AMERICAN PSYCHOLOGICAL ASSOCIATION

Psychology of Sexual Orientation and Gender Diversity

ISSN: 2329-0382

https://doi.org/10.1037/sgd0000632

Gender Variance and Psychological Well-being in Chinese Community Children

Wang Ivy Wong[1, 2], Anna I. R. van der Miesen[3], Sylvia Yun Shi[1, 2], Cho Lam Ngan[2], Hoi Ching Lei[2], Janice Sin Yu Leung[1, 2], and Doug P. VanderLaan[4, 5]

[1] Gender Studies Programme and Department of Psychology, The Chinese University of Hong Kong

[2] Department of Psychology, The University of Hong Kong

[3] Department of Child and Adolescent Psychiatry, Center of Expertise on Gender Dysphoria, VU University Medical Center

[4] Department of Psychology, University of Toronto Mississauga

[5] Child and Youth Psychiatry, Centre for Addiction and Mental Health, Toronto, Canada

Childhood gender variance (GV) and its association with psychological well-being have garnered increasing interest recently but little is known about children from the community and non-Western samples. Therefore, we examined GV and its associations with psychological well-being in a Chinese community sample where study of childhood GV is extremely rare. Parents of 461 Chinese children aged 4–12 years (243 birth-assigned males) provided information on GV using the Gender Identity Questionnaire for Children (GIQC) and on psychological well-being. Children assigned female at birth (girls) were more gender-variant than children assigned male at birth (boys). In boys, higher GV correlated with lower happiness, lower self-worth, more behavior problems, and poorer peer relations. In boys, controlling for demographic covariates and adding peer relations as an independent variable, poorer peer relations also independently associated with lower happiness, lower self-worth, and more problem behaviors, and GV still associated with lower happiness and self-worth. In girls, GV minimally associated with psychological well-being but poorer peer relations associated with lower happiness, lower self-worth, and more problem behaviors. Peer relations did not moderate any effect of GV on psychological well-being. The GIQC demonstrated potential as a measurement tool outside Western contexts. Chinese boys who exhibit GV appear to face similar psychological well-being challenges as their Western counterparts. However, factors that moderate the association between GV and psychological well-being have yet to be identified in this population.

Public Significance Statement

Gender variance in the community and outside Western contexts deserves more attention. Chinese children, especially boys, appear to experience reduced psychological well-being as their Western counterparts.

Keywords: gender variance and diversity, transgender, childhood, psychological well-being, Chinese

Supplemental materials: https://doi.org/10.1037/sgd0000632.supp

Recently, there has been increasing interest in childhood gender variance (GV) and its association with psychological well-being (Turban & Ehrensaft, 2018). GV is an umbrella term referring to gender identity and behaviors that do not correspond with culturally defined gender norms (Adelson, 2012; Turban & Ehrensaft, 2018). Not all individuals with GV experience or meet criteria for a diagnosis of gender dysphoria (GD), a condition involving clinically significant distress related to the incongruence between one's birth-assigned sex and experienced gender (American Psychiatric Association, 2013), and individuals with GV or GD may or may not have socially transitioned to their experienced gender, but individuals with GV or GD are found to be at higher risk of psychosocial challenges (Turban et al., 2018).

Almost no study systematically investigated the population-based prevalence of GV or GD in children and studies vary widely in how GV was defined (e.g., endorsement on a single item about gender identity or cross-sex wishes, social gender transition status, GD diagnosis, scores on scales of GV; Zucker, 2017). In population surveys

Wang Ivy Wong https://orcid.org/0000-0002-9428-2832

The work described in this paper was supported by a General Research Fund from the Research Grants Council of the Hong Kong Special Administrative Region, China (Project No. 17600719).

The authors declare no conflict of interest.

Anna I. R. van der Miesen and Sylvia Yun Shi contributed equally. The data were collected as part of the Honors theses by Cho Lam Ngan and Hoi Ching Lei under the supervision of Wang Ivy Wong. We thank Sui Ping Yeung for her help with translation and the participants, schools, and childcare centers for their participation. We also thank Dr. Sun, Dr. Loung, and members of Gender Empowerment who provided information about the current situation of societal awareness and care of childhood gender variance and dysphoria in Hong Kong and Mainland China.

Correspondence concerning this article should be addressed to Wang Ivy Wong, Gender Studies Programme and Department of Psychology, The Chinese University of Hong Kong, 248, 2/F, Sino Building, Shatin, New Territories, Hong Kong. Email: iwwong@cuhk.edu.hk

(mostly from Europe and North America) that specifically inquired about transgender identity, estimates ranged from 1.2% to 2.7% among children and adolescents; when the definition included broader manifestations of gender diversity, the corresponding proportions increased to 2.5%–8.4% (Zhang et al., 2020). A community-based study in Canada of 1,719 children using the parent-report Gender Identity Questionnaire for Children (GIQC) found a similar prevalence rate—using a cutoff point suggestive for a GD diagnosis, 2.8% of children assigned female at birth (referred to as girls hereafter) and 2.3% of children assigned male at birth (referred to as boys hereafter) in the community were considered gender-variant (i.e., scoring as GV as children meeting conservative screening criteria for GD; van der Miesen et al., 2018).

Prevalence studies on GV/GD in non-Western countries, such as in China, are rare, especially in children, despite that approximately 18% of the world's population resides in China. Of relevance is a study of Chinese elementary school students that measured gender-typed behavior using the Chinese-adapted Child Play Behavior and Activity Questionnaire (CPBAQ). It was found that gender-conforming behaviors were more predominant than gender-variant behaviors among children but GV was more common in girls than boys (Yu & Winter, 2011). Analyzing item endorsement frequency (i.e., any response other than "Never" on the gender-variant behaviors), in both Chinese and US children (Sandberg & Meyer-Bahlburg, 1994; Yu & Winter, 2011), around 20% of boys and 40% of girls reportedly exhibited 10 or more different gender-variant behaviors, and it was very rare for children to be reported as exhibiting no gender-variant behavior at all. To our knowledge, no study has used a standardized and clinically relevant measure or measure focused on gender-variant children (Bloom et al., 2021) to study childhood GV/GD in China. However, based on the large amount of literature on transgender and gender-variant Chinese adults (Lin et al., 2021) and the limited evidence of gender-variant behaviors in Chinese children that is comparable to the West (Yu & Winter, 2011), it would be reasonable to expect that GV in Chinese children is an important issue worthy of further study.

Studying childhood GV/GD is especially important given its associations with lowered psychological well-being. In clinical samples in many Western countries, children referred for GD experience elevated psychological risks (e.g., increased anxiety, depression, behavioral problems, low self-worth, poor peer relations; Baetens & Dhondt, 2021; Kolbuck et al., 2019). This pattern also extends to children in the community. For example, community children and adolescents who display elevated GV showed decreased psychological well-being, including internalizing and externalizing problems (van Beijsterveldt et al., 2006; van der Miesen et al., 2018; Yunger et al., 2004), poorer peer relations (Egan & Perry, 2001; Yunger et al., 2004), and lower self-worth (Egan & Perry, 2001; Yunger et al., 2004). Studies that reported assigned sex differences in how GV or GD correlated with psychological well-being usually found boys to be more affected, for instance in terms of emotional and peer challenges (Steensma et al., 2014; Wallien et al., 2010; Warren et al., 2019). As much of the research focused on mental and social challenges, less is known about general life satisfaction or happiness in children who display GV or GD. Some studies have shown that adults predict gender-variant children, especially boys, to be less well-adjusted (Thomas & Blakemore, 2012) and worry more about gender-variant boys than gender-variant girls on an item including their predicted happiness (Coyle et al., 2016). However, only contemporary Canadian children and Canadian children in 1990s (albeit less consistently than the contemporary sample), but not Chinese children, perceived gender-variant children to be less happy than gender-conforming children (Kwan et al., 2020; Nabbijohn et al., 2020; Zucker et al., 1995).

For children, a recent first study suggested peer relations moderates the relationship between GV and psychological well-being such that good peer relations may be a "protective factor" while poor peer relations may be a "risk factor" (MacMullin et al., 2021). This one study found that the elevation in behavioral and emotional challenges in relation to GV was stronger for community children who experienced poor peer relations. Other studies showed that poor peer relations is a robust correlate of behavioral and emotional challenges among children and youth who experience GD and/or have a transgender identity (Baetens & Dhondt, 2021; de Vries et al., 2016; Kuvalanka et al., 2017; Steensma et al., 2014; Wong et al., 2019). These findings suggesting the important role of peer relations are consistent with the hypothesis that poorer psychological well-being among youth with GV/GD is secondary to the experience of being socially ostracized (Baetens & Dhondt, 2021; MacMullin et al., 2021; Zucker et al., 2014).

Few other studies have examined psychological well-being in relation to GV in non-clinical, community-based child samples, and relevant studies in non-Western samples are, to our knowledge, non-existent. This paucity in research sampling needs to be filled for at least two reasons. First, GV exists in the community and appears to be associated with psychological risks, and gender-variant children do not necessarily visit clinics. Second, policies and care practices regarding GV in non-Western cultures may have relied on available literature conducted in the West assuming that past findings would apply to the different contexts in question. Gender-typed behaviors and manifestations of GV appear to be very similar between China and many Western cultures (e.g., considering the content overlap of items in gender-typing measures for Chinese and Western samples; Yu & Winter, 2011). A recent systematic review of 30 studies of Chinese transgender and gender-variant adults and adolescents showed a high prevalence of psychological well-being problems, such as depression, anxiety, substance use disorders, stress-related issues, suicidality, and self-harm (Lin et al., 2021). The presence of elevated psychological risks in these older samples suggests that Chinese children who display GV or GD may also face lowered psychological well-being. This may be especially likely given that Chinese children showed more consistent bias against gender-variant peers than either Canadian or Thai children when asked to rate friendship preference, perceived popularity or to share stickers with gender-conforming and gender-variant peers (Kwan et al., 2020; Nabbijohn et al., 2020; Wang et al., 2022). Lowered well-being may also be expected considering how several Chinese cultural elements engender rigid adherence to gender norms, including the Confucian and collectivist values that emphasize conforming to group norms and the importance of producing offspring to fulfill the expectation of filial piety; however, China's former one-child policy and common preference for sons may have also led to greater tolerance for girls to enact boy-typical behaviors (Yu & Winter, 2011).

This study aims to address the research gaps on GV in Chinese children. The GIQC served as the core measure of GV because it has been more commonly used in prior studies on GV and psychological well-being (Cohen-Kettenis et al., 2006; Johnson et al., 2004; MacMullin et al., 2021; van der Miesen et al., 2018). The GIQC is one of a few measurement tools for gender identity and gender expression that has

undergone rigorous psychometric analyses and is available as a parent-report measure. It is thus suitable for larger scale studies of children. In the West, clinicians sometimes use it in addition to clinical interviews to assist GD diagnosis (Adelson, 2012; Cohen-Kettenis et al., 2006). It was validated in a sample containing gender-referred (i.e., referred to clinics for gender-related concerns), clinic-referred, and community children and may serve as a screening tool for childhood GD (Johnson et al., 2004). For example, gender-referred children have more gender-variant scores than cisgender children (Cohen's $d = 3.70$); specificity and sensitivity rates were also high (Johnson et al., 2004). Subsequent studies applied this scale in clinical samples (Cohen-Kettenis et al., 2006) and community samples (e.g., MacMullin et al., 2021; van der Miesen et al., 2018). The CPBAQ is a more recent Chinese-adapted measure of gender-typing. It was included to investigate the validity of the GIQC and to provide additional information on the similarities and/or differences in psychological well-being correlates across these two measures.

We hypothesized that GV would be associated with lower scores on positive psychological outcomes (i.e., happiness and self-worth) and higher scores on negative psychological outcomes (i.e., problem behaviors and poor peer relations) in community children. We expected that these associations would be found more in boys than girls, in line with prior research and the heavier social sanction on gender norm violations in boys. In addition, we explored whether peer relations moderated the relationship between GV and the other psychological well-being outcomes such that the association between GV and psychological well-being would be diminished in children with better peer relations. Before testing these key hypotheses, we provided descriptive analyses of GV in Chinese community children. Specifically, we expected that the average scores on the GIQC and CPBAQ would suggest the presence of GV that coexists with wide individual variations, but also that gender conformity would be more common (i.e., the average score on the GIQC would be equivalent to the "gender-conforming" label and the average score on the CPBAQ would be less than "Often"; van der Miesen et al., 2018; Yu & Winter, 2011). Moreover, like the majority of research on gender-typing, girls would show more GV than boys.

Method

Participants

Ethics approval was obtained from the University of Hong Kong. Parents of children aged 4–12 years were recruited from six Chinese cities, including Hong Kong and five other cities in the Guangdong and Fujian provinces in Mainland China. Children were recruited using purposive sampling through units that likely provide access to eligible participants. Permission was obtained from seven kindergartens, two primary schools, and one daycare center to help distribute the questionnaires to parents. To enhance the sample diversity, we also posted invitations to various online chatrooms targeting parents of children. The initial sample included 493 parents of Chinese children. After excluding children who were outside the eligible age range, had duplicated entries, or had missing key variables ($n = 32$), the final sample size was 461 ($M_{age} = 7.24$ years, $SD_{age} = 2.53$; 243 boys, 218 girls). Analyses were based on an item asking specifically about the child's birth-assigned sex, following common practice of research on GV in non-clinical samples (e.g., Johnson et al., 2004; van der Miesen et al., 2018). There was a male and a female option (note there is no distinction between sex labels and gender labels in Chinese) and an "If Other—Specify" option. No parent chose the "Other" option. Moreover, none reported a GD diagnosis. Boys and girls did not differ on any demographic variable. Table 1 shows detailed demographic characteristics. This sample size provided 89%–96% power to detect small-to-medium effect sizes at 0.05 alpha levels in correlations, *t*-tests for sex differences, and regression analyses (G*Power by Faul et al., 2007).

The questionnaires were distributed online through Qualtrics or in print during February and March 2019. The Hong Kong and Mainland Chinese versions were identical except for demographic questions such as income and educational level and two items in the gender measures involving locale-specific game names. Chinese versions of existing measures were used if available, or they were translated via translation and back-translation procedures with the help of an assistant with a degree in Translation (the translated scales are available upon request of the corresponding author). Parents completed measures of demographic background, the GIQC, the CPBAQ, and various psychological well-being variables.

Measures

GIQC

The GIQC is a 14-item parent-report questionnaire that assesses gender-typed behaviors corresponding with core GD-related domains (e.g., gender of playmates, clothing preferences, and cross-gender wishes) in children aged 2.5–12 years old (Johnson et al., 2004). Parents rated the frequency or the degree of gender-typing of each behavior on a 5-point scale. Items 1, 9, and 12 have a "not applicable" option that is not coded. Sample items include "[The child's] favorite playmates are"—"always boys" to "always girls" or "does not play with other children" (not codable) and "[The child] plays with girl-type dolls, such as Barbie"—"as a favorite toy" to "never." Responses were scored such that lower scores indicate higher GV, so the same response might be scored differently depending on the child's birth-assigned sex. The scale score was calculated by averaging item responses for the number of items with a codable response. Full items and scoring instructions can be found in Johnson et al. (2004). MacMullin et al. (2021) reported appreciable alpha levels of 0.78 for boys and 0.69 for girls in a Canadian community sample. In the current study, the GIQC showed similar appreciable internal consistency ($\alpha = 0.77$ in boys and 0.68 in girls).

To explore the validity of the GIQC, we tested whether it correlated with the CPBAQ, which was adapted from the Child Game Participation Questionnaire and the Child Behavior and Activity Questionnaire for use in Chinese children (Yu & Winter, 2011). This parent-report scale assesses frequency of gender-typed and cross-gender behaviors (Yu et al., 2010). The six-item Cross-Gender Scale (CGS) explicitly asks about cross-gender behaviors (e.g., "He/She has stated the wish to be a girl/boy or a woman/man"); the 14-item Girl Typicality Scale (GTS) and the 12-item Boy Typicality Scale (BTS) measure stereotypical girls' and boys' play behaviors, respectively (e.g., "plays with toy guns"). Following Yu et al. (2010), overall GV was measured by combining GTS and CGS for boys and by combining BTS and CGS for girls. Items were rated on a 5-point scale ("1 = *Never*" to "5 = *Always*") and averaged. Higher scores indicate more GV.

Table 1
Descriptive Statistics of Demographic Variables

Variables[a]	Descriptive statistics			
	All	Boys	Girls	*p*
Child age (y) (range: 4.00–12.92)				
n	461	243	218	
M (*SD*)	7.24	7.10	7.39	.228
	(2.53)	(2.53)	(2.52)	
Family income (range[b]: 1–14)				
n	458	240	218	
M (*SD*)	7.53	7.55	7.50	.910
	(3.13)	(3.07)	(3.21)	
Number of brothers (range: 0–2)				
n	461	243	218	
M (*SD*)	0.38	0.38	0.38	.969
	(0.54)	(0.54)	(0.53)	
Number of sisters (range: 0–4)				
n	461	243	218	
M (*SD*)	0.37	0.37	0.38	.913
	(0.56)	(.59)	(0.53)	
Parent age (range: 25.00–56.50)				
n	434	226	208	
M (*SD*)	37.85	37.63	38.10	.328
	(4.93)	(5.14)	(4.69)	
Parent education (range[c]: 1.50–9.00)				
n	446	235	211	
M (*SD*)	4.94	4.94	4.95	.932
	(1.48)	(1.46)	(1.51)	
Family religion, *n* (%)/r_s (*p*)				
No religion	291	153	138	.974
	(63.8)	(64.0)	(63.6)	
Christianity	55	29	26	
	(12.1)	(12.1)	(12.0)	
Catholicism	8	3	5	
	(1.8)	(1.3)	(2.3)	
Buddhism	93	49	44	
	(20.4)	(20.5)	(20.3)	
Taoism	5	3	2	
	(1.1)	(1.3)	(0.9)	
Protestantism	4	2	2	
	(0.9)	(0.8)	(0.9)	
Family religiosity, *n* (%)				
Religious	165	86	79	.925
	(36.2)	(36.0)	(36.4)	
Not religious	291	153	138	
	(63.8)	(64.0)	(63.6)	

Note. Boys and girls referred to birth-assigned sex. CPBAQ = Child Play Behavior and Activity Questionnaire; GIQC = Gender Identity Questionnaire for Children; GV = gender variance.
[a]To test the difference between boys and girls, independent-samples *t*-tests were conducted for continuous variables and Pearson's χ^2-tests were conducted for categorical variables. None of the sex differences were significant.
[b]Response scale for family income (in HKD for Hong Kong and Yuan for Mainland China): 1 = *less than 2,000*; 2 = *2,000–3,999*; 3 = *4,000–5,999*; 4 = *6,000–7,999*; 5 = *8,000–9,999*; 6 = *10,000–14,999*; 7 = *15,000–19,999*; 8 = *20,000–24,999*; 9 = *25,000–29,999*; 10 = *30,000–39,999*; 11 = *40,000–59,999*; 12 = *60,000–79,999*; 13 = *80,000–99,999*; 14 = *100,000 or more*.
[c]Response scale for education level: 1 = *Not educated*; 2 = *Primary or below primary*; 3 = *Form 1 to Form 3*; 4 = *Form 4 to Form 7*; 5 = *Diploma/Certificate*; 6 = *Associate degree*; 7 = *Bachelor's degree*; 8 = *Master's degree*; 9 = *Doctor's degree*. Parent education was calculated by averaging the education level of the respondent and his/her spouse or using the one available if the other was not available.

The original scale was tested in children 6 to 12 years old. No item was judged as age-inappropriate for our sample, and all internal reliabilities were good (for CGS, $\alpha = 0.84$ in boys and 0.87 in girls; for GTS, 0.79 in boys and 0.91 in girls; for BTS, 0.87 in boys and 0.81 in girls). Current analyses pertaining to the CPBAQ focused on the overall GV scores. GIQC scores significantly correlated in the expected direction with CPBAQ scores, $r(441) = .35$, $p < .001$).

Happiness

Both positive emotions and self-esteem are major dimensions and strong predictors of happiness (Cheng & Furnham, 2003; Medvedev & Landhuis, 2018). Apart from positive emotions, self-esteem, or self-perception of general competence and performance, is so closely related to happiness that researchers have argued that it

could be considered as a component of happiness (Cheng & Furnham, 2003). Thus, we adopted the emotion (five items, e.g., "During the past week, my child had fun and laughed a lot") and self-esteem (four items, e.g., "During the past week, my child was proud of him/herself") subscales from two measures on children's quality of life and well-being, the KINDL and KIDSCREEN (Erhart et al., 2009; Ravens-Sieberer & Bullinger, 1998), to measure happiness. Both the KINDL and KIDSCREEN have been applied in children varying widely in age from preschool to adolescence (Erhart et al., 2009; Ferro et al., 2022; Ravens-Sieberer & Bullinger, 2000). Items were rated on a 5-point scale ("1 = *Never*" to "5 = *All the Time*") and averaged. Higher scores reflect more happiness. The happiness measure showed good internal reliability in the current sample ($\alpha = 0.83$).

Self-Worth

Sense of self-worth was measured by a seven-item scale on general self-worth, which measures global feelings about one's value and being worthy of love, such as being satisfied with the way one is and thinking that one is a good person (Harter, 1982). Sample items include "want to stay the same". Items were adapted for the parent-report format, rated on a 5-point scale ("0 = *Not At All True*" to "4 = *A Lot True*"), and averaged. The measure has been adapted for young children and adolescents (e.g., Harter, 1982; Nagai et al., 2018). Internal reliability of the Harter (1982) general self-worth scale for the current sample was good ($\alpha = 0.93$). Higher scores reflect higher self-worth. Although some items of self-worth overlap with self-esteem items, the zero-order correlations between happiness and self-worth indicate that these two measures are meaningfully different ($r = .59$; Table 2).

Behavior Problems

The 28-item Behavior Problems Index (BPI) measures behavioral problems in children aged 4–17 years and can be scored as total problems, internalizing problems, and externalizing problems (Zill & Peterson, 1986). We followed a recent reassignment of items when calculating externalizing and internalizing problems that more closely resembles the well-validated CBCL (Guttmannova et al., 2008). The BPI's close resemblance to the CBCL is important considering the popular use of the CBCL in previous studies of childhood GV and well-being (e.g., MacMullin et al., 2021; van der Miesen et al., 2018). Number of items differed by age (for total problems, 26 for children ≤ 5 years, 28 for children 6–11 years, 23 for children ≥ 12 years; for internalizing problems, seven for children < 12 years, six for children ≥ 12 years; for externalizing, nine for children ≤ 5 years, 10 for children 6–11 years, eight for children ≥ 12 years) (Guttmannova et al., 2008). Internal reliabilities for Total, Externalizing, and Internalizing scores were good in the current sample (all αs ranged between 0.78 and 0.92). Items were rated on a 3-point scale ("0 = *Not True*" to "2 = *Often True*") and averaged. Higher scores reflect more problems. As results for total problems were very similar with those for internalizing and externalizing problems, analyses are presented for total problems. Separate analyses for internalizing and externalizing problems can be found in the online supplemental materials (Tables S4 and S5).

Table 2
Zero-Order Correlations Between GV and Psychological Well-being

	Boys					Girls					All				
Measure	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
1. GIQC	—					—					—				
2. CPBAQ	−.362					−.273					−.354				
	(<.001)					(<.001)					(<.001)				
3. Happiness	.299	−.043				.126	.151				.195	.084			
	(<.001)	(.512)				(.079)	(.029)				(<.001)	(.079)			
4. Self-Worth	.242	.026	.529			.112	.117	.644			.153	.114	.590		
	(<.001)	(.701)	(<.001)			(.117)	(.091)	(<.001)			(.002)	(.017)	(<.001)		
5. Behavior problems	−.177	.277	−.399	−.317		.095	.128	−.383	−.173		−.045	.175	−.392	−.247	
	(.007)	(<.001)	(<.001)	(<.001)	—	(.185)	(.062)	(<.001)	(.012)	—	(.357)	(<.001)	(<.001)	(<.001)	—
6. Peer relations	−.179	.135	−.457	−.296	.525	.023	−.072	−.422	−.288	.408	−.073	.000	−.441	−.297	.472
	(.007)	(.042)	(<.001)	(<.001)	(<.001)	(.749)	(.297)	(<.001)	(<.001)	(<.001)	(.134)	(.999)	(<.001)	(<.001)	(<.001)

Note. Boys and girls referred to birth-assigned sex. Figures in parentheses are *p*-values. CPBAQ = Child Play Behavior and Activity Questionnaire; GIQC = Gender Identity Questionnaire for Children; GV = gender variance.

Peer Relations

Peer relations were measured by 13 items from two subscales of the Child Behavior Scale (Ladd & Profilet, 1996), namely Excluded by Peers (seven items) and Asocial with Peers (six items) (e.g., "Peers exclude my child") because these items closely reflect the theoretical focus on peer rejection/discrimination. The measure has been applied to children aged 5–13 years (Ladd et al., 2009), and no item was judged as age-inappropriate for our sample. Internal reliability was good for the current sample ($\alpha = 0.91$). Items were rated on a 3-point scale ("1 = *Does not apply*" to "3 = *Certainly applies*") and averaged. Higher scores reflect poorer peer relations.

Results

No item had > 5.5% missing data, and Little's MCAR test was not significant, $\chi^2 = 6{,}072.521$, $df = 5{,}965$, $p = .162$, suggesting missingness was completely at random. Thus, pairwise deletion was adopted in data analysis. Variation in *N* across analyses reflects missing data. Demographic variables that significantly correlated with either the dependent or independent variables were included as covariates in relevant analyses (see Table S3 in the online supplemental material and Table 1). We first present the descriptive analyses of GV. Next, we present the zero-order correlations between GV and all psychological well-being outcomes. Finally, we present regression analyses using GV as an independent variable of happiness, self-worth, and problem behavior, controlling for demographic covariates and treating peer relations as a moderator.

Descriptive Analyses of GV

Table 3 shows descriptive statistics for GIQC and CPBAQ scores by birth-assigned sex. Frequencies on each item of the GIQC and CPBAQ (overall and by birth-assigned sex) are shown in Tables S1 and S2 in the online supplemental material. On the GIQC, the average score was equivalent to the "gender-conforming" label (van der Miesen et al., 2018). The range (2.64–4.86) appeared to be wide and included children who scored as low as gender-referred children in the West (Johnson et al., 2004). On the CPBAQ, the average score was within the range of 1–2, equivalent to "Seldom" or "Sometimes" exhibiting gender-variant behaviors. The average number of gender-variant behaviors on the CPBAQ that were scored positively (i.e., any rating other than "Never") were 7.79 and 10.70 for boys and girls, respectively. The percent of boys and girls who ever exhibited 10 or more different gender-variant behaviors was 16.5% and 48.2%, respectively, and almost all reported exhibiting some gender-variant behavior.

Table 3
Descriptive Statistics of GIQC and CPBAQ

Scale	*M*	*SD*	Minimum	Maximum
GIQC				
All ($N = 441$)	4.04	0.35	2.64	4.86
Boys ($n = 237$)	4.10	0.34	2.86	4.86
Girls ($n = 204$)	3.98	0.36	2.64	4.79
Mean difference, *p*	<.001			
Effect size, *d*	0.37			
CPBAQ				
All ($N = 461$)	1.83	0.45	1.00	4.35
Boys ($n = 243$)	1.67	0.38	1.00	4.35
Girls ($n = 218$)	2.01	0.46	1.00	3.67
Mean difference, *p*	<.001			
Effect size, *d*	0.80			

Note. Boys and girls referred to birth-assigned sex. For GIQC, higher scores are more gender-conforming. For CPBAQ, lower scores are more gender-conforming. Both scales have a possible range of 1–5. CPBAQ = Child Play Behavior and Activity Questionnaire; GIQC = Gender Identity Questionnaire for Children.

Using planned *t*-tests, girls showed significantly more GV than boys on the GIQC, $t(439) = 3.82$, $p < .001$, $d = .37$, and the CPBAQ, $t(418) = -8.54$, $p < .001$, $d = -0.80$. Zero-order correlations with age (see Table S3) showed that age negatively correlated with girls' GIQC scores, $r(204) = -.29$, $p < .001$, but not boys', $r(237) = .05$, $p = .414$. We did not have specific hypothesis about how age would correlate with GV, and, consistent with past findings (cf. Johnson et al., 2004; van der Miesen et al., 2018; Yu & Winter, 2011), it showed mixed correlations with the GIQC and CPBAQ. Thus, age was included as a covariate in the analyses on psychological well-being correlates.

GV, Psychological Well-being, and Peer Relations

To test the relations between GV and psychological well-being, analyses were run on each psychological well-being outcome in boys and girls separately. We chose to analyze each outcome separately instead of including them all in a multivariate approach in order to preserve power and reduce multicollinearity, and because this approach is appropriate when the research question is concerned with effects on each conceptually different outcome variable and when prior research has almost exclusively studied these outcomes in univariate contexts (Huberty & Morris, 1989). Similarly, analyses were conducted for boys and girls separately to reduce multicollinearity and because the difficulty of detecting higher-level interactions may obscure effects that might differ by birth-assigned sex.

Zero-order correlations (Table S3 in the online supplemental material and Table 2) showed that boys' GIQC scores were consistently associated with poorer psychological well-being, including less happiness, lower self-worth, more behavioral problems, and poorer peer relations. In contrast, there were no associations in girls between psychological well-being measures and the GIQC scores.

Next, we ran hierarchical regressions to test the association between GV and each of the psychological well-being outcomes, with peer relations as a moderator (see Table S4 in the online supplemental material and Table 4). GIQC scores and demographic covariates relevant to each analysis were entered in the first block. Peer Relations was added in the second block, and the interaction between GIQC scores and Peer Relations was added in the last block. Independent variables were mean-centered.

In boys, controlling for demographic covariates, higher GV on the GIQC was associated with lower happiness, lower self-worth, and more problem behaviors. Poorer peer relations also independently associated with lower happiness, lower self-worth, and more problem behaviors. When peer relations was added as an independent variable, the associations of GIQC scores with happiness and self-worth remained significant, but the association of GIQC scores with problem behaviors became non-significant. In girls, controlling for demographic covariates, GIQC scores did not associate with psychological well-being but poorer peer relations associated with lower happiness,

Table 4

Hierarchical Regression Models With GIQC as an Independent Variable

		Boys											Girls										
Model	Independent variables	*B*	95% CI-low	95% CI-up	*SE*	β	*t*	*p*	R^2	R^2_{adj}	△*F*	*p*	*B*	95% CI-low	95% CI-up	*SE*	β	*t*	*p*	R^2	R^2_{adj}	△*F*	*p*
(a) Dependent variable: happiness																							
1	Intercept	3.707	3.636	3.777	0.036		103.584	<.001					3.828	3.749	3.908	0.040		94.943	<.001				
	Child age	−0.022	−0.051	0.007	0.015	−0.103	−1.465	.144					−0.021	−0.054	0.013	0.017	−0.092	−1.223	.223				
	Parent age	−0.009	−0.023	0.005	0.007	−0.085	−1.235	.218					−0.012	−0.030	0.005	0.009	−0.105	−1.438	.152				
	Parent education	0.022	−0.034	0.079	0.029	0.061	0.775	.440					0.085	0.023	0.147	0.031	0.230	2.698	.008				
	Family income	0.047	−0.034	0.128	0.041	0.087	1.151	.251					−0.013	−0.104	0.079	0.046	−0.023	−0.270	.787				
	GIQC	0.438	0.226	0.650	0.107	0.278	4.077	<.001	.130	.109	5.966	<.001	0.081	−0.149	0.311	0.117	0.052	0.693	.489	.089	.063	3.496	.005
2	Intercept	3.735	3.670	3.800	0.033		113.659	<.001					3.809	3.737	3.881	0.036		104.612	<.001				
	Child age	−0.008	−0.034	0.019	0.014	−0.036	−0.553	.581					−0.006	−0.036	0.024	0.015	−0.028	−0.406	.685				
	Parent age	−0.010	−0.023	0.003	0.006	−0.094	−1.500	.135					−0.014	−0.029	0.002	0.008	−0.117	−1.777	.077				
	Parent education	0.032	−0.020	0.083	0.026	0.087	1.212	.227					0.085	0.023	0.147	0.031	0.230	2.698	.005				
	Family income	0.024	−0.050	0.098	0.037	0.045	0.651	.516					−0.013	−0.104	0.079	0.046	−0.023	−0.270	.818				
	GIQC	0.315	0.119	0.512	0.100	0.200	3.166	.002					0.119	−0.088	0.327	0.105	0.077	1.136	.258				
	Peer relations	−0.652	−0.850	−0.454	0.100	−0.404	−6.493	<.001	.283	.261	42.153	<.001	−0.886	−1.152	−0.620	0.135	−0.427	−6.570	<.001	.266	.241	43.160	<.001
3	Intercept	3.729	3.663	3.795	0.033		111.444	<.001					3.807	3.735	3.879	0.036		104.431	<.001				
	Child age	−0.007	−0.034	0.020	0.014	−0.035	−0.535	.593					−0.007	−0.037	0.023	0.015	−0.032	−0.468	.640				
	Parent age	−0.010	−0.023	0.003	0.007	−0.100	−1.582	.115					−0.014	−0.029	0.002	0.008	−0.115	−1.746	.083				
	Parent education	0.032	−0.020	0.083	0.026	0.086	1.204	.230					0.088	0.031	0.145	0.029	0.237	3.034	.003				
	Family income	0.024	−0.050	0.098	0.038	0.045	0.641	.522					0.003	−0.080	0.086	0.042	0.006	0.072	.943				
	GIQC	0.335	0.133	0.537	0.102	0.213	3.276	.001					0.060	−0.172	0.293	0.118	0.039	0.510	.610				
	Peer relations	−0.651	−0.849	−0.452	0.101	−0.403	−6.471	<.001					−0.907	−1.175	−0.638	0.136	−0.437	−6.664	<.001				
	GIQC × Peer relations	−0.224	−0.737	0.290	0.260	−0.054	−0.859	.391	.286	.260	0.738	.391	−0.540	−1.502	0.422	0.487	−0.082	−1.108	.269	.271	.242	1.229	.269
(b) Dependent variable: self-worth																							
1	Intercept	2.619	2.533	2.705	0.044		60.169	<.001					2.810	2.714	2.907	0.049		57.367	<.001				
	Child age	−0.009	−0.044	0.026	0.018	−0.036	−0.500	.617					−0.020	−0.061	0.020	0.020	−0.077	−1.003	.317				
	Parent age	0.004	−0.014	0.021	0.009	0.029	0.411	.681					−0.010	−0.031	0.011	0.011	−0.072	−0.964	.336				
	Parent education	0.065	−0.003	0.134	0.035	0.151	1.876	.062					0.064	−0.012	0.139	0.038	0.145	1.672	.096				
	Family income	0.013	−0.085	0.111	0.050	0.020	0.262	.794					0.005	−0.106	0.116	0.056	0.008	0.092	.927				
	GIQC	0.399	0.141	0.657	0.131	0.213	3.055	.003	.088	.065	3.835	.002	0.106	−0.173	0.386	0.142	0.058	0.750	.454	.049	.023	1.854	.105
2	Intercept	2.640	2.556	2.724	0.042		62.157	<.001					2.795	2.702	2.888	0.047		59.358	<.001				
	Child age	0.002	−0.033	0.036	0.018	0.007	0.100	.921					−0.009	−0.048	0.030	0.020	−0.033	−0.445	.657				
	Parent age	0.003	−0.014	0.019	0.008	0.023	0.340	.734					−0.011	−0.031	0.009	0.010	−0.080	−1.119	.265				
	Parent education	0.073	0.006	0.139	0.034	0.168	2.149	.033					0.061	−0.011	0.133	0.037	0.139	1.664	.098				
	Family income	−0.004	−0.100	0.091	0.048	−0.007	−0.089	.929					0.023	−0.084	0.130	0.054	0.036	0.430	.668				
	GIQC	0.306	0.052	0.560	0.129	0.163	2.375	.019					0.138	−0.131	0.406	0.136	0.075	1.012	.313				
	Peer relations	−0.497	−0.753	−0.240	0.130	−0.259	−3.824	<.001	.151	.125	14.621	<.001	−0.722	−1.066	−0.378	0.174	−0.292	−4.139	<.001	.132	.103	17.131	<.001
3	Intercept	2.627	2.542	2.711	0.043		61.042	<.001					2.794	2.700	2.887	0.047		59.092	<.001				
	Child age	0.002	−0.032	0.037	0.018	0.009	0.135	.893					−0.009	−0.048	0.030	0.020	−0.035	−0.466	.642				
	Parent age	0.001	−0.015	0.018	0.008	0.011	0.162	.872					−0.011	−0.031	0.009	0.010	−0.079	−1.104	.271				
	Parent education	0.072	0.006	0.139	0.034	0.167	2.147	.033					0.064	−0.010	0.138	0.037	0.145	1.706	.090				
	Family income	−0.005	−0.100	0.090	0.048	−0.008	−0.108	.914					0.020	−0.088	0.128	0.055	0.031	0.368	.713				
	GIQC	0.355	0.096	0.615	0.132	0.190	2.703	.007					0.110	−0.192	0.412	0.153	0.060	0.720	.473				
	Peer relations	−0.492	−0.747	−0.237	0.129	−0.257	−3.809	<.001					−0.732	−1.080	−0.383	0.177	−0.296	−4.144	<.001				
	GIQC × Peer relations	−0.563	−1.222	0.097	0.335	−0.114	−1.682	.094	.163	.133	2.828	.094	−0.252	−1.499	0.996	0.632	−0.032	−0.398	.691	.133	.099	0.158	.691
(c) Dependent variable: behavioral problems																							
1	Intercept	0.537	0.493	0.581	0.022		24.149	<.001					0.523	0.476	0.569	0.024		22.246	<.001				
	Child age	−0.013	−0.032	0.005	0.009	−0.107	−1.444	.150					−0.012	−0.031	0.007	0.010	−0.097	−1.251	.212				
	Parent age	−0.003	−0.012	0.006	0.004	−0.048	−0.674	.501					−0.006	−0.016	0.004	0.005	−0.091	−1.209	.228				
	Parent education	−0.007	−0.038	0.024	0.016	−0.031	−0.429	.668					−0.014	−0.045	0.017	0.016	−0.067	−0.899	.370				
	Number of Brothers	−0.059	−0.139	0.021	0.041	−0.102	−1.466	.144					−0.059	−0.147	0.028	0.044	−0.100	−1.341	.182				
	GIQC	−0.157	−0.289	−0.026	0.067	−0.167	−2.355	.020	.055	.031	2.308	.046	0.043	−0.092	0.177	0.068	0.049	0.628	.531	.040	.013	1.483	.197
2	Intercept	0.515	0.478	0.553	0.019		27.127	<.001					0.534	0.492	0.576	0.021		24.972	<.001				
	Child age	−0.024	−0.040	−0.009	0.008	−0.194	−3.065	.002					−0.021	−0.038	−0.003	0.009	−0.164	−2.304	.022				

(*table continues*)

Table 4 (*continued*)

		Boys											Girls										
Model	Independent variables	*B*	95% CI-low	95% CI-up	*SE*	β	*t*	*p*	R^2	R^2_{adj}	$\triangle F$	*p*	*B*	95% CI-low	95% CI-up	*SE*	β	*t*	*p*	R^2	R^2_{adj}	$\triangle F$	*p*
	Parent age	−0.002	−0.009	0.005	0.004	−0.031	−0.514	.608					−0.005	−0.014	0.004	0.005	−0.079	−1.163	.247				
	Parent education	−0.008	−0.035	0.018	0.013	−0.037	−0.608	.544					−0.016	−0.044	0.012	0.014	−0.074	−1.097	.274				
	Number of Brothers	−0.053	−0.121	0.015	0.034	−0.091	−1.549	.123					−0.039	−0.119	0.040	0.040	−0.066	−0.970	.333				
	GIQC	−0.060	−0.174	0.053	0.058	−0.064	−1.048	.296					0.023	−0.099	0.145	0.062	0.026	0.373	.709				
	Peer relations	0.516	0.402	0.630	0.058	0.536	8.921	< .001	.326	.305	79.586	< .001	0.500	0.344	0.656	0.079	0.425	6.320	< .001	.215	.188	39.942	< .001
3	Intercept	0.518	0.480	0.556	0.019		26.740	< .001					0.535	0.493	0.578	0.021		25.026	< .001				
	Child age	−0.024	−0.040	−0.009	0.008	−0.194	−3.068	.002					−0.020	−0.038	−0.002	0.009	−0.159	−2.234	.027				
	Parent age	−0.002	−0.009	0.006	0.004	−0.027	−0.437	.663					−0.005	−0.015	0.004	0.005	−0.081	−1.191	.235				
	Parent education	−0.008	−0.034	0.019	0.013	−0.037	−0.592	.554					−0.018	−0.046	0.010	0.014	−0.086	−1.253	.212				
	Number of Brothers	−0.051	−0.119	0.017	0.035	−0.088	−1.480	.140					−0.037	−0.117	0.042	0.040	−0.063	−0.927	.355				
	GIQC	−0.070	−0.187	0.047	0.059	−0.074	−1.177	.241					0.060	−0.077	0.197	0.069	0.069	0.870	.385				
	Peer relations	0.515	0.401	0.630	0.058	0.535	8.895	< .001					0.515	0.357	0.673	0.080	0.437	6.434	< .001				
	GIQC × Peer relations	0.105	−0.193	0.403	0.151	0.042	0.692	.490	.327	.304	0.479	.490	0.336	−0.223	0.895	0.283	0.090	1.185	.237	.221	.190	1.405	.237

Note. Boys and girls referred to birth-assigned sex. GIQC = Gender Identity Questionnaire for Children.

lower self-worth, and more problem behaviors. Peer relations did not have any moderation effect on GIQC scores in boys or girls.

The psychological well-being associations with the other measure of gender-typing, the CPBAQ, are shown in Table 2 (for correlations) and Table S5 in the online supplemental material (for regressions). Compared to the GIQC, it showed similar though fewer correlations with GV in boys, with higher GV correlating with more behavioral problems and poorer peer relations. In contrast to boys, girls' CPBAQ scores were minimally associated with psychological well-being—correlating only with externalizing problems and greater happiness in a positive direction. In the regressions, boys' CPBAQ scores only associated with problem behaviors, both before and after accounting for peer relations. Girls' CPBAQ scores only associated with more problem behaviors when peer relations was accounted for. Peer relations did not have any moderation effect on CPBAQ scores in boys or girls.

Discussion

With growing awareness of GV among children (Turban & Ehrensaft, 2018), there is pressing need for research on childhood GV and its associations with psychological well-being in understudied populations. Furthermore, there have also been calls to move beyond the overrepresentation of Western samples in developmental psychology (Nielsen et al., 2017) and to broaden the scope of GV research by studying non-clinical (van der Miesen et al., 2018), non-Western child samples. In light of this, this study provided the first systematic data on GV and psychological well-being in community Chinese children.

Within the present study, the GIQC, a common clinical tool for assessing childhood GV (Bloom et al., 2021), was applied for the first time in a non-Western sample to measure childhood GV systematically. It showed appreciable reliability and correlated with the CPBAQ, a Chinese-adapted measure of gender-typed behavior, providing initial evidence of validity to the GIQC as a measure of childhood GV in Chinese. The validity of the GIQC in the Chinese sample is further buttressed by its showing distribution patterns and correlations with other constructs consistent with hypotheses as described below. Meaningful differences between the CPBAQ and GIQC were also indicated by their modest correlation, suggesting that while both measures capture gender-typing or variance, they are not interchangeable. It is possible that the CPBAQ measures more normative, play-based gender-typed behaviors while the GIQC captures more extreme expressions of GV. This distinction may add to the value of using the GIQC as the core measure of GV.

Chinese children scored on average around "4" on the GIQC, a score previously described as "gender-conforming" (van der Miesen et al., 2018), similar to the mean observed in Western community or control-group children (Johnson et al., 2004; MacMullin et al., 2021; van der Miesen et al., 2018). The present range of the GIQC (2.64 to 4.86) included children who scored as low as gender-referred children in Europe and North America (Cohen-Kettenis et al., 2006; Johnson et al., 2004). Moreover, while on both the GIQC and CPBAQ, gender-variant behaviors were not the norm, both measures replicated findings that GV is apparent in Chinese children. For example, on both measures, most items or options reflecting GV were endorsed in some children, and on the CPBAQ, almost all children were reported to have displayed at least some gender-variant behavior.

As in prior research (Johnson et al., 2004; van der Miesen et al., 2018; Yu & Winter, 2011), girls were more gender-variant than boys, consistent with the generally lower tolerance and higher social cost of boys' gender norm violations (Leaper, 1994). Notably, the magnitude of the sex difference in GIQC scores ($d = 0.37$) was almost identical to that found among community Canadian children aged 6–12 years on the same measure ($d = 0.36$; MacMullin et al., 2021). On the CPBAQ, the percentage of children who exhibited 10 or more gender-variant behaviors was close to those reported 10 years ago in a Chinese sample (Yu & Winter, 2011). This percentage in boys was comparable to U.S. boys 30 years ago, although girls seem to exhibit more GV than their U.S. counterparts (Sandberg et al., 1993), perhaps because of increasing latitude for diverse gender expressions especially in girls and women (Zucker, 2017). These differences suggest large cross-cultural resemblances with some temporal and cultural variations in prevalence and levels of GV.

Gender-variant children are at risk of a wide range of challenges to psychological well-being, in both clinical and community samples (Egan & Perry, 2001; Steensma et al., 2014; van Beijsterveldt et al., 2006; van der Miesen et al., 2018; Wallien et al., 2010; Warren et al., 2019; Yunger et al., 2004). Studying GV in community samples provides an estimate of psychological well-being that is less confounded by the distress associated with receiving a clinical diagnosis (MacMullin et al., 2021). In our community sample, a stark contrast existed between boys and girls, whereby boys' GV on the GIQC was associated with lowered psychological well-being as reflected by more behavioral problems, poorer peer relations, and less happiness and self-worth. It is noteworthy that relative to GIQC scores, boys' CPBAQ scores were less consistently associated with psychological well-being—although when they were, the directions were similar to those of the GIQC. In this sense, the GIQC may be more sensitive to psychological well-being variations and, thus, a more useful tool for studying associations between GV and psychological well-being. In contrast to boys, in girls, psychological well-being was minimally associated with GV on both measures. These findings align with prior research reporting that GV is more reliably associated with psychological well-being in boys than girls (MacMullin et al., 2021; Steensma et al., 2014; Wallien et al., 2010; Warren et al., 2019), as well as other research showing that peer (Kwan et al., 2020; Nabbijohn et al., 2020) and adult (Coyle et al., 2016; Thomas & Blakemore, 2012) appraisals of GV in boys are more negative than that of GV in girls, likely reflecting heavier social sanction for breaking privileged masculine norms (Leaper, 1994; Martin et al., 2017). Our findings are also consistent with the speculation that the one-child policy and Confucian values of conformity and patriarchy (Yu & Winter, 2011) may have made it more socially acceptable for Chinese girls to show masculine behaviors.

Furthermore, a non-hypothesized finding in girls was that their GV on the CPBAQ correlated positively with happiness. While whether GV in girls reliably associates with certain aspects of positive psychological well-being requires further investigation, some research has suggested that GV in girls may bring benefits that perhaps compensate GV-related stresses, which is aligned with the concept of androgyny, referring to the combination of masculine and feminine traits, and the historical privilege of masculine norms (Leaper, 1994; Martin et al., 2017). For example, preferences for masculine activities may help girls gain friendships with boys due to style compatibility without necessarily harming their relations with girls (Martin et al., 2017).

These findings are also interesting when juxtaposed with findings on how others perceive child GV. First, the finding of more psychological challenges in gender-variant boys suggested that perhaps adults' greater worry about boys' GV has some basis (Coyle et al., 2016; Thomas & Blakemore, 2012). Alternatively, the reverse causal effect that adults' negative prediction of how GV affects boys leads to less favorable psychological well-being outcomes may be possible. This role of others' perceptions of GV outcomes in affecting actual outcomes is worth further exploration. Second, while both adults and children often predict more negative outcomes in gender-variant children (Coyle et al., 2016; Kwan et al., 2020; Nabbijohn et al., 2020; Thomas & Blakemore, 2012), the perception that happiness was lower in gender-variant children than in gender-conforming children was found in contemporary Canadian children (Nabbijohn et al., 2020), mixed in Canadian children in 1990s (Zucker et al., 1995), and not found in contemporary Chinese children (Kwan et al., 2020). These differences may reflect higher social visibility and awareness of GV-related challenges in contemporary Canada. While prior research provides little information to evaluate the accuracy of such perceptions, the current findings suggested that happiness is lower in boys with higher GV and that children may lack insight into the stresses that hamper happiness in their less gender-conforming peers.

In addition to investigating associations between GV and psychological well-being, we investigated the role of peer relations. Peer relations was poorer in boys with higher GV. Moreover, when both GV and peer relations were entered as independent variables, GV independently related to lower happiness and lower self-worth whereas poor peer relations independently related to lower happiness, lower self-worth, and more problem behaviors. The effect sizes further suggested that peer relations was a stronger correlate of psychological well-being than GV (see βs in Table 4 and Tables S4 and S5 in the online supplemental material). These findings are consistent with prior research showing correlations of peer relations and psychological well-being in children with GD/GV (de Vries et al., 2016; Kuvalanka et al., 2017; Steensma et al., 2014; Wong et al., 2019) and that psychological well-being associated positively with discrimination and negatively with social support in Chinese transgender adults (Lin et al., 2021).

However, our results did not align with the only recent study we know of that directly tested peer relations as a moderator in GV–well-being associations in community samples (MacMullin et al., 2021). In the current sample, while poor peer relations was an additive risk factor that generically added to the psychological challenges of children regardless of their GV, the quality of peer relations did not augment how GV related to psychological well-being. This deviation from prior research (MacMullin et al., 2021) may be attributed to Chinese–Western cultural differences (Parke et al., 2002). Within the Chinese cultural context, adult authority figures exert greater influence on children's developmental outcomes relative to peers (Chen, Chang, et al., 2003). Chinese children also show greater internalization of social expectations and less dependence on external socialization agents to conform to rules and norms (Chen, Rubin, et al., 2003). In contrast, peers are thought to act as more important socialization agents to children in Western contexts (Parke et al., 2002) and adults may comparatively bear less influence (Li et al., 2019). In other words, peer relations

contributed to Chinese children's psychological well-being, but perhaps this was insufficient to mitigate GV-related stress. It is also possible that peer relations would be a moderating factor of GV in a Chinese sample only when GV is very high, as in gender-referred children. Future research may aim to test these possibilities and also explore other possible protective factors such as parental acceptance of GV, parenting styles, and parental stress (Kolbuck et al., 2019; Kuvalanka et al., 2017; MacMullin et al., 2021; Olson et al., 2016).

While informative about GV in the community, this study has some limitations. Our study did not directly address the prevalence or psychological well-being of children referred to gender clinics or children with GD or transgender identity. Reaching a clinical sample is crucial for evaluating the GV measures as potential screening tools, addressing whether gender-referred children's psychological well-being outcomes are similar to or different from those of community samples, establishing culturally specific cutoff scores, and providing further construct validity for the GV measures—a step that is necessary before the measures can be applied clinically. An additional limitation of this community study is that we measured normal variations in psychological well-being while some prior research (e.g., van der Miesen et al., 2018) applied well-being measures that could signify a clinical diagnosis or measures with culturally appropriate clinical cutoff scores; in most cases, these clinically appropriate cutoff scores are not available outside specific Western cultures or the measures are too long or require clinical assessment. Relatedly, although we recruited from six different cities and reached participants through various channels to increase the diversity of the sample, the sample was mainly from several southern urbanized regions in China. The nonrepresentative sample limited drawing conclusions about the whole Chinese child population because there may be regional differences in culture, socialization practices, and the one-child policy. We do not know of studies of GV in community children that employed a representative sample or any study relating GV and psychological well-being in Chinese children, but future studies may expand the sample size to increase generalizability. Moreover, given that most people are gender-conforming, a much larger community sample is needed to allow for identification of a meaningful sample with transgender identity or GD.

Overall, the present research is timely considering the global increase in studies of GV, the recent increased attention to childhood GD clinical service in China, and the paucity of data on childhood GV outside Western contexts. The findings showed that levels of GV in non-clinical samples are associated with a range of psychological well-being challenges, at least in boys, and although peer relations did not protect children from psychological well-being challenges associated with GV, both GV and poor peer relations independently contributed to more challenges. Such findings underscore the need to understand GV in community children, provide broader support/care outside clinics, and offer psychoeducation regarding childhood GV to individuals in close contact with gender-variant children outside clinics (e.g., caregivers, peers; MacMullin et al., 2021; van der Miesen et al., 2018). Furthermore, the current study suggested that the GIQC has potential to be a reliable and valid measure of GV in Chinese children and is suitable for studying psychological well-being correlates. Altogether, this study represents a critical step amidst the international effort of building science and care of both clinical and community manifestations of GV.

References

Adelson, S. L. (2012). Practice parameter on gay, lesbian, or bisexual sexual orientation, gender nonconformity, and gender discordance in children and adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*, *51*(9), 957–974. https://doi.org/10.1016/j.jaac.2012.07.004

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.).

Baetens, L., & Dhondt, K. (2021). Psychosocial challenges and hormonal treatment in gender diverse children and adolescents. A narrative review. *International Journal of Impotence Research*, *33*(2), 217–227. https://doi.org/10.1038/s41443-020-0291-z

Bloom, T. M., Nguyen, T. P., Lami, F., Pace, C. C., Poulakis, Z., Telfer, M., Taylor, A., Pang, K. C., & Tollit, M. A. (2021). Measurement tools for gender identity, gender expression, and gender dysphoria in transgender and gender-diverse children and adolescents: A systematic review. *The Lancet Child & Adolescent Health*, *5*(8), 582–588. https://doi.org/10.1016/s2352-4642(21)00098-5

Chen, X., Chang, L., & He, Y. (2003). The peer group as a context: Mediating and moderating effects on relations between academic achievement and social functioning in Chinese children. *Child Development*, *74*(3), 710–727. https://doi.org/10.1111/1467-8624.00564

Chen, X., Rubin, K. H., Liu, M., Chen, H., Wang, L., Li, D., Gao, X., Cen, G., Gu, H., & Li, B. (2003). Compliance in Chinese and Canadian toddlers: A cross-cultural study. *International Journal of Behavioral Development*, *27*(5), 428–436. https://doi.org/10.1080/01650250344000046

Cheng, H., & Furnham, A. (2003). Personality, self-esteem, and demographic predictions of happiness and depression. *Personality and Individual Differences*, *34*(6), 921–942. https://doi.org/10.1016/S0191-8869(02)00078-8

Cohen-Kettenis, P. T., Wallien, M., Johnson, L. L., Owen-Anderson, A. F. H., Bradley, S. J., & Zucker, K. J. (2006). A parent-report gender identity questionnaire for children: A cross-national, cross-clinic comparative analysis. *Clinical Child Psychology and Psychiatry*, *11*(3), 397–405. https://doi.org/10.1177/1359104506059135

Coyle, E. F., Fulcher, M., & Trübutschek, D. (2016). Sissies, mama's boys, and tomboys: Is children's gender nonconformity more acceptable when nonconforming traits are positive? *Archives of Sexual Behavior*, *45*(7), 1827–1838. https://doi.org/10.1007/s10508-016-0695-5

de Vries, A. L. C., Steensma, T. D., Cohen-Kettenis, P. T., VanderLaan, D. P., & Zucker, K. J. (2016). Poor peer relations predict parent- and self-reported behavioral and emotional problems of adolescents with gender dysphoria: A cross-national, cross-clinic comparative analysis. *European Child & Adolescent Psychiatry*, *25*(6), 579–588. https://doi.org/10.1007/s00787-015-0764-7

Egan, S. K., & Perry, D. G. (2001). Gender identity: A multidimensional analysis with implications for psychosocial adjustment. *Developmental Psychology*, *37*(4), 451–463. https://doi.org/10.1037/0012-1649.37.4.451

Erhart, M., Ottova, V., Gaspar, T., Jericek, H., Schnohr, C., Alikasifoglu, M., Morgan, A., & Ravens-Sieberer, U. (2009). Measuring mental health and well-being of school-children in 15 European countries using the KIDSCREEN-10 Index. *International Journal of Public Health*, *54*(S2), 160–166. https://doi.org/10.1007/s00038-009-5407-7

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*(2), 175–191. https://doi.org/10.3758/BF03193146

Ferro, M. A., Otto, C., & Ravens-Sieberer, U. (2022). Measuring health-related quality of life in young children with physical illness: Psychometric properties of the parent-reported KIDSCREEN-27. *Quality of Life Research*, *31*(5), 1509–1520. https://doi.org/10.1007/s11136-021-03054-2

Guttmannova, K., Szanyi, J. M., & Cali, P. W. (2008). Internalizing and externalizing behavior problem scores. *Educational and Psychological Measurement*, *68*(4), 676–694. https://doi.org/10.1177/0013164407310127

Harter, S. (1982). The perceived competence scale for children. *Child Development*, *53*(1), 87–97. https://doi.org/10.2307/1129640

Huberty, C. J., & Morris, J. D. (1989). Multivariate analysis versus multiple univariate analyses. *Psychological Bulletin*, *105*(2), 302–308. https://doi.org/10.1037/0033-2909.105.2.302

Johnson, L. L., Bradley, S. J., Birkenfeld-Adams, A. S., Kuksis, M. A. R., Maing, D. M., Mitchell, J. N., & Zucker, K. J. (2004). A parent-report gender identity questionnaire for children. *Archives of Sexual Behavior*, *33*(2), 105–116. https://doi.org/10.1023/B:ASEB.0000014325.68094.f3

Kolbuck, V. D., Muldoon, A. L., Rychlik, K., Hidalgo, M. A., & Chen, D. (2019). Psychological functioning, parenting stress, and parental support among clinic-referred prepubertal gender-expansive children. *Clinical Practice in Pediatric Psychology*, *7*(3), 254–266. https://doi.org/10.1037/cpp0000293

Kuvalanka, K. A., Weiner, J. L., Munroe, C., Goldberg, A. E., & Gardner, M. (2017). Trans and gender-nonconforming children and their caregivers: Gender presentations, peer relations, and well-being at baseline. *Journal of Family Psychology*, *31*(7), 889–899. https://doi.org/10.1037/fam0000338

Kwan, K. M. W., Shi, S. Y., Nabbijohn, A. N., MacMullin, L. N., VanderLaan, D. P., & Wong, W. I. (2020). Children's appraisals of gender nonconformity: Developmental pattern and intervention. *Child Development*, *91*(4), e780–e798. https://doi.org/10.1111/cdev.13316

Ladd, G. W., Herald-Brown, S. L., & Andrews, R. K. (2009). The Child Behavior Scale (CBS) revisited: A longitudinal evaluation of CBS subscales with children, preadolescents, and adolescents. *Psychological Assessment*, *21*(3), 325–339. https://doi.org/10.1037/a0016205

Ladd, G. W., & Profilet, S. M. (1996). The Child Behavior Scale: A teacher-report measure of young children's aggressive, withdrawn, and prosocial behaviors. *Developmental Psychology*, *32*(6), 1008–1024. https://doi.org/10.1037/0012-1649.32.6.1008

Leaper, C. (1994). Exploring the consequences of gender segregation on social relationships. *New Directions for Child and Adolescent Development*, *1994*(65), 67–86. https://doi.org/10.1002/cd.23219946507

Li, P. H., Harris, P. L., & Koenig, M. A. (2019). The role of testimony in children's moral decision making: Evidence from China and United States. *Developmental Psychology*, *55*(12), 2603–2615. https://doi.org/10.1037/dev0000839

Lin, Y., Xie, H., Huang, Z., Zhang, Q., Wilson, A., Hou, J., Zhao, X., Wang, Y., Pan, B., Liu, Y., Han, M., & Chen, R. (2021). The mental health of transgender and gender non-conforming people in China: A systematic review. *The Lancet Public Health*, *6*(12), e954–e969. https://doi.org/10.1016/S2468-2667(21)00236-X

MacMullin, L. N., Bokeloh, L. M., Nabbijohn, A. N., Santarossa, A., van der Miesen, A. I. R., Peragine, D. E., & VanderLaan, D. P. (2021). Examining the relation between gender nonconformity and psychological well-being in children: The roles of peers and parents. *Archives of Sexual Behavior*, *50*(3), 823–841. https://doi.org/10.1007/s10508-020-01832-6

Martin, C. L., Andrews, N. C. Z., England, D. E., Zosuls, K., & Ruble, D. N. (2017). A dual identity approach for conceptualizing and measuring children's gender identity. *Child Development*, *88*(1), 167–182. https://doi.org/10.1111/cdev.12568

Medvedev, O. N., & Landhuis, C. E. (2018). Exploring constructs of well-being, happiness and quality of life. *PeerJ*, *6*, Article e4903. https://doi.org/10.7717/peerj.4903

Nabbijohn, A. N., MacMullin, L. N., Kwan, K. M. W., Santarossa, A., Peragine, D. E., Wong, W. I., & VanderLaan, D. P. (2020). Children's bias in appraisals of gender-variant peers. *Journal of Experimental Child Psychology*, *196*, Article 104865. https://doi.org/10.1016/j.jecp.2020.104865

Nagai, Y., Nomura, K., Nagata, M., Kaneko, T., & Uemura, O. (2018). Children's perceived competence scale: Reevaluation in a population of Japanese elementary and junior high school students. *Child and Adolescent Psychiatry and Mental Health*, *12*(1). https://doi.org/https://doi.org/10.1186/s13034-018-0241-4

Nielsen, M., Haun, D., Kärtner, J., & Legare, C. H. (2017). The persistent sampling bias in developmental psychology: A call to action. *Journal of Experimental Child Psychology*, *162*, 31–38. https://doi.org/10.1016/j.jecp.2017.04.017

Olson, K. R., Durwood, L., DeMeules, M., & McLaughlin, K. A. (2016). Mental health of transgender children who are supported in their identities. *Pediatrics*, *137*(3), Article e20153223. https://doi.org/10.1542/peds.2015-3223

Parke, R., Simpkins, S., & McDowell, D. (2002). Relative contributions of families and peers to children's social development. In P. Smith & C. Hart (Eds.), *Blackwell handbook of childhood social development* (pp. 156–177). Blackwell Publishers.

Ravens-Sieberer, U., & Bullinger, M. (1998). Assessing health-related quality of life in chronically ill children with the German KINDL: First psychometric and content analytical results. *Quality of Life Research*, *7*(5), 399–407. https://doi.org/10.1023/A:1008853819715

Ravens-Sieberer, U., & Bullinger, M. (2000). *KINDL(R) Questionnaire for measuring health-related quality of life in children and adolescents* (revised version). Manual. Retrieved from https://www.kindl.org/english/manual/

Sandberg, D. E., & Meyer-Bahlburg, H. F. L. (1994). Variability in middle childhood play behavior: Effects of gender, age, and family background. *Archives of Sexual Behavior*, *23*(6), 645–663. https://doi.org/10.1007/BF01541817

Sandberg, D. E., Meyer-Bahlburg, H. F. L., Ehrhardt, A. A., & Yager, T. J. (1993). The prevalence of gender-atypical behavior in elementary school children. *Journal of the American Academy of Child & Adolescent Psychiatry*, *32*(2), 306–314. https://doi.org/10.1097/00004583-199303000-00010

Steensma, T. D., Zucker, K. J., Kreukels, B. P. C., VanderLaan, D. P., Wood, H., Fuentes, A., & Cohen-Kettenis, P. T. (2014). Behavioral and emotional problems on the teacher's report form: A cross-national, cross-clinic comparative analysis of gender dysphoric children and adolescents. *Journal of Abnormal Child Psychology*, *42*(4), 635–647. https://doi.org/10.1007/s10802-013-9804-2

Thomas, R. N., & Blakemore, J. E. O. (2012). Adults' attitudes about gender nonconformity in childhood. *Archives of Sexual Behavior*, *42*(3), 399–412. https://doi.org/10.1007/s10508-012-0023-7

Turban, J. L., de Vries, A. L. C., Zucker, K. J., & Shadianloo, S. (2018). Transgender and gender non-conforming youth. In J. M. Rey (Ed.), *IACAPAP e-textbook of child and adolescent mental health* (pp. 1–28). International Association for Child and Adolescent Psychiatry and Allied Professions.

Turban, J. L., & Ehrensaft, D. (2018). Research review: Gender identity in youth: Treatment paradigms and controversies. *Journal of Child Psychology and Psychiatry*, *59*(12), 1228–1243. https://doi.org/10.1111/jcpp.12833

van Beijsterveldt, C. E. M., Hudziak, J. J., & Boomsma, D. I. (2006). Genetic and environmental influences on cross-gender behavior and relation to behavior problems: A study of Dutch twins at ages 7 and 10 years. *Archives of Sexual Behavior*, *35*(6), 647–658. https://doi.org/10.1007/s10508-006-9072-0

van der Miesen, A. I. R., Nabbijohn, A. N., Santarossa, A., & VanderLaan, D. P. (2018). Behavioral and emotional problems in gender-nonconforming children: A Canadian community-based study. *Journal of the American Academy of Child & Adolescent Psychiatry*, *57*(7), 491–499. https://doi.org/10.1016/j.jaac.2018.03.015

Wallien, M. S. C., Veenstra, R., Kreukels, B. P. C., & Cohen-Kettenis, P. T. (2010). Peer group status of gender dysphoric children: A sociometric study. *Archives of Sexual Behavior*, *39*(2), 553–560. https://doi.org/10.1007/s10508-009-9517-3

Wang, Y., Qian, M., Nabbijohn, A. N., Wen, F., Fu, G., Zuo, B., & VanderLaan, D. P. (2022). Culture influences the development of children's gender-related peer preferences: Evidence from China and Thailand. *Developmental Science*, *25*(4), Article e13221. https://doi.org/10.1111/desc.13221

Warren, A., Goldsmith, K. A., & Rimes, K. A. (2019). Childhood gender-typed behavior and emotional or peer problems: A prospective birth-cohort study. *Journal of Child Psychology and Psychiatry*, *60*(8), 888–896. https://doi.org/10.1111/jcpp.13051

Wong, W. I., van der Miesen, A. I. R., Li, T. G. F., MacMullin, L. N., & VanderLaan, D. P. (2019). Childhood social gender transition and psychosocial well-being: A comparison to cisgender gender-variant children. *Clinical Practice in Pediatric Psychology*, *7*(3), 241–253. https://doi.org/10.1037/cpp0000295

Yu, L., & Winter, S. (2011). Gender atypical behavior in Chinese school-aged children: Its prevalence and relation to sex, age, and only child status. *Journal of Sex Research*, *48*(4), 334–348. https://doi.org/10.1080/00224491003774867

Yu, L., Winter, S., & Xie, D. (2010). The Child Play Behavior and Activity Questionnaire: A parent-report measure of childhood gender-related behavior in China. *Archives of Sexual Behavior*, *39*(3), 807–815. https://doi.org/10.1007/s10508-008-9403-4

Yunger, J. L., Carver, P. R., & Perry, D. G. (2004). Does gender identity influence children's psychological well-being? *Developmental Psychology*, *40*(4), 572–582. https://doi.org/10.1037/0012-1649.40.4.572

Zhang, Q., Goodman, M., Adams, N., Corneil, T., Hashemi, L., Kreukels, B., Motmans, J., Snyder, R., & Coleman, E. (2020). Epidemiological considerations in transgender health: A systematic review with focus on higher quality data. *International Journal of Transgender Health*, *21*(2), 125–137. https://doi.org/10.1080/26895269.2020.1753136

Zill, N., & Peterson, J. (1986). *Behavior problems index*. Child Trends.

Zucker, K. J. (2017). Epidemiology of gender dysphoria and transgender identity. *Sexual Health*, *14*(5), 404–411. https://doi.org/10.1071/SH17067

Zucker, K. J., Wilson-Smith, D. N., Kurita, J. A., & Stern, A. (1995). Children's appraisals of sex-typed behavior in their peers. *Sex Roles*, *33*(11–12), 703–725. https://doi.org/10.1007/BF01544775

Zucker, K. J., Wood, H., & VanderLaan, D. P. (2014). Models of psychopathology in children and adolescents with gender dysphoria. In B. Kreukels, T. Steensma, & A. de Vries (Eds.), *Gender dysphoria and disorders of sex development* (pp. 171–192). Springer.

Received July 13, 2022
Revision received January 5, 2023
Accepted January 5, 2023 ■