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Chinese American Immigrant Parents' Emotional Expression in the Family: Relations With Parents' Cultural Orientations and Children's Emotion-Related Regulation

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The present study examined 2 measures of Chinese American immigrant parents' emotional expression in the family context: self-reported emotional expressivity and observed emotional expression during a parent-child interaction task. Path analyses were conducted to examine the concurrent associations between measures of emotional expression and (a) parents' American and Chinese cultural orientations in language proficiency, media use, and social affiliation domains, and (b) parents' and teachers' ratings of children's emotion-related regulation. Results suggested that cultural orientations were primarily associated with parents' self-reported expressivity (rather than observed emotional expression), such that higher American orientations were generally associated with higher expressivity. Although parents' self-reported expressivity was only related to their own reports of children's regulation, parents' observed emotional expression was related to both parents' and teachers' reports of children's regulation. These results suggest that self-reported expressivity and observed emotional expression reflect different constructs and have differential relations to parents' cultural orientations and children's regulation.

Keywords: Chinese American immigrants, parent emotion, regulation

Parents' expression of emotion has been shown to play a critical role in shaping children's regulation and adjustment (Eisenberg, Cumberland, & Spinrad, 1998). Though parents of different cultures may vary in their patterns of emotional expression (Camras, Chen, Bakeman, Norris, & Cain, 2006; Ng, Pomerantz, & Lam, 2007; Parker et al., 2012), the effects of parents' emotional expression on children's development appear to be consistent across cultures (S. H. Chen, Zhou, Eisenberg, Valiente, & Wang, 2011; Eisenberg, Liew, & Pidada, 2001).

To date, no single study has integrated these lines of research into investigations of families undergoing cultural change (Camras, Shuster, & Fraumeni, 2014). In particular, it remains unknown (a) how immigrant parents' engagement in host and ethnic cultures are associated with their patterns of emotional expression in the family, and (b) how parents' emotional expression are associated with children's emotion-related regulation. Given the rapid increase in worldwide migration (United Nations Department of

Economic and Social Affairs, 2006) and the relevance of children's regulation to broader developmental outcomes, studying these questions can inform the development and adaptation of culturally sensitive family interventions targeting children of ethnic minority and immigrant backgrounds.

Cultural Influences on Parental Emotion Socialization

Pioneering theories on culture and emotion proposed that although basic emotions may be universal, individuals learn to adapt and modify emotional expression in accordance with the norms and expectations of their respective cultures (Ekman, 1972). These cultural norms of emotion are largely transmitted within the context of the family (Friedlmeier, Corapci, & Cole, 2011; Trommsdorff, 2009) through processes of emotion socialization—"parenting behaviors that reflect parental beliefs, goals, and values in regard to their children's experience, expression, and modulation of emotion" (Eisenberg, Spinrad, & Cumberland, 1998, p. 317). Emotion socialization consists of a variety of parenting behaviors, including parents' discussion of emotion with children, parental reactions to children's emotions, and parents' own emotional expression (Eisenberg, Cumberland, et al., 1998).

Cross-cultural theories on socioemotional development hypothesize that parents' emotion socialization practices can vary in accordance with their cultural values and beliefs about emotions (Friedlmeier et al., 2011; Trommsdorff, 2009). For example, the emotion coaching style of parenting (e.g., being aware and accepting of children's negative emotions, encouraging the expression of these emotions, and providing support) is viewed as optimal for children's emotional competence in European American families (Gottman, Katz, & Hooven, 1997) because it is consistent with European American values of independence. In contrast, consistent with values of interdependence in Asian cultures, emotion

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socialization in Asian families emphasizes children's appropriate control of self-asserting emotions, and knowledge of and obedience to emotional display rules (Friedlmeier et al., 2011; Trommsdorff, 2012).

These theories have been generally supported by cross-cultural comparative studies of Asian, Asian American, and European American families. Chinese and Chinese American mothers of toddlers reported less frequent expression of positive emotion than European American mothers, whereas no group differences were found in mothers' self-reports of negative emotions (Camras et al., 2006; Camras, Kolmodin, & Chen, 2008). Using observational measures during dyadic tasks, Ng et al. (2007) found that Chinese mothers expressed less praise in response to children's success, and more criticism in response to children's failures, than European American mothers.

However, cross-group comparisons may often overlook variations within cultural groups, as well as the fluid and dynamic nature of cultural practices (Gjerde, 2004). Immigrant parents, by contrast, provide an ideal population in which to examine relations of culture and emotion socialization, for a few reasons. First, through interacting with individuals of different cultural backgrounds, immigrants may be exposed to different models of emotional socialization and social structures that encourage or discourage the expression or discussion of emotion. Similarly, immigrants' use of cultural media (e.g., books, TV) may expose them to different models of emotional expression and influence individuals' preferences for affective states (Tsai, Louie, Chen, & Uchida, 2007). Moreover, the language immigrants use to express or discuss emotion may influence the intensity or frequency with which various emotions are expressed or discussed (see S. H. Chen, Kennedy, & Zhou, 2012, for a review). In support of this perspective, Tao, Zhou, Lau, and Liu (2013) found that Chinese American immigrant mothers' engagement with Chinese culture (including their Chinese language proficiency) was associated with fewer emotion-related questions and poorer quality emotion discussions with their children during a storytelling task.

Cultural Influences on Parents' Emotional Expression

Parents' expression of emotion, a core type of emotion socialization, is a multicomponent construct. According to the biocultural theory of emotional expression, different components of emotional expression may show differential susceptibilities to cultural influence (Levenson, Soto, & Pole, 2007). Specifically, because self-reports of emotion are more subject to voluntary control, they can be more easily conformed to a culture's expectations or values toward emotional expression. By contrast, observed components of emotion (e.g., facial expressions or emotion-related behaviors) are more automatic and less subject to voluntary control, and as a result, may be less susceptible to the influence of cultural expectations and values. Consistent with this theory, cross-cultural studies with college students indicate more cultural differences in self-reported emotional expression than facial expressions or emotional behaviors (Levenson, Ekman, Heider, & Friesen, 1992; Soto, Levenson, & Ebling, 2005; Tsai & Levenson, 1997). For example, Chinese American students reported experiencing significantly less emotion to aversive startle stimuli than Mexican Americans, whereas few cultural differences were found in observed emotional behaviors (Soto et al., 2005).

Parents' Emotional Expression and Children's Emotion-Related Regulation

Like other types of emotion socialization, parents' emotional expression has been linked with children's socioemotional outcomes, including emotion-related regulation. Emotion-related regulation (henceforth labeled "regulation") is broadly defined as the processes in which individuals modulate the experience and expression of emotion and emotion-related behaviors (Eisenberg, Spinrad, & Eggum, 2010). There are a number of theoretical mechanisms by which parents' expression of emotion in the family can influence children's regulation (Eisenberg, Cumberland, et al., 1998; Eisenberg et al., 2010). First, parents' emotional expression may serve as a model for children's emotional responses to daily life events. Second, parents' expression of emotion may contribute to the family's overall emotional climate, which can either foster or hinder the development of children's regulation. The frequent expression of hostile and negative emotions in the family, for instance, may contribute to children's overarousal and hinder their acquisition of adaptive regulatory skills.

Consistent with these theories, researchers have found associations between parents' emotional expression and children's regulation, though these have been limited to studies involving primarily European American populations. Of note, these relations have been observed in studies utilizing parents' self-reported expressivity, as well as their observed emotional expression while interacting with their children. For example, in a study of 4.5- to 8-year-old children, Eisenberg, Gershoff, et al. (2001) found a positive association between mothers' expression of positive emotion (a latent factor indicated by observed positive emotion during a parent-child interactive task and mothers' self-reported emotion) and children's regulation. These relations remained significant in a follow-up study 2 years later (Eisenberg et al., 2003). To our knowledge, only one study explicitly tested relations of parents' emotional expression and children's regulation in families of Asian background: Eisenberg, Liew, et al. (2001) found that Indonesian mothers' self-reports of negative emotional expression was negatively associated with their children's (7 to 11 years of age) regulation.

Cultural Orientation, Parental Emotion Expression, and Children's Regulation

In summary, the research to date indicates that cultural factors influence parents' emotion-related behaviors in the family, which, in turn, influence children's regulation. However, these processes have yet to be captured in a single study (Camras et al., 2014). Moreover, there are a few other important limitations in this line of research. First, because researchers tend to use national or ethnic groups as approximate indicators of "culture," little attention has been paid to the within-group heterogeneity in parents' emotional expression. Second, without assessing specific dimensions of culture, the mechanisms through which culture influences parental expression cannot be tested. Immigrant parents provide a unique opportunity to study these mechanisms. Even immigrants who share the same culture of origin and live in the same host country may have considerable heterogeneity in their contact with, and engagement in, their heritage and the host cultures (Miller, 2007). Recent theory has suggested that immigrants' cultural orienta-

tion—"the degree to which individuals are influenced by and actively engage in the tradition, norms, and practices of a specific culture" (Tsai & Chentsova-Dutton, 2002, p. 95)—can simultaneously involve acculturation (i.e., adaptation to the mainstream or host culture) and enculturation (i.e., adaptation to, or maintenance of immigrants' heritage or ethnic culture; Gonzales et al., 2008). Within-group variations in cultural orientation, in turn, can provide different models of parenting and emotion socialization practices. Thus, by studying the links between immigrant parents' dual cultural orientations and emotional expression, it is possible to understand the mechanisms through which cultural contact and engagement can influence emotional expression.

Third, the links between parents' emotional expression and children's regulation have yet to be tested in Asian American families, and researchers have yet to include both self-reported and observed components of parental emotion expression in these investigations. A cross-cultural study showed that college students' ratings of positive parental emotion were associated with fewer emotion-regulation difficulties (Morelen, Jacob, Suveg, Jones, & Thomassin, 2013), but these associations were only found among White students. Furthermore, although previous research with European American samples showed a modest agreement between observed and self-reported measures of parent emotion (Eisenberg, Gershoff, et al., 2001), based on the theoretical models reviewed here, there is reason to suspect that these findings might not generalize to Asian American families. As such, there is a critical need to examine both the effects of observed and self-reported parental expression of emotion on Asian American children's regulation.

The Present Study

Using a socioeconomically diverse sample of Chinese American immigrant parents and their school-age children, the present study aimed to test the concurrent relations between (a) parents' cultural orientations and their emotional expression in the family, and (b) parents' emotional expression and children's regulation. Based on the conceptualization of cultural orientations as a bilinear and multidimensional construct (Miller, 2007; Tsai & Chentsova-Dutton, 2002), we assessed parents' engagement in heritage (Chinese) and host (American) cultures in three behavioral domains: language proficiency, media use, and social affiliations. Two components of parental expression of positive and negative emotion were assessed: self-reported emotional expressivity in the family, and observed emotional expression in a parent-child interaction task.

We had three main hypotheses. First, we hypothesized that Chinese American parents' behavioral engagement in American culture would be positively associated with their emotional expression, whereas parents' engagement in Chinese culture would be negatively associated with their emotional expression. We expected that these associations would vary across dimensions of cultural orientation (language proficiency, media use, and social affiliations). Specifically, given previous research demonstrating the central role of language in the acculturation process (Birman & Trickett, 2001), the relevance of language to immigrant family relationships (S. H. Chen et al., 2014), and relations of language choice and emotional expression in multilingual families (S. H. Chen et al., 2012), we expected that the language of the host

culture would be more consistently associated with immigrants' emotional expression than other dimensions of acculturation.

Second, based on the biocultural theory of emotion (Levenson et al., 2007), we hypothesized that parents' cultural orientation would be more strongly associated with self-reported than observed components of emotional expression. Finally, because parents' observed emotional expression during parent-child interaction might be a more accurate reflection of parents' actual emotional expression in family life, we hypothesized that observed emotional expression be more strongly associated with children's regulation than self-reported expressivity.

Method

Participants

The sample consisted of 252 foreign-born Chinese American parents (82.5% mothers) who participated in a larger study on Chinese American school-age children's psychological adjustment (S. H. Chen et al., 2014). The parents and children were recruited from schools, neighborhoods, shopping centers and grocery stores, and community organizations in a large metropolitan area in northern California. Given the goal of studying underserved families for the larger study, we intentionally oversampled low-income families by concentrating our recruitment efforts in Asian American communities with high economic disadvantage (e.g., Chinatowns). Children (51.9% boys) in this sample were between 5.8 and 9.1 years of age ($M = 7.4$ years, $SD = .71$), and the majority (75.8%) were born in the United States (i.e., second generation). Of this sample, 76.2% of parents were born in mainland China, 9.1% were born in Hong Kong, 3.2% were born in Taiwan, and 11.5% were born in other countries. Parents ranged from 27.9 to 54.8 years of age ($M = 39.6$ years, $SD = 5.25$). On average, parents had lived in the United States for more than one decade (range = <1 year to 38 years, $M = 11.9$ years, $SD \pm 7.6$). Parents' years of school education ranged from 5 years (elementary school education only) to 20 years (doctorate or other advanced degree), and the mean years of education was 13.3 ($SD = 2.44$ years). Twenty-one percent of the participating parents in the sample had earned a bachelor's degree or higher, whereas 16% of parents did not complete a high school degree or GED. More than half (63.0%) of parents were employed full time, 13.7% were employed part time or performed occasional work, and 20.1% were not employed outside the home. Families' estimated median income for the past year was \$37,500 (range \$5,000 to >\$100,000, $M = \$47,020$, $SD = \$30,106.40$).

Compared with the local Chinese American population using census data, our sample had a higher percentage of parents with income less than \$50,000, a lower percentage of parents with a bachelor's degree or higher, and a lower percentage of parents who were employed than the local Chinese American population (Lee et al., 2014). In sum, consistent with our intent to oversample low-income families, our sample had a higher percentage of families that were of low socioeconomic status (SES) than the Chinese American population at both the local and national levels.

Procedures

All procedures were approved by the university's institutional review board. After obtaining the parent's informed consent, the

parent and child participated in a 2.5-hr lab assessment session, which included parent questionnaires, child assessment, and parent-child interaction tasks. The majority of parents (83.4%) completed the questionnaires in Chinese (their preferred language), and 16.6% of parents completed the questionnaires in English. After the lab session, the child's main classroom teacher was asked to complete a survey by mail. Teacher data was collected for 83.7% of children. Parents and teachers were paid for their participation.

Measures

Parents' self-reported emotional expressivity. Parents completed a revised version of the Self-Expressiveness in the Family Questionnaire (Halberstadt, Cassidy, Stifer, Parke, & Fox, 1995), a measure that has been used previously with Chinese American parents (Camras et al., 2006). Two subscales were used in the present study: (a) positive expressivity (12 items, $\alpha = .91$ in the present sample, e.g., "Praising someone for good work"); and (b) negative-dominant expressivity (nine items, $\alpha = .88$, e.g., "Showing contempt for another's action"). Parents rated the items on a 9-point scale from 1 (*I rarely express these feelings*) to 9 (*I frequently express these feelings*).

Parents' observed emotional expression. Parents' facial expressions and emotion-related behaviors while interacting with their children were assessed as they worked together on a timed puzzle box task. The child was told that he or she would receive a prize if they finished the puzzle within 5 min (see Eisenberg, Gershoff, et al., 2001 for detailed procedure). The parent and child were left alone in the room during the task, although their performance was recorded by two visible video cameras. Parents' facial expressions and emotion-related nonverbal behaviors were coded from video recordings using a coding scheme developed by Eisenberg and colleagues (Eisenberg, Gershoff, et al., 2001). Codes were assigned for each 30-s interval and rated parents' displays of (a) happiness or positive affect (e.g., smiling, laughter, applause), and (b) anger/frustration (e.g., frowning, glaring, banging on the puzzle). Coders were ethnically Chinese. In order for coders to focus exclusively on parents' observed expression of emotion, and to remove possible influence of parents' spoken language, coders rated each video with the volume turned off. Thus, affect ratings were assigned based on parents' facial cues (e.g., smiling, knit brows) and nonverbal behaviors (e.g., throwing puzzle pieces). Ratings were assigned on a 4-point scale from 0 (*no happiness/anger*) to 3 (*intense happiness/anger*). To establish intercoder reliability, one main coder and two reliability coders were trained on between 5 and 10 videos to ensure consistent application of code definitions. Coding disagreements between two judges were resolved through discussion, and when necessary, with the third coder. After satisfactory reliability had been reached, the main coder independently coded all the videos, whereas reliability coders coded over 30% of all videos. The intercoder reliabilities (calculated as intraclass correlations) were .94 for positive affect and .87 for anger/frustration.

Parents' cultural orientations. Parents reported on their own Chinese and American cultural orientations using the Cultural and Social Acculturation Scale (CSAS; X. Chen & Lee, 1996). The CSAS is available in both English and Chinese, and assesses parents' bilinear cultural orientations in Chinese and American

cultures primarily in three domains: (a) language proficiency (four items for Chinese proficiency and four items for English proficiency, e.g., "How well do you speak in English?"; 1 = *extremely poor*, 5 = *very good*); (b) media use (five items on Chinese media use and five items on English media use, e.g., "How often do you watch Chinese movies?"; 1 = *almost never*, 6 = *almost everyday*); and (c) social affiliation (three items on Chinese friends and three items on White American friends, e.g., "How often do you invite Chinese friends to your house?"; 1 = *almost never*, 5 = *more than once a week*).

As reported previously (S. H. Chen et al., 2014), a confirmatory factor analysis of parents' reports of the CSAS using data from the present sample supported a six-factor model (Chinese proficiency, English proficiency, Chinese media use, English media use, association with Chinese friends, and association with White American friends). Based on these results, we computed the composite scores of parents' Chinese and American orientations in three domains by averaging the corresponding item scores. The alpha reliabilities in the present sample are .95, .78, and .67 for English proficiency, English media use, and White American friends, and .91, .64, and .68 for Chinese proficiency, Chinese media use, and association with Chinese friends.

Children's regulation. Children's regulation was assessed with parents' and teachers' reports of the Inhibitory Control and Impulsivity subscales of the Child Behavior Questionnaire (CBQ; Rothbart, Ahadi, Hershey, & Fisher, 2001). The CBQ is a commonly used measure of child temperament, defined by Rothbart and colleagues as individual differences in reactivity and regulation that are biologically based, but that can also be shaped over time through experience (Rothbart, 1989; Rothbart & Derryberry, 1981). Consistent with this conceptualization, two subscales of the CBQ were used for the present study. The Inhibitory Control subscale of the CBQ (11 items for parents and 10 items for teachers) assesses the child's ability to regulate his or her behavior (e.g., "Can lower his or her voice when asked to do so"), and the Impulsivity subscale (10 items) measures the child's tendency to act without thinking (e.g., "Tends to say the first thing that comes into mind, without stopping to think about it"). In a cross-cultural study (Ahadi, Rothbart, & Ye, 1993), considerable similarities were found in the factor structure of parent-reported CBQ between the Chinese and U.S. cultures. Moreover, in a different study of Chinese school-age children (Zhou et al., 2008), parent- and teacher-reported CBQ subscales showed satisfactory alpha reliabilities and significant cross-reporter associations with parents', teachers', and peers' reports of children's behavioral problems. In the present sample, the alphas were .70 (Inhibitory Control) and .55 (Impulsivity) for parents' reports, and .80 and .74 for teachers' reports. Given the low alpha reliability of parent-reported impulsivity, an item-level confirmatory factor analysis was conducted for this scale to identify items with nonsignificant loadings on a factor of parent-reported impulsivity. Results of the CFA identified four reverse-coded items with nonsignificant loadings on parent-reported impulsivity. Dropping these items improved the alpha reliability of this scale to .67.

In the present sample, the composites of Inhibitory Control and Impulsivity were negatively correlated, r_s ($n_s = 245$ and 211) = $-.36$ and $-.48$ for parents' and teachers' ratings, respectively, $p_s < .001$. Composites of parents' and teachers' ratings of children's regulation were created by subtracting the item average

of Impulsivity from that of Inhibitory Control, such that a high score represents high regulation (Pfeifer, Goldsmith, Davidson, & Rickman, 2002).

Results

Correlations With Demographic Variables

Descriptive statistics of study variables are presented in Table 1. All variables were normally distributed. Because demographic factors such as SES (Matsumoto, Willingham, & Olide, 2009), parent gender, and child age (Fivush, 1989; Leaper, Anderson, & Sanders, 1998) might be associated with parents' emotional expression, we examined correlations between these sociodemographic characteristics and the study variables (see Table 2). A composite index of family SES was computed by first averaging maternal and paternal education levels, and then averaging the standardized scores of parental education and per capita income. Families' household per capita income was calculated by dividing the total family income for the past year by the number of individuals living in the household (Datta & Meerman, 1980). Among demographic variables, parent age, parent gender, family SES, child age, child generation status, and child gender were found to be significantly associated with the key variables of parent emotional expression, cultural orientation, and children's regulation, and were thus included as covariates. Zero-order correlations among all main study variables are reported in Table 3.

Path Analysis

Path analysis was conducted to test the hypotheses that (a) parents' cultural orientations are associated with their emotional expression, and (b) parental emotional expression is associated with children's regulation. Three path-analytic models were tested: models for language proficiency, media use, and social affiliations. In these models, the two dimensions of cultural orientations were hypothesized to simultaneously predict the four emotional expression variables, and the four emotional expression variables were

hypothesized to simultaneously predict parent and teacher-rated children's regulation. Effects of covariates (parent age, parent gender, family SES, child age, child generation status, and child gender) on all expressivity and child regulation variables were controlled. The models were estimated with Mplus 5.2 (Muthén & Muthén, 1998–2008) using full-information maximum likelihood to handle missing data and the maximum likelihood robust (MLR) estimator for adjustment to correct standard errors for nonnormality. The raw data were analyzed. Hu and Bentler (1999) recommend the following cutoffs as the criteria for a relatively good overall model fit: $\geq .95$ for the comparative fit index (CFI); $\geq .06$ for the root mean square error of approximation (RMSEA); and $\geq .08$ for the standardized root-mean-square residual (SRMR).

The model for language proficiency (see Figure 1) fit the data well, $\chi^2(df = 10, N = 242) = 5.90, p = .82, CFI = 1.00, RMSEA = .00, SRMR = .02$. Parents' Chinese and English proficiencies were both positively associated with their self-reported positive expressivity, and parents' English proficiency was positively associated with their self-reported negative-dominant expressivity. However, parents' language proficiencies were unrelated to their observed emotional expression. Parents' self-reported positive expressivity positively predicted their ratings of child regulation, whereas parents' self-reported negative expressivity negatively predicted their ratings of child regulation. Parents' observed anger negatively predicted both parent and teacher ratings of children's regulation.

The model for social affiliation (see Figure 2) fit the data well, $\chi^2(df = 10, N = 220) = 5.21, p = .88, CFI = 1.00, RMSEA = .00, SRMR = .01$. Controlling for covariates, parents' relationships with American friends positively predicted their observed positive affect. Similar to the model for parents' language use, parents' self-reported negative dominant expressivity was negatively associated with parent ratings of child regulation. Additionally, parents' associations with Chinese friends were positively related to their reports of children's regulation. The model for media use (see Figure 3) also fit the data well, $\chi^2(df = 10, N = 240) = 9.05, p = .53, CFI = 1.00,$

Table 1
Descriptive Statistics of Parents' Emotional Expression, Cultural Orientations, and Children's Regulation

	Min	Max	Mean (<i>n</i>)	<i>SD</i>	Skewness	Kurtosis
Parent emotion						
Positive expressivity (self-report)	1.00	9.00	6.03 (247)	1.95	-.63	-.24
Negative-dominant expressivity (self-report)	1.00	6.67	2.35 (248)	1.20	1.20	1.23
Expressed positive affect (observed)	.00	3.00	.99 (232)	.67	.41	-.57
Expressed anger/frustration (observed)	.00	2.63	.41 (232)	.49	1.78	3.95
Parental cultural orientations						
English proficiency	1.00	5.00	2.66 (249)	.94	.30	.16
English media use	1.00	6.00	3.01 (247)	1.29	.21	-.93
Associations with American friends	1.00	4.67	1.82 (228)	.72	1.04	1.41
Chinese proficiency	1.50	5.00	4.17 (250)	.75	-.77	.24
Chinese media use	1.00	6.00	4.25 (249)	1.11	-.51	-.16
Associations with Chinese friends	1.00	4.67	2.92 (247)	.68	.18	.27
Child regulation						
Parent report	-3.86	5.06	.58 (245)	1.44	.05	.05
Teacher report	-3.27	4.78	1.33 (211)	1.64	-.39	-.30

Note. Min = minimum; Max = maximum.

Table 2
Zero-Order Correlations Between Demographic Variables and Main Study Variables

	Child generation status	Child gender (0 = girls; 1 = boys)	Child age	Parent age	Parent gender (0 = father; 1 = mother)	Family SES
Self-reported positive expressivity	0.06	-0.08	-.12	-0.15*	0.24***	0.30***
Self-reported negative-dominant expressivity	0.1	0.01	-.13*	-0.15*	0.12	0.26***
Observed positive affect	0.02	-0.02	-.10	-0.13	0.09	0.07
Observed anger/frustration	-0.16*	0.06	-.03	-0.02	0.07	-0.06
English proficiency	0.11	-0.02	-.15*	-0.07	-0.07	0.60***
English media use	0.19**	0.09	-.11	0.05	-0.12	0.42***
American friends	0.12	0.01	-.02	0.1	-0.04	0.32***
Chinese proficiency	-0.04	-0.001	-.03	-0.06	0.08	0.17**
Chinese media use	0.05	0.05	.03	0.13*	-0.03	-0.38***
Chinese friends	0.12	0.07	-.08	0.03	0.10	0.13*
Child regulation (parent report)	0.1	-0.12	.03	0.18**	0.01	0.002
Child regulation (teacher report)	0.02	-0.20**	.03	0.05	-0.001	-0.10

Note. SES = socioeconomic status.

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

RMSEA = .00, SRMR = .02. Parents' use of English media was positively associated with their self-reported positive expressivity, whereas their use of Chinese media was negatively associated with their self-reported negative-dominant expressivity. Parents' observed anger was negatively associated with both parent and teacher ratings of children's regulation. Similar to the model for parents' language use, parents' self-reported positive expressivity positively predicted their ratings of child regulation, whereas their self-reported negative expressivity negatively predicted their ratings of child regulation.

Across models, parents' self-reported positive and negative-dominant expressivity were positively associated, whereas their observed positive and negative emotion were negatively associated with each other. Parents' self-reported and observed emotions were unrelated. A few significant effects of covariates were also found. In all models, family SES was positively associated with parents' self-reported positive and negative-dominant expressivity; mothers scored higher on self-reported positive expressivity than fathers; teachers also rated girls higher on regulation than boys; and parents' age was positively associated with their ratings of child regulation. In the model for media use, parent age was also positively associated with their ratings of children's regulation, and in the model for

language proficiency, children's generation status was negatively associated with parents' observed anger.

Though not part of our study hypotheses, post hoc mediation analyses were conducted to test whether parental emotional expression significantly mediated the links between cultural orientations and children's regulation. Indirect effects were tested using the bias-corrected bootstrap confidence interval (CI) approach (MacKinnon, Lockwood, & Williams, 2004), and five significant indirect effects were found. Three significant indirect paths were in the language proficiency model (see Figure 1): (a) English proficiency \rightarrow self-reported positive expressivity \rightarrow parent-reported child regulation, 95% CI [0.002, 0.130]; (b) Chinese proficiency \rightarrow self-reported positive expressivity \rightarrow parent-reported child regulation, 95% CI [0.011, 0.146]; and (c) English proficiency \rightarrow self-reported negative-dominant expressivity \rightarrow parent-reported child regulation, 95% CI [-0.133, -0.001]. Two indirect paths were significant in the media use model (see Figure 3): (a) English media use \rightarrow self-reported positive expressivity \rightarrow parent-reported child regulation, 95% CI [0.004, 0.095]; and (b) Chinese media use \rightarrow self-reported negative-dominant expressivity \rightarrow parent-reported child regulation, 95% CI [0.016, 0.114].

Table 3
Zero-Order Correlations Between Parental Emotional Expression and Cultural Orientations

	2	3	4	5	6	7	8	9	10	11	12
1. Self-reported positive expressivity	.30***	.06	-.04	.32***	.25***	.16*	.30***	-.13*	.12	.09	-.09
2. Self-reported negative-dominant expressivity	—	-.01	.06	.25***	.15*	.04	.06	-.26***	-.06	-.20**	-.10
3. Observed positive affect	—	—	-.32***	.08	.04	.16*	.03	-.14*	-.001	-.01	-.02
4. Observed anger/frustration	—	—	—	-.08	-.09	-.01	.03	.08	-.05	-.14*	-.18*
5. English proficiency	—	—	—	—	.52***	.27***	.21**	-.35***	.09	-.002	-.08
6. English media use	—	—	—	—	—	.38***	.04	-.10	.26***	.02	-.04
7. American friends	—	—	—	—	—	—	-.08	-.02	.28***	-.03	-.05
8. Chinese proficiency	—	—	—	—	—	—	—	.13*	-.05	.09	-.04
9. Chinese media use	—	—	—	—	—	—	—	—	.14*	.09	.12
10. Chinese friends	—	—	—	—	—	—	—	—	—	.13	-.01
11. Child regulation (parent report)	—	—	—	—	—	—	—	—	—	—	-.18*
12. Child regulation (teacher report)	—	—	—	—	—	—	—	—	—	—	—

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

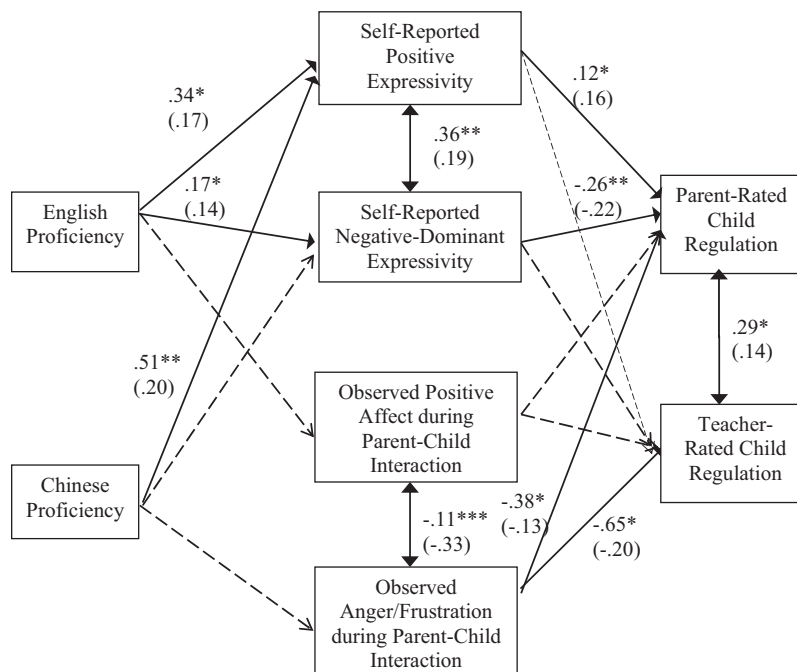


Figure 1. The path-analytic model predicting emotional expression from parents' Chinese and English proficiency. Numbers within parentheses represent standardized path coefficients. Solid lines indicate significant paths, and dashed lines indicate nonsignificant paths. Although not displayed in the figure, the effects of all covariates (parent age, parent gender, family SES, child age, and child gender) on expressivity variables were controlled in the model. The covariates and predictors were allowed to be correlated if required by model fit. *** $p \leq .001$. ** $p \leq .01$. * $p \leq .05$. + $p \leq .10$.

Discussion

To our knowledge, this is the first single investigation to examine the relations between immigrant parents' cultural orientations, their self-reported and observed components of emotional expression, and children's emotion-related regulation. We found that cultural orientations were primarily associated with parents' self-reported expressivity, such that Chinese American parents' American orientations (in language proficiency and media use) were positively associated with their self-reported emotional expressivity, whereas parents' Chinese orientation in media use was negatively associated with self-reported expressivity. By contrast, cultural orientations were mostly unrelated to parents' observed emotional expression. Moreover, self-reported expressivity and observed emotional expression showed different relations to children's regulation: whereas self-reported expressivity was only related to parents' reports of children's regulation, observed expression of anger/frustration was related to both parents' and teachers' reports of child regulation.

Parents' Cultural Orientations and Their Emotional Expression

Our findings suggest that even among immigrants from the same culture of origin, varying levels of engagement in host and ethnic cultures can result in differences in emotional expression. We hypothesized that parents' engagement in American cultural domains would be positively associated with their expression of

emotion in the family, whereas engagement in Chinese cultural domains would be negatively associated with emotional expression in the family. These hypotheses were generally supported. For example, parents' English proficiency was positively associated with their self-reported positive and negative dominant expressivity, and their use of English media was positively associated with their self-reported positive expressivity. By contrast, parents' use of Chinese media was negatively associated with their self-reported negative dominant expressivity. These results are consistent with previous cross-cultural studies of Asian and European Americans (Camras et al., 2006, 2008; Levenson et al., 1992; Tsai & Levenson, 1997), as well as past findings on the links between acculturation and emotional expression in bicultural individuals (Soto et al., 2005; Tsai, Chentsova-Dutton, Friere-Bebeau, & Pryzmus, 2002). Importantly, consistent with the biocultural theory that self-reported components of emotional expression would be more susceptible to the influence of culture than observed components of emotion expression (Levenson et al., 2007), we found that cultural orientations were mostly related to parents' self-reported emotional expressivity but not observed emotional expression. However, there was one exception: Chinese American parents' associations with American friends were positively associated with their observed positive affect. Unlike previous tests of the biocultural theory (Soto et al., 2005; Tsai et al., 2002), we measured cultural orientations separately by domains (language proficiency, media use, and social relations), which might provide more insight into the potential mechanisms by which cultural orientations shape

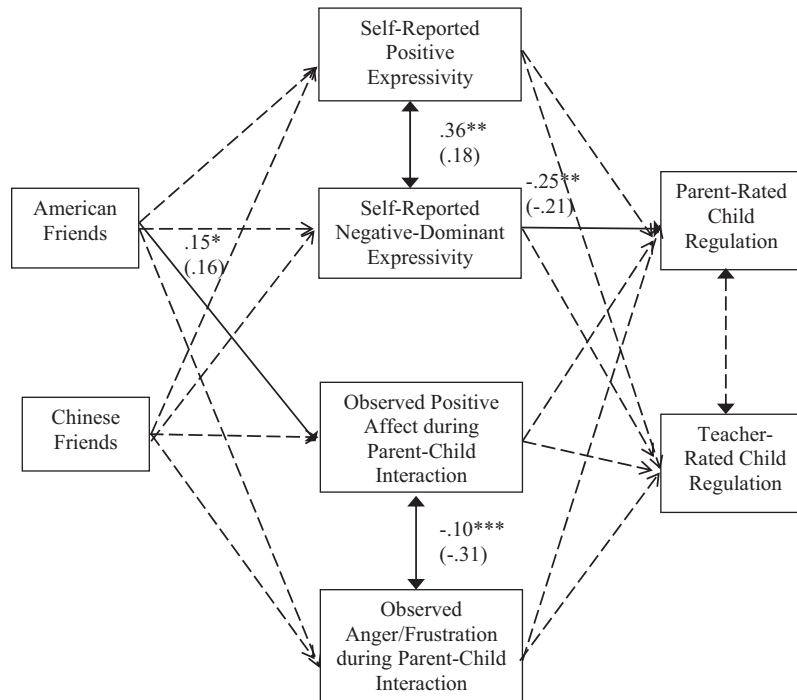


Figure 2. The path-analytic model predicting emotional expression from parents' Chinese and American social affiliations. Numbers within parentheses represent standardized path coefficients. Solid lines indicate significant paths, and dashed lines indicate nonsignificant paths. Although not displayed in the figure, the effects of all covariates (parent age, parent gender, family SES, child age, and child gender) on expressivity variables were controlled in the model. The covariates and predictors were allowed to be correlated if required by model fit. *** $p \leq .001$. ** $p \leq .01$. * $p \leq .05$. + $p \leq .10$.

different components of emotional expression. Specifically, the finding that parents' associations with American friends were related to their observed expression of positive affect suggests that interacting with individuals of another cultural background might have a more direct influence on immigrants' emotional display through behavioral and social learning pathways, such as observation, modeling, and imitation. By contrast, the finding that English proficiency and English media use were more significantly associated with self-reported expressivity suggested that the use of English language in daily life might enable and facilitate immigrants' adoption of Western cultural beliefs and values toward emotion and its expression (S. H. Chen et al., 2012).

One unexpected finding was the positive association between parents' Chinese proficiency and their self-reported positive expressivity. Thus, the general pattern—that is, being “more American” and more expressive, and “more Chinese” and less expressive—does not necessarily apply to all domains of cultural orientations, nor does it apply to all components of emotional expression. Indeed, our findings affirm Lau's (2010) argument for the complex relations between acculturation and behavior in immigrant families: cross-national or cross-ethnic differences in behavior may not be reflected uniformly across all domains of acculturation. In addition, we note that the self-reported expressivity and observed emotional expression assessed in the present study differed not only in the components of emotional expression measured (i.e., self-reported vs. observed) but also in the particular family context in which emotions were expressed (i.e., the general

family context vs. a specific parent–child interaction). Future research can assess parents' components of emotional expression in the same context, for example, by comparing parent's self-reported and observed emotional expression during their interactions with children.

Parents' Emotional Expression and Children's Regulation

We found that parents' self-reported expressivity was primarily associated with their own reports of children's regulation, in the expected directions. By contrast, parents' observed anger and frustration was negatively associated with children's regulation by both parents' and teachers' reports. Together with the lack of associations between self-reported and observed emotional expression, these findings suggest that observed expression of emotions may be a more accurate reflection of parents' actual expression of emotions in the family context. Moreover, the associations between parents' self-reported emotional expression and their own ratings of children's regulation may reflect some reporter bias. Parents may view their frequent patterns of encouragement and affection as contributing to the child's ability to self-regulate, or their frequent expressions of anger and criticism in the family as being detrimental to children's regulation. Given the study's cross-sectional design, it is also possible that the associations among parent-reported measures reflect bidirectional relations between parental emotion and children's regulation. For example, parents

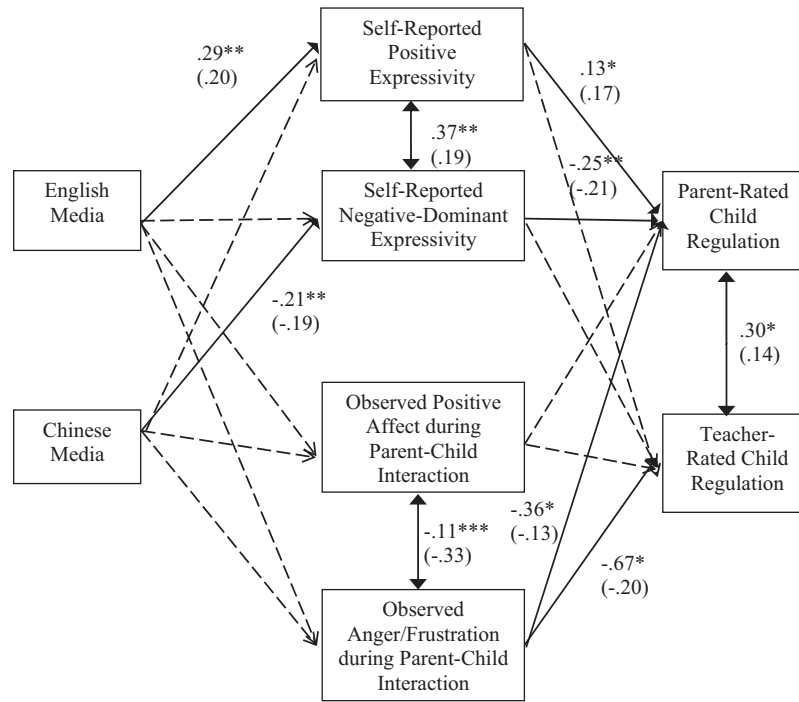


Figure 3. The path-analytic model predicting emotional expression from parents' Chinese and English media use. Numbers within parentheses represent standardized path coefficients. Solid lines indicate significant paths, and dashed lines indicate nonsignificant paths. Although not displayed in the figure, the effects of all covariates (parent age, parent gender, family SES, child age, and child gender) on expressivity variables were controlled in the model. The covariates and predictors were allowed to be correlated if required by model fit. *** $p \leq .001$. ** $p \leq .01$. * $p \leq .05$. + $p \leq .10$.

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who perceive their children as being poorly regulated may be more inclined to express frustration and anger (Eisenberg, Cumberland et al., 1998).

The associations between parents' observed anger/frustration and children's regulation are consistent with previous studies on parental expressivity and children's adjustment outcomes conducted with primarily White and native Chinese samples (S. H. Chen et al., 2011; Valiente et al., 2006). However, parents' observed positive affect was unrelated to Chinese American children's regulation, which is somewhat different from studies with primarily White samples (Eisenberg et al., 2005; Valiente et al., 2006), but similar to results with Indonesian and native Chinese samples (S. H. Chen et al., 2011; Eisenberg, Liew, et al., 2001). Because open expression of strong positive emotions is sometimes viewed in East Asian cultures as being disruptive and reflecting a lack of emotional control (Eisenberg, Liew, et al., 2001; Tsai, Knutson, & Fung, 2006), the socialization function of parental expression of positive emotion may be somewhat ambiguous in Chinese American families.

Limitations and Implications

The study has a few limitations. First, the cross-sectional data did not allow us to test the directionality of the relations among parents' cultural orientations, emotional expression, and children's regulation. Moreover, the indirect effects estimated using cross-sectional data (from our post hoc analyses) might be biased esti-

mates of the true mediation effects (Maxwell, Cole, & Mitchell, 2011). Longitudinal data are important for testing the mediating mechanisms underlying these associations (e.g., whether the effects of parents' cultural orientations on children's regulation may be mediated by parents' emotional expression).

Second, our assessment of parents' emotion did not distinguish between expression of high-arousal (e.g., excitement) and low-arousal (e.g., calm) emotion (Tsai et al., 2006). Thus, a key direction for future research is to examine how acculturative processes shape immigrant parents' valuation of high- or low-arousal emotions and whether these mediate their expression of emotion in the family.

Third, the low initial reliability of the parent-reported impulsivity scale in this sample merits further investigation. It is possible that the poor fit of the reversely coded items may be attributed to acquiescence bias on survey responses (Weijters, Baumgartner, & Schillewaert, 2013). As acquiescence bias may be greater among cultures valuing interpersonal harmony and conformity (Johnson, Kulesa, Cho, & Shavitt, 2005), future research should seek to refine parent-reported measures of impulsivity within ethnic minority populations.

Despite these limitations, our findings suggest that, in contrast to previous findings with primarily White samples, immigrant parents' self-reported and observed measures of emotional expression represent distinct constructs with unique relations to cultural engagement and children's regulation. Because parental expres-

sion of emotion is a common family process targeted by many existing parent- or family-based interventions (Briesmeister & Schaefer, 1998), the study suggests that adapting these interventions for Asian American immigrant families must consider culture-based differences in how parents express emotions. For example, changes in parents' self-reported emotion in the family context may primarily contribute to changes in their appraisals and interpretations of their children's regulation. Targeting parents' observed expression of anger and frustration during more naturalistic interactions with their child, by contrast, may hold broader implications for children's regulation in both family and classroom contexts.

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