tells child that I get embarrassed when he/she does not meet my expectations.
PC26. Makes child feel guilty when child does not meet my expectations.
Shaming
PC6. Let child know when he/she has disappointed me.
PC8. Tells child he/she is not as good as I was when I was growing up.
PC10. Let child know when I am angry with him/her.
PC22. Acts disappointed when child misbehaves.
PC24. Tells child that he/she should be ashamed when he/she misbehaves.
PC27. Informs child that punishment will always find him/her when misbehavior occurs.
PC35. Let child know how disappointed I am when he/she misbehaves.
PC37. Tells child he/she is not as good as other children.

Table 2

Model Fit Indices for Confirmatory Factor Analysis Models

Model	Model Type	Number of Items	χ^2	*df*	RMSEA	CFI	TLI	WRMR
Model 0	U	18	481.97***	135	.123	.799	.773	1.498
Model 1	M	18	373.87***	132	.104	.860	.838	1.299
Model 2	B	18	177.53***	117	.055	.965	.954	.780
Model 3	M	18	162.94*	126	.042	.979	.974	.751
Model 4	B	18	171.67**	119	.051	.970	.961	.759
Model 5	M	16	129.92*	97	.045	.981	.976	.737
Model 6	B	16	122.65*	90	.046	.981	.974	.690
Model 7	S	16	132.82*	98	.046	.980	.975	.751

Note.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

U = Unidimensional single factor model; M = Multidimensional correlated factors model; B = Bi-factor model; S = Second-order factor model; Items 4 and 37 were removed for Models 5 to Model 7. N = 169.

Int J Behav Dev. Author manuscript; available in PMC 2016 May 01.

Table 3

Standardized item Factor Loadings for Selected Models

	Multidimensional Models								
	Model 1			Model 3			Model 5		
	Love Withdrawal	Guilt Induction	Shaming	Love Withdrawal	Guilt Induction	Shaming	Love Withdrawal	Guilt Induction	Shaming
PC4.	.36			.37					
PC13	.51			.41			.44		
PC14.	.65			.65			.63		
PC18.	.79			.78			.75		
PC31.	.51			.45			.45		
PC12.		.57			.50			.50	
PC16.		.56			.57			.58	
PC20.		.65			.38	.27		.38	.27
PC25.		.96			.96			.98	
PC26.		.84			.84			.83	
PC6.			.60			.66			.66
PC8.			.66		.62			.62	
PC10.			.48			.55			.56
PC22.			.72			.78			.78
PC24.			.75		.40	.42		.39	.43
PC27.			.59			.64			.64
PC35.			.77			.84			.84
PC37.			.50		.74	−.30			

	Bi-Factor Models											
	Model 2				Model 4				Model 6			
	General Factor	Love Withdrawal	Guilt Induction	Shaming	General Factor	Love Withdrawal	Guilt Induction	Shaming	General Factor	Love Withdrawal	Guilt Induction	Shaming
PC4.	.24	.27			.26	.24						
PC13	.29	.54			.30	.54			.31	.61		

PC14.	.45	.36			.47	.33			.47	.27		
PC18.	.53	.42			.55	.39			.55	.35		
PC31.	.28	.65			.29	.66			.30	.66		
PC12.	.52		.41		.48		.55		.48		.54	
PC16.	.54		.24		.53		.30		.54		.30	
PC20.	.63		.66		.49		.67	.26	.49		.68	.26
PC25.	.94		−.15		.97				.99			
PC26.	.84		−.24		.84				.84			
PC6.	.33			.60	.29			.62	.27			.64
PC8.	.69			−.21	.68				.63			
PC10.	.23			.58	.18			.59	.20			.58
PC22.	.47			.61	.43			.63	.44			.62
PC24.	.64			.32	.62			.37	.62			.36
PC27.	.39			.50	.34			.54	.33			.56
PC35.	.52			.63	.46			.68	.46			.68
PC37.	.62			−.34	.65			−.26				

Note: Items shaded grey were not included in the model; All other blank factor loadings were fixed to zero. $N = 169$.