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Multidimensional Gender Identity and Psychological Adjustment in Middle Childhood: A Study in China

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Abstract This study examined the multiple components of gender identity (Egan and Perry 2001) and their relationships with psychological adjustment among 201 boys and 160 girls (aged 9 to 12 years) in Mainland China. Boys were found to be more content about their gender but feel more pressure to conform to gender stereotypes than girls. No gender or age differences were found in children's intergroup bias. Higher gender typicality was related to greater global self-worth, greater social competence, and lower sense of loneliness. However, neither felt pressure nor gender contentment significantly predicted psychological adjustment. These results were compared with findings of previous United States-based studies to highlight the impacts of cultural contexts on gender identity and their effects on adjustment.

Keywords Gender identity · Adjustment · Children · Chinese culture

Introduction

With a focus on the impact of gender identity on psychological adjustment during middle childhood, the present study was to examine a recently proposed multidimensional model of gender identity (Egan and Perry 2001) in the context of Chinese culture. Quantitative data were collected from a sample of 201 Chinese boys and 160 Chinese girls studying in the third through sixth grade in two urban Chinese elementary schools. Despite increasing interest in the influences of gender identity on children's psychological adjustment in recent years, there has been a lack of research on how culture may influence gender identity development and the relationship between gender identity and psychological adjustment of children (Ruble and Martin 1998). Research on these topics is important for expanding the current knowledge about gender socialization and promoting children's psychological development. The present study is among the first in investigating children's gender identity and its relationship to psychological adjustment in a Chinese cultural background. We hope that this study will provide researchers and educators with fundamental knowledge and better understanding of how children's gender identity and its effects upon psychological adjustment in Chinese culture may differ from those that have been found in North American cultures. We also hope to accumulate empirical evidence for future cross-culture studies.

Traditionally, gender identity has been defined as an individual's knowledge of his or her membership in a gender category (e.g., Kohlberg 1966; Kagan 1964) or identification of oneself as male or female (Zucker et al. 1992). However, this traditional view of gender identity may only represent one facet of the whole gender identity structure. According to Tajfel and Turner's (1986) social identity theory and Spence's (1993) multifactorial gender theory, gender identity not only includes one's identification with one gender group, but also takes into account one's personal and public gender esteem and the effect of gender stereotypes on one's behavior.

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More recently, Egan and Perry (2001) proposed a multidimensional gender identity model, in which gender identity was conceptualized to have five different aspects: (a) membership knowledge, or one's awareness of being male or female (i.e., the traditional view of gender identity); (b) gender typicality, the self-perceived similarity to other members of the same gender category; (c) gender contentment, one's satisfaction with his or her gender; (d) felt pressure for conforming to gender stereotypes; and (e) intergroup bias, the belief that one's own gender is superior to the other gender. After developing a self-reported measurement to assess gender typicality, gender contentment, felt pressure, and intergroup bias, they tested the relationships between these gender identity components and psychological adjustment based on a sample of Caucasian children in the United States. They found that gender typicality and gender contentment were positively related to children's self-esteem and peer-acceptance, while felt pressure and intergroup bias were sometimes negatively associated with well-adjustment. They also found the associations of low gender typicality and low gender contentment with internalized problems to be considerably stronger for children with high felt pressure. In a two-year longitudinal study, Yunger et al. (2004) found that American children's low gender typicality, low gender contentment, and high felt pressure were all predictive of lower psychological adjustment. A combination of high felt pressure and low gender typicality further deteriorated participants' psychological well-being. Moreover, different gender identity components also appeared to vary with children's age and gender. Researchers have reported gender differences in all the four dimensions of gender identity and age effect on children's felt pressure to conform to gender norms (Egan and Perry 2001). Boys scored higher than girls on gender typicality, gender contentment, and felt pressure, but lower than girls on intergroup bias. Overall, older children experience less pressure to engage in gender conforming activities than younger children (e.g., Carver et al. 2003). These studies and a few others (Carver et al. 2003; Smith and Leaper 2006) provided empirical support for Egan and Perry's multidimensional gender identity model and the relationships between these dimensions and psychological adjustment on samples of children in the United States.

All of the aforementioned studies were conducted in North America, with the majority of participants being Caucasian American children or adolescents. Only one study systematically examined the cultural influences on the multidimensional model of gender identity (Corby et al. 2007), in which clear differences among racial groups in the associations between gender identity components and psychological adjustment were found. For example, while increased gender contentment predicted a high level of global self-worth for both Black and White American children, it was associated with heightened internalized problems for Hispanic girls. These results indicated the existence of cross-cultural variations with respect to the impacts of gender identity on adjustment. In other words, Egan and Perry's (2001) model and the hypothesized relationships between gender identity and psychological adjustment, though supported by studies based on American samples (mainly White Americans), may not hold true for children from a different cultural context. In addition to these cross-cultural variations, similarities among children of different ethnicities in terms of gender differences in gender identity components were also reported (Corby et al. 2007). It was found that similar to White children, Black and Hispanic boys scored significantly higher than girls of the same ethnicity on gender typicality, gender contentment, and felt pressure. Because this study only recruited children studying in the fifth grade (11.5 years in average), the researchers were unable to examine whether culture would moderate the effects of age on the multiple gender identity components. Except for Corby et al.'s (2007) single exploration, however, the applicability of Egan and Perry's (2001) model to other cultures has not been determined, and whether or not the same relationships between gender identity and psychological adjustment found in previous studies (mostly based on samples of Caucasian American children) exist for children of other cultures has not been explored so far. The effects of cultural context on gender identity involve the culture-specific gender stereotypes, social status of the two genders, and various patterns of gender socialization in different societies (e.g., Moore 1998; Schlegel 1989). Thus, the construct of gender identity and its influences on children's psychological adjustment cannot be understood adequately without considering the broader cultural context in which they develop and function.

China encompasses one-fifth of the world population and 18% (more than 200 million) of the world's children under the age of 12 (National Bureau of Statistics of China 2006). Further, China's cultural context is very distinct from that of North America, which is more representative of Western cultures. To date, however, no empirical study has yet examined the multiple components of gender identity and their impacts on psychological adjustment in the Chinese culture. In the last 20 years, an increasing number of researchers have investigated children's gender development in Chinese culture (e.g., Cheung 1996; Knobloch et al. 2005; Lobel et al. 2000). Most of these studies focused primarily on describing the developmental trends of gender stereotyping and the basic process of gender identity formation, such as gender label and gender constancy. These investigators have neither studied children's gender identity from a multidimensional perspective, nor examined the relationships between different dimen-

sions of gender identity and psychosocial adjustment. Thus, the construct of Chinese children's gender identity and its implications on adjustment have largely remained unexamined.

The specific Chinese cultural and social contexts influence children's gender socialization (Cheung 1996; Fong and Peskin 1969; Lau and Wong 1992). In spite of many gender stereotype similarities with other cultures, the Chinese culture prescribes some different contents of gender stereotypes and social values attached to gender roles. This may result in both similarities and differences in the manifestations of Chinese children's gender identity and their relationships with psychological adjustment.

First, similar to Western cultures (e.g., Huston 1983), in Chinese culture, boys are more valued than girls and experience more pressure for gender typing than do girls (e.g., Liu 2006). It was found that Chinese parents hold much more negative attitudes toward boys' gender non-conforming behaviors than to girls' (Yu 2008). Therefore, it seems that Chinese boys should report more pressure to conform to gender stereotypes and meanwhile be more satisfied with their gender than girls do. This hypothesis can be tested by examining the effects of gender on children's scores of gender contentment and felt pressure.

Second, the conceptualization of gender stereotypes in Chinese culture is somewhat different from that in Western culture. For example, Yu and Xie (2008) found that the communal traits, almost exclusively defined as feminine characteristics in Western cultures, were incorporated into both feminine and masculine traits in Chinese culture. Thus, less distinction between masculine and feminine traits among Chinese children may reduce the negative attitudes toward the other gender. In addition, Chinese culture emphasizes the importance of maintaining a harmonious interpersonal relationship, and therefore Chinese children are promoted to develop an interpersonal orientation. Researchers have reported that an interpersonal orientation during contact between different social groups reduces intergroup bias (Bettencourt et al. 1992; Brewer and Miller 1984). Given this, one might speculate that both Chinese boys and girls would have a low level of intergroup bias toward the other gender due to the highly emphasized interpersonal orientation in their daily contacts. In this sense, we hypothesized that intergroup bias may not show distinct gender differences in Chinese boys and girls as in their Western counterparts. This hypothesis was directly tested through examining the gender difference in intergroup bias on the current sample of Chinese children.

Third, with regard to the effects of age on gender identity components, past Western research has documented that children experienced less pressure for gender typing as they get older, perhaps due to a developed (less rigid) understanding about gender norms in older children (Carver et al. 2003). Similar to Western children, older Chinese children tend to hold more flexible attitudes toward gender stereotypes than younger children (e.g., Fan and Fang 2004). Following these increasingly flexible attitudes toward gender rules, Chinese children's felt pressure may also generally reduce with age. Yet, due to the more stringent social rules imposed on boys' gender typing over girls' throughout childhood in Chinese society, Chinese boys may continue feeling strong pressure to conform to gender stereotypes with increasing age, despite their progressively more mature cognitive ability. Therefore, it is hypothesized that although Chinese children's felt pressure would generally be negatively correlated with age, this relationship may be moderated by children's gender. In other words, children's felt pressure may decrease with age only in Chinese girls but not in Chinese boys. This hypothesis was tested by looking at the effects of age and the interaction between gender and age on children's felt pressure.

Moreover, Chinese culture is characterized by values of conformity to group norms and being consistent with one's in-groups (Bond 1996). This naturally results in more pressure on Chinese children, as opposed to those in individualistic cultures, to conform to social norms and stereotypes including those associated with gender. Nonetheless, being accustomed to the heightened socializing pressure, Chinese children's psychological adjustment may not be influenced by this pressure as much as Western children's psychological adjustment. Thus, the negative effect of gender typing pressure on psychological health in Chinese children might be weaker than in Western children who generally experience less socializing pressure in other aspects. Therefore, it was hypothesized that the relationship between felt pressure and children's psychological adjustment found in previous Western studies may not be significant in the present sample of Chinese children.

On the other hand, gender typicality may have particularly important implications for Chinese children's psychological adjustment. As Yunger et al. (2004) noted, "low gender typicality maximally threatens children's well-being in contexts where strong norms for gender stereotyped behavior exists" (p. 580). Given that conformity is so highly valued in Chinese culture, a sense of being typical of one's ingroups seems to be crucial for children to maintain a high level of self-perception. Based on this speculation, we hypothesized that the relationship between gender typicality and psychological adjustment would be strong for Chinese children.

These two hypotheses would be tested by examining the unique prediction of felt pressure and gender typicality on children's psychological adjustment.

To sum up, both the manifestation of different gender identity components and their relationships with psychological adjustment in Chinese children may not be the same as Egan and Perry's (2001) model.

In light of the scarcity of literature on this type of research for Chinese children and adolescents, the main purpose of this study is to test Egan and Perry's (2001) hypothesis about the age and gender effects on gender identity components, and the impacts of gender typicality, gender contentment, felt pressure and intergroup bias on children's adjustment in the Chinese culture, by extending Egan and Perry's (2001) model to the Chinese culture. Specifically, the following main hypotheses (H1–H6) were examined.

Hypotheses Concerning the Age and Gender Effects on Chinese Children's Gender Identity

H1: Consistent with Egan and Perry's (2001) prediction, it was hypothesized that boys would be more content with their gender and felt more pressure to conform to gender stereotypes than girls.
H2: It was hypothesized that no gender differences may be found in children's intergroup bias.
H3: Felt pressure may decrease with age only in girls but not in boys.

Hypotheses Concerning the Relationship Between Gender Identity and Adjustment in Chinese Children

H4: It was hypothesized that gender typicality would significantly contribute to Chinese children's psychological adjustment.
H5: The association between felt pressure and psychological health in Chinese children may be nonsignificant.
H6: Consistent with Egan and Perry's (2001) prediction, Chinese children's gender contentment may be positively correlated with psychological adjustment.

Method

Participants

Participants were 361 third to sixth graders randomly sampled from two elementary schools. These elementary schools were located in a city of eastern Mainland China, with a population approximating 4.6 million (National Bureau of Statistics of China 2006). Among the participants, there were 201 boys [*M (age)*=10.66, *SD*=1.12] and 160 girls [*M (age)*=10.68, *SD*=1.15].

Procedure

With the assistance of the local Education Bureau, two standard elementary schools were randomly selected. All children studying in the third through sixth grade were eligible for inclusion in the study. Children whose parents had agreed on their participation in the study were recruited. Among them, 30 boys and 30 girls were randomly selected from each grade in each school. A set of questionnaires (see *Measures* below) was administered to the selected children during a lecture period (45 minutes). These children were asked to complete a survey about how they think about themselves. Children's desks were physically separated and they were given a cover sheet to assure the privacy of their answers. For the third and fourth graders, each item was read aloud by the researcher to make sure the children clearly understood the meanings. It took approximately 40 minutes for the children to complete the questionnaires. Completed data were obtained from 201 boys and 160 girls out of 480 distributed questionnaires.

Measurements

All questionnaires were originally developed in English. They were translated into Chinese and back-translated into English to ensure linguistic and conceptual equivalence (Marsella and Leong 1995).

Multiple Gender Identity Components

Egan and Perry (2001) developed a 34-item self-reported gender identity measure that assesses gender typicality (six items, an example item from boy's form is "Some boys don't feel they are just like all the other boys their age BUT Other boys do feel they are just like all the other boys their age"), gender contentment [six items, e.g., "Some boys like being a boy BUT Other boys don't…"(boy's form)], felt pressure for gender conformity [10 items, e.g., "Some girls try hard to do all the things girls are supposed to do BUT Other girls don't…"(girl's form)], and intergroup bias [eight items, e.g., "Some girls don't think that girls are more truthful than boys BUT Other girls do think…"(girl's form)]. For each item, children first decided which of the two kinds of children described in the item they were like more, and then indicated whether this choice was *very true* or *sort of true* for them. Scale scores were computed by averaging across items and could range from 1 to 4. A higher score on each scale represents higher level of gender typicality, gender contentment, felt pressure, and intergroup bias, respectively. The reported Cronbach's α coefficients for the four scales on samples of Caucasian children in the United States were all around 0.80 (e.g., Carver et al. 2003). In this study, the internal consistencies for the four scales were: gender typicality (0.70), gender contentment (0.60), felt pressure (0.75), and intergroup bias (0.71). These coefficients were overall lower than those in the original studies on samples of Caucasian children, particularly the gender contentment scale. An item

analysis was further performed to identify the sources of low internal consistency of this scale. The results showed that by removing item 16 ("Some boys never feel cheated that there are some things they're not supposed to do just because they're a boy BUT Other boys do feel cheated that…"), the Cronbach's alpha of gender contentment was improved from .60 to .64. Despite the improved internal consistency of the five-item gender contentment scale, it was decided to continue using the original six-item scale in subsequent analysis to make it possible to compare results in this study with previously reported Western findings. However, it should be noted that the low internal consistency of the gender contentment scale still constitutes a limitation of this study and points to the need of further modification of this scale.

Self-Perception Profile for Children

(Harter and Harter 1985). The Self-Perception Profile for Children has six subscales measuring children's perceived global self-worth, scholastic competence, social competence, athletic competence, physical appearance, and behavioral conduct. Each scale consists of six items followed by a description of two types of "kids". The child is first asked to decide which kind of kid is most like himself or herself and then to decide whether it is *very true* or *sort of true*. Scale scores were computed by averaging across items and ranged from 1 to 4. Higher scores represent higher levels of self-perception. In the current study, we only used two of the six scales to measure global self-worth and social competence, because self-perceptions of competence in the social domain and a higher-order global appraisal about oneself may be particularly important for children's social-emotional development. Furthermore, Egan and Perry (2001) also used these two scales in their (2001) initial study, so we can directly compare the results of the present study to their published findings. The reported average internal consistencies for the two scales were 0.80 and 0.78 (Harter and Harter 1985). Cronbach's α coefficients of the two scales were 0.78 (global self-worth) and 0.81 (self-perceived social competence) for the present study.

Children's Loneliness Scale

(Asher et al. 1984). This scale consists of 24 items, 16 of which measures children's feelings of loneliness and social inadequacy on a 5-point Likert scale. The remaining eight items which focus on children's other activities were designed to help children relax during the assessing. Children's responses on each item were averaged across items and could range from 1 to 5, with higher scores indicating greater loneliness. The reason we chose loneliness as an additional indicator of children's psychological adjustment is threefold: first, loneliness has been associated with a number of aspects of maladjustment in children (e.g., Boivin et al. 1995; Renshaw and Brown 1993); second, a heightened level of loneliness has often been reported in gender atypical children and adolescents (e.g., Haldeman 2000; Young and Sweeting 2004); third, we are more concerned about children's self-perceived dissatisfaction with peer relations than their real peer relationship. This measure has been used across cultures and demonstrated good psychometric properties. Asher et al. (1984) reported high internal reliability (α=.90; split half correlation=.83) of the questionnaire. The alpha coefficient was 0.89 in this study.

It should be noted that in our sampled schools there are four to six classes within each grade, from which we randomly selected 30 boys and 30 girls per grade. Most of these children were unfamiliar with each other. Therefore, although peer assessment as an effective way to measure children's peer relationship and social competence (e.g., Pepler and Craig 1998) has been broadly employed in previous studies (e.g., Egan and Perry 2001; Corby et al. 2007), it may not be appropriate to use this method in the present study because most of them did not know each other.

Results

The results were shown in three parts. We first summarized gender and age differences in gender identity and psychological adjustment measures. Subsequently, we presented the intercorrelations among all variables, followed by the relationship among different components of gender identity and indices of psychological adjustment.

Intercorrelations Among Age, Gender Identity Components, and Psychological Adjustment Measures

Table 1 first presents means and standard deviations of gender identity components and adjustment indices for boys and girls, which offers information for interested readers about the measures and some gender variations in the mean levels. Then, intercorrelations among child age, gender identity components and psychological adjustment measures were calculated to preliminarily provide evidence for the construct validity of the multidimensional model and the relationship between gender identity and psychological adjustment. Table 2 presents correlations among age, the gender identity variables, and psychological adjustment indices for both boys and girls. First, age was significantly correlated with felt pressure in girls (r=−.33, p<.01), while it was uncorrelated with other variables for either boys or girls. Second, for the correlations among gender identity variables, gender typicality and gender contentment were positively correlated (r=.25 for boys, p<.01; r=.32 for girls, p<.001) and felt pressure was positively related to intergroup bias

Table 1 Mean and standard deviation of gender identity and psychological adjustment for boys and girls at different age.

Measures	Boys (n=201)								Girls (n=160)							
	9 (n=42)		10 (n=55)		11(n=53)		12 (n=51)		9 (n=23)		10 (n=46)		11 (n=32)		12 (n=59)	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Gender identity																
Gender typicality	2.83	.65	2.87	.57	2.88	.45	2.86	.62	2.97	.66	2.85	.64	2.81	.62	2.86	.59
Gender contentment	3.01	.51	3.14	.48	3.06	.50	3.24	.47	2.92	.44	2.99	.46	2.67	.55	2.87	.52
Felt pressure	2.62	.43	2.73	.45	2.65	.38	2.73	.41	2.56	.41	2.46	.47	2.17	.53	2.19	.45
Intergroup bias	2.45	.62	2.66	.67	2.75	.59	2.48	.63	2.77	.69	2.54	.75	2.58	.76	2.44	.67
Adjustment																
Global self-worth	2.92	.66	2.95	.59	2.98	.56	2.81	.69	3.03	.57	2.97	.57	2.98	.53	2.89	.52
Social competence	2.66	.57	2.71	.60	2.81	.69	2.66	.58	2.91	.71	2.78	.69	2.81	.66	2.74	.64
Loneliness	2.07	.63	1.90	.64	1.95	.76	2.00	.61	1.87	.71	1.98	.68	1.90	.61	1.76	.58

Scale scores for gender typicality, gender contentment, felt pressure, intergroup bias, global self-worth, and social competence range from 1 to 4; scale score for loneliness ranges from 1 to 5. For all scales, higher score means higher level of the measured construct

(r=.38 for boys, p<.001; r=.27 for girls, p<.01). For the correlations among the adjustment indices, all associations were statistically significant for both boys and girls but only moderate in strength. Global self-worth was positively correlated with social competence (r=.35 for boys, p<.001; r=.34 for girls, p<.001) while negatively correlated with sense of loneliness (r=−.45 for boys, p<.001; r=−.30 for girls, p<.001). Social competence was also negatively related to sense of loneliness (r=−.47 for boys, p<.001; r=−.49 for girls, p<.001).

Table 2 also provides a general picture about the relationships between gender identity and psychological adjustment indices. Relatively high correlations were found between gender typicality and psychological adjustment measures: global self-worth (r=.41 for boys, p<.001; r=.44 for girls, p<.001); social competence (r=.36 for boys, p<.001; r=.52 for girls, p<.001); and sense of loneliness (r=−.43 for boys, p<.001; r=−.53 for girls, p<.001). This preliminarily emphasized the associations of children's self-perceived gender typicality with psychological health, and the importance of further analyses.

Gender and Age Differences

To test the effects of gender and age as well as their interactive effects on these variables, multiple regression analyses were used in which gender and age were entered simultaneously as independent variables at the first block, the interaction between gender and age was entered in the second block. For all regression analyses, boys were dummy coded as one and girls were coded as two. Following the procedure outlined by Aiken and West (1991), independent variables were first centered, and then interaction terms were calculated before the analyses. Our main hypotheses were: boys would score higher on both felt pressure and gender contentment than girls do; no gender difference would be discerned on children's inter-group bias; felt pressure may decrease with age only in girls but not in boys.

As can be seen in Table 3, when age was controlled, gender was a significant predictor of gender contentment (β=−.24, t=−4.53, p<.001) and felt pressure (β=−.36, t=−7.37, p<.001). Boys scored higher than girls on both

Table 2 Correlations among child age, gender identity measures, and adjustment measures.

Gender identity measure	1	2	3	4	5	6	7	8
1. Age	–	.14	.01	.12	.09	.00	−.01	−.10
2. Gender typicality	−.03	–	.25**	.07	.03	.41***	.36***	−.43***
3. Gender contentment	.04	.32***	–	.03	−.05	.28***	.07	.11
4. Felt pressure	−.33***	−.10	−.04	–	.38***	−.03	−.02	.04
5. Intergroup bias	.14	−.09	−.04	.27**	–	.12	−.07	−.02
6. Global self-worth	.07	.44***	.09	−.09	−.13	–	.35***	−.45***
7. Social competence	−.01	.52***	.13	−.10	−.07	.34***	–	−.47***
8. Sense of loneliness	-.12	−.53***	−.15	.17*	.05	−.30***	−.49**	–

Correlations for boys are above the diagonal; those for girls are below the diagonal. Entries are zero-order correlations among the examined variables

*p<.05, **p<.01, ***p<.001

Table 3 Age and gender differences in gender identity and psychological adjustment.

Dependent variables	Predictors											
	First block: Age				Gender [a]				Second block: Age × Gender			
	B	SE	β	t	B	SE	β	t	B	SE	β	t
Gender typicality	−.01	.03	−.02	−.29	−.00	.06	−.01	−.04	−.03	.06	−.03	−.46
Gender contentment	.02	.02	.04	.73	−.25	.05	−.24***	−4.53	−.10	.05	−.10	−.19
Felt pressure	−.04	.02	−.11*	−2.04	−.35	.05	−.36***	−7.37	−.16	.04	−.18***	−3.68
Inter-group bias	−.03	.03	−.05	−.85	−.03	.07	−.02	−.38	−.11	.07	−.09	−1.61
Global self-worth	−.04	.03	−.07	−1.35	.03	.06	.03	.51	−.01	.06	−.01	−.13
Social competence	−.02	.03	−.03	−.58	.08	.07	.06	1.19	−.05	.06	−.04	−.74
loneliness	−.03	.03	−.06	−1.06	−.10	.07	−.07	−1.36	−.05	.06	−.04	−.81

B is the unstandardized regression coefficient; SE is the standard deviation of the unstandardized regression coefficient; β is the standardized regression coefficient; t is the significance statistics

[a] Boy is dummy coded as "1" and girl is dummy coded as "2"

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

gender contentment and felt pressure, indicating boys were more satisfied with being boys but felt more pressure to conform to the gender stereotypes of boys. Gender had no effects on gender typicality, intergroup bias, and any index of psychological adjustment. When gender was controlled, the age effect was only significant on felt pressure (β=−.11, t=−2.04, $p<.05$). The older the children, the lower felt pressure for gender conformity. No significant age effect was found on any psychological adjustment index. The interactive effect of gender and age was only significant on felt pressure (β=−.18, t=−3.68, $p<.001$). We further explored the nature of the interaction by calculating the regression coefficient of age on felt pressure for boys and girls separately. It was revealed that only girl's felt pressure decreased with age (β=−.30, t=−3.88, $p<.001$); while for boys, age was unrelated to their perceived pressure to conform to gender norms (β=.07, t=0.96, $p>.05$). It seems that gender difference in children's felt pressure to gender conformity increases with age.

Relationships Between Gender Identity and Psychological Adjustment

Hierarchical regression analyses were employed to examine the relationship between gender identity and adjustment (Table 4). To control their effects for the subsequent analyses, gender and age were entered in the first block, followed by the gender identity components in the second, and four two-way interactions between gender and each gender identity component in the third. It was hypothesized that: gender typicality would positively correlate with Chinese children's psychological adjustment for both boys and girls; the association between felt pressure and psychological health would be nonsignificant; gender contentment would positively contribute to children's psychological adjustment.

Preliminary assumption testing was first performed to check for outliers, normality, linearity, homoscedasticity, independence of residuals and multicollinearity, and no serious violation was found. Results indicated that neither age nor gender predicted any of the adjustment indices. Among the gender identity components, gender typicality predicted all three adjustment indices (β=0.39, 0.44, −0.45, for global self-worth, social competence, and loneliness, respectively, all significant at $p<.001$ level). Gender contentment only marginally predicted global self-worth (β=.10, t=1.98, $p<.05$). Gender interacted with gender contentment on the one hand (β=−.14, t=−2.72, $p<.01$), and with intergroup bias on the other hand (β=−.12, t=−2.45, $p<.05$), to predict global self-worth. This indicates that the predictions of gender typicality and intergroup bias on global self-worth may be greater for boys than for girls. The presence of these interaction effects warranted further analyses to examine the relationship between gender identity and adjustment for children of each gender separately.

Hierarchical regression analyses were then conducted in the same way as above but for boys and girls separately. Results (Tables 5 and 6) indicated that age did not predict any psychological adjustment index either for boys or girls. Gender typicality was found to predict all the three psychological adjustment indices for both boys and girls. Children of each gender who felt they were typical boys or girls were likely to have higher global self-worth, higher self-perceived social competence, and a reduced sense of loneliness than those who perceive themselves to be different from others in terms of gender roles.

Table 4 Hierarchical regression analyses on psychological adjustment indices for the whole sample.

Predictors	Global self-worth						Social competence						Loneliness					
	B	SE	β	t	T	VIF	B	SE	β	t	T	VIF	B	SE	β	t	T	VIF
Block 1: demographics																		
Age	−.04	.03	−.07	−1.35	.93	1.07	.03	.06	−.03	−.58	.93	1.07	−.03	.03	−.06	−1.06	.93	1.07
Gender [a]	.03	.06	.03	−.51	.81	1.14	−.03	.03	−.06	−1.06	.81	1.24	−.10	.07	−.07	−1.36	.81	1.24
Block 2: gender identity																		
TYP	.38	.05	**.39*****	7.74	.92	1.09	.47	.05	**.44*****	9.00	.92	1.09	−.50	.05	**−.45*****	−9.29	.92	1.09
CONT	.10	.06	.10*	1.83	.87	1.15	−.03	.06	−.03	−.49	.87	1.15	−.00	.06	.00	−.05	.87	1.15
PRES	−.05	.07	−.06	−.71	.73	1.36	−.02	.07	−.01	−.24	.73	1.36	.08	.07	.05	1.12	.73	1.36
BIAS	.02	.04	.04	.49	.87	1.15	−.05	.05	−.06	−1.07	.87	1.15	−.02	.05	−.02	−.34	.87	1.15
Block 3: Interactions																		
TYP × gender	−.01	.10	−.01	−.08	.91	1.10	.16	.11	.08	1.56	.91	1.10	−.05	.11	−.03	−.50	.91	1.10
CONT × gender	−.31	.10	**−.14****	−2.72	.91	1.10	−.01	.12	−.01	−.04	.91	1.10	.02	.13	.01	.12	.91	1.10
PRES × gender	.11	.13	.04	.83	.84	1.20	−.06	.14	−.02	−.41	.84	1.20	.13	.15	.05	.89	.84	1.20
BIAS × gender	−.21	.09	−.12*	−2.45	.88	1.14	.08	.09	.04	.83	.88	1.14	.03	.10	.01	.27	.88	1.14
Total R^2			.21						.19						.22			

B is the unstandardized regression coefficient; SE is the standard deviation of the unstandardized regression coefficient; β is the standardized regression coefficient; t is the significance statistics; T is the Tolerance; VIF is the Variance Inflation Factor

[a] Boy is dummy coded as "1" and girl is dummy coded as "2"

TYP = Gender typicality; CONT = Gender contentment; PRES = Felt pressure; BIAS = Intergroup bias

$^{*}p<.05$, $^{**}p<.01$, $^{***}p<.001$

Table 5 Hierarchical regression analyses on psychological adjustment indices for boys.

Predictors	Global self-worth						Social competence						Loneliness					
	B	SE	β	t	T	VIF	B	SE	β	t	T	VIF	B	SE	β	t	T	VIF
Block 1: demographics																		
Age	-.04	.04	-.07	-.88	.91	1.10	-.01	.04	-.02	-.28	.91	1.10	-.01	.04	-.02	-.25	.91	1.10
Block 2: gender identity																		
TYP	.35	.07	**.31*****	4.91	.59	1.69	.39	.09	**.39*****	5.53	.59	1.69	-.46	.09	**-.38*****	-5.18	.59	1.69
CONT	.28	.08	.24**	3.67	.76	1.31	-.08	.08	-.06	-.93	.76	1.31	-.01	.04	-.01	-.18	.76	1.31
PRES	-.10	.10	-.03	-.75	.69	1.46	.09	.11	.07	.82	.69	1.46	-.05	.12	-.04	-.39	.69	1.46
BIAS	.09	.07	.08	1.14	.62	1.62	-.07	.06	-.05	-.73	.62	1.62	-.01	.08	.00	.05	.62	1.62
Block 3: interactions																		
TYP × CONT	.11	.15	.05	.76	.74	1.35	.27	.16	.13	1.72	.74	1.35	-.13	.17	-.06	-.73	.74	1.35
TYP × CONT	.15	.18	.07	.83	.55	1.81	-.26	.19	-.12	-1.45	.55	1.81	-.08	.21	-.03	-.39	.55	1.81
TYP × BIAS	-.39	.17	-.14	-1.87	.77	1.30	.01	.11	.01	.08	.77	1.30	.18	.12	.11	1.46	.77	1.30
CONT × PRES	-.41	.19	-.13	-1.71	.60	1.66	-.07	.21	-.03	-.35	.60	1.66	.08	.23	.03	.36	.60	1.66
CONT × BIAS	.11	.13	.06	.81	.71	1.41	-.01	.14	-.01	-.06	.71	1.41	-.17	.15	-.09	-1.15	.71	1.41
PRES × BIAS	.11	.14	.06	.80	.75	1.33	-.16	.14	-.08	-1.10	.75	1.33	.02	.16	.01	.12	.75	1.33

B is the unstandardized regression coefficient; SE is the standard deviation of the unstandardized regression coefficient; β is the standardized regression coefficient; t is the significance statistics; T is the Tolerance; VIF is the Variance Inflation Factor

TYP = Gender typicality; CONT = Gender contentment; PRES = Felt pressure; BIAS = Intergroup bias

$^{*}p<.05$, $^{**}p<.01$, $^{***}p<.001$

Table 6 Hierarchical regression analyses on psychological adjustment indices for girls.

Predictors	Global self-worth						Social competence						Loneliness					
	B	SE	β	t	T	VIF	B	SE	β	t	T	VIF	B	SE	β	t	T	VIF
Block 1: demographics																		
Age	-.04	.04	-.09	-1.08	.87	1.16	-.06	.04	-.09	-1.26	.87	1.16	-.06	.05	-.10	-1.33	.87	1.16
Block 2: gender identity																		
TYP	.48	.07	**.50*****	6.79	.65	1.53	.63	.08	**.61*****	8.10	.65	1.53	-.57	.08	**-.55*****	-7.45	.65	1.53
CONT	-.04	.08	-.05	-.50	.75	1.34	-.04	.09	-.05	-.51	.75	1.34	-.01	.09	-.01	.10	.75	1.34
PRES	-.03	.09	-.03	-.34	.76	1.31	-.06	.09	-.06	-.79	.76	1.31	.12	.10	.10	1.28	.76	1.31
BIAS	-.07	.06	-.09	-.1.27	.74	1.36	.11	.10	.08	1.01	.74	1.36	-.05	.06	-.05	.52	.74	1.36
Block 3: interactions																		
TYP × CONT	-.03	.12	-.02	-.22	.84	1.19	.11	.14	.06	.76	.84	1.19	.01	.14	.01	.10	.84	1.19
TYP × PRES	.10	.07	.13	1.69	.64	1.56	.13	.16	.07	.85	.64	1.56	.00	.15	.00	.03	.64	1.56
TYP × BIAS	-.04	.11	-.03	-.38	.65	1.53	-.07	.05	-.11	-1.34	.65	1.53	.14	.12	.10	1.16	.65	1.53
CONT × PRES	-.07	.10	-.06	-.77	.72	1.40	.19	.15	.10	1.29	.72	1.40	-.22	.15	-.12	1.59	.72	1.40
CONT × BIAS	-.06	.08	-.06	-.69	.78	1.29	.14	.10	.12	1.42	.78	1.29	-.22	.12	-.14	-1.86	.78	1.29
PRES × BIAS	.04	.09	.06	.71	.77	1.30	.16	.12	.11	1.40	.77	1.30	-.09	.11	-.06	-.77	.77	1.30

B is the unstandardized regression coefficient; SE is the standard deviation of the unstandardized regression coefficient; β is the standardized regression coefficient; t is the significance statistics; T is the Tolerance; VIF is the Variance Inflation Factor

TYP = Gender typicality; CONT = Gender contentment; PRES = Felt pressure; BIAS = Intergroup bias

$^{*}p<.05$, $^{**}p<.01$, $^{***}p<.001$

In contrast to the strong correlations of gender typicality with all psychological adjustment indices for both gender, gender contentment only predicted global self-worth for boys (β=.24, t=3.67, p<.001). In other words, boys who were satisfied with being boys tended to have increased global self-worth, while girl's satisfaction with being girls seemed unrelated to their psychological adjustment. Finally, felt pressure and intergroup bias did not predict any of the adjustment indices either for Chinese boys or girls, and no significant interaction effect was found between any two of the gender identity components on the adjustment indices.

Discussion

This study extended the multidimensional model of gender identity (Egan and Perry 2001) to the Chinese culture. By comparing our results to the major findings in the original studies conducted in the American culture, this study suggested both cross-cultural similarities and differences with respect to the multiple components of gender identity and their effects on psychological adjustment.

The Multidimensional Gender Identity Construct in Chinese Children

Consistent with Egan and Perry (2001)'s model, the present study found that the four dimensions of gender identity were mostly independent of each other in a sample of 361 Chinese elementary school students. In other words, as specified by the gender identity model (Egan and Perry 2001), these scales measure related but still separate aspects of gender identity. This provided support for the construct validity of Egan and Perry's measure when applied in the Chinese culture. This construct validity, together with the overall acceptable internal consistency of the measure (Robinson et al. 1991), suggests that the four-dimensional gender identity model may well be generalized to encompass Chinese populations and Egan and Perry's (2001) gender identity measure can be used to evaluate Chinese participants, though further modification upon specific items might still be needed.

Gender and Age Differences

In line with our hypothesis H1 and previous findings based on samples of American children, the present study indicated that Chinese boys tended to be more content about their gender, although they felt more pressure to conform to gender stereotypes than Chinese girls. These results suggested that gender and age differences on gender contentment and pressure to conform to gender stereotypes may be a common phenomenon across the two cultures. In China, as well as many Western countries, men still generally hold a higher status than women, even though the social conditions for women have improved. Boys are often perceived as superior to girls and masculine traits remain more socially desirable than feminine traits (Liu 2006).

Our hypothesis (H3) that felt pressure would decrease with age only for Chinese girls was also supported by the current finding. This further confirms that boys are more strictly socialized in terms of gender stereotypes than girls in Chinese society. Previous studies have consistently found that boys who engage in feminine activities are usually viewed more negatively by both parents and peers than girls who engage in masculine activities (e.g. Blakemore 2003; Liu 2006; Sandnabba and Ahlberg 1999; Zucker et al. 1995). Consistent with these findings, the present study indicates that with age increases Chinese girls are allowed more latitudes to explore different activities and interests while Chinese boys may still be compelled to engage in gender-congruent conduct.

In contrast to previous Western research, however, the present study did not find any gender difference in children's intergroup bias, which confirmed our hypothesis H2. Yu and Xie (2008) found that masculine traits in Chinese people were positively related to acceptance of others, which has been found to be an important dimension of feminine traits in Western cultures. Therefore, a culture-specific conceptualization of masculinity in Chinese culture may include some shared communal traits that are typical of femininity in Western cultures. Compared to Western cultures, the demarcation between masculine traits and feminine traits in Chinese culture may be more ambiguous. This lack of a clear boundary between Chinese boys and girls with regard to personality traits, as well as the value of maintaining harmonious interpersonal relationships in the Chinese culture, may decrease the intergroup bias in each gender group.

Gender Identity and Psychological Adjustment

The present study found significant relationships between Chinese children's gender typicality and their psychological adjustment, which is consistent with our hypothesis H4 and previous findings (Carver et al. 2003; Egan and Perry 2001; Corby et al. 2007). Among the four gender identity dimensions, gender typicality appeared to be the strongest independent contributor of psychological adjustment for both Chinese boys and girls. This suggested that the importance of perceiving oneself as gender typical for psychological adjustment may hold cross-cultural generality. Moreover, the relationship between gender typicality and psychological adjustment for Chinese children seemed to be stronger than those in previous research, especially for girls. For example, Carver and colleagues (2003) reported

that the partial correlations of gender typicality with global self-worth and social competence were .15 and .42 for White American girls, while the respective correlations were .50 and .61 for Chinese girls in this study. For Black and Hispanic girls, Corby et al. (2007) reported that the correlations between gender typicality and global self-worth were .16, and .23 respectively. This may suggest that perceiving oneself as gender typical would be especially meaningful and important for one's adjustment in the Chinese culture. Group-oriented behavior and harmonious interpersonal relationships are highly valued in most collectivist cultures (Bond and Hwang 1986; Ma 1989; Triandis et al. 1988). Being a typical member of one's group would be particularly desirable for Chinese children from a social perspective, also contributing to their favourable psychological adjustment. The strong relationship between gender typicality and adjustment found in this study highlights the importance of conforming to social norms in maintaining Chinese children's psychological well-being.

While the presence of a strong relationship between gender typicality and psychological adjustment suggested cross-cultural generality, the absence of significant relationships between other gender identity components and adjustment may suggest some cultural specificity of the effect of gender identity on adjustment. Previous studies have found that low gender contentedness was related to reduced self-esteem and acceptance by peers for White American boys and girls (e.g., Carver et al. 2003; Yunger et al. 2004). Based on these results, we hypothesized that gender contentment would be a positive contributor to Chinese children's psychological health (H6). Although Corby et al. (2007) reported that in Hispanic American girls increased gender contentment was associated with heightened internalized problems, which contradicted with Egan and Perry's (2001) prediction, these findings all point to the importance of gender contentment in children's psychological well-being. However, in this study, being satisfied with one's gender only marginally predicted global self-worth for Chinese boys. This is probably because being a boy is more valued by the society, as mentioned earlier. It seemed that gender contentment did not affect Chinese children's psychological adjustment as much as American children. Whether or not one feels content about his or her gender may be less important for Chinese children than for their Western counterparts. In China and most East Asian cultures, self-contentment is viewed somewhat negatively as one's lack of motivation for future self-improvement (Bond and Chi 1997; Heine et al. 1999; Pyszczynski et al. 1991). Chinese parents tend to educate their children to be modest and avoid being satisfied with oneself (Lau and Yeung 1996). While American parents viewed self-esteem as central to child rearing, Taiwanese parents believed that too much self-esteem would lead to disappointment and frustration when children deal with inevitable difficulties in life (Miller et al. 2002). Thus, self-contentment about one's gender may not be a necessity for children's well being in the Chinese culture.

Consistent with our hypothesis H5, felt pressure for gender conformity did not seem to affect Chinese children's adjustment either. Studies conducted in North America found that felt pressure not only predicted undesirable psychological adjustment, but also had interaction effects with gender typicality and gender contentment on children's well-being (e.g., Egan and Perry 2001; Corby et al. 2007). None of these findings were indicated in the present study. The absence of such a relationship and interaction effects may be explained by a particular childhood socialization process of Chinese children. Influenced by the basic ideology of Confucianism, Chinese children are taught to obey the social rules, develop a self-disciplinary habit and appropriate conduct, and accept and fulfil social obligations (Ho 1989). While the pressure of conforming to gender stereotypes may be a source of distress for children in most Western cultures, the same demand may be naturally assumed and accepted by both Chinese parents and children.

The above findings have important practical and theoretical implications. Practically, the present study suggested that a sense of same-gender typicality is beneficial for children's adjustment. This implies that parents and school psychologists should not only encourage children to explore various cross-gender activities, but also help them establish a sense of compatibility with one's gender category. Theoretically, the present study along with Corby et al.'s (2007) investigation suggested that Egan and Perry' (2001) model may need to incorporate other dimensions of gender identity to allow for evident cultural variations. For example, a dimension of perceived importance of gender compatibility in one's self concept may moderate the relationship between gender contentment (or felt pressure) and adjustment. Perceived importance of gender compatibility will be more likely to reflect the effect of cultural context on gender identity. Future research may need to identify such a dimension, incorporate it into the current model, and further examine any interactions with the existing gender identity components on children's adjustment.

This study has several limitations that should be noted. First, it was evident that the internal consistencies of the four scales on the present sample of Chinese children were relatively lower than those reported in previous Western studies. In particular, the Cronbach's alpha value for the gender contentment scale was only 0.60. Corby et al. (2007) reported similar findings that the internal consistency of this scale was 0.64 for Black and Hispanic American children, whereas it was 0.81 for Caucasian American children. This indicates that some items may not be appropriate for assessing gender contentment in Chinese children as well

as children from other ethnical populations. Therefore, in future studies, such items should be further identified, and revised or deleted to improve the internal consistency of the gender contentment scale. Researchers may also try to develop more culture-specific items to measure Chinese children's gender contentment. Second, the construct validity of the gender identity measurement was not systematically examined in this study. Even though a translation and back-translation procedure was used to increase conceptual and linguistic equivalence, cross-cultural equivalence cannot be assumed without further investigation of the factor structure of these gender identity components based on Chinese samples. Future work using factor analyses to directly examine the construct of this model in Chinese children would be necessary. Third, the present study interpreted the results from a cross-cultural perspective by comparing its findings to those of previous American-based studies, but did not have American samples included that would otherwise allow for a direct cross-cultural comparison between Chinese and American children. For example, no culture-specific variables were measured in this study, which leaves the inferences about cultural influences less sufficient. Future research may need to recruit participants from other cultures, assess cultural variables, and focus on more direct comparison of gender identity in children from different cultures as well as the examination of moderating effect of cultural variables on the relationship between gender identity and psychological adjustment. Also, only self-reported data were collected in this study. The relationships found in the current study might be influenced by response bias. Future studies that involve reports from parents, teachers, and peers would provide a more comprehensive picture of Chinese children's gender identity and their effects on adjustment.

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