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Factor Structure of the Gender Role Conflict Scale-Short Form in Chinese Heterosexual and Gay Samples

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Abstract

The current study examined the validity of Gender Role Conflict Scale-Short Form (GRCS-SF) among a sample of 256 Chinese heterosexual men and 250 Chinese gay men. Confirmatory factor analysis (CFA) supported the conclusion that a Chinese translated version of the GRCS-SF had acceptable structural validity. Specifically, the four-factor solution (i.e., Success, Power, Competition; Restricted Emotionality; Restricted Affectionate Behavior Between Men; Conflict Between Work and Family Relations) was confirmed with all items loading on their respective factors. Furthermore, the four-factor solution provided a better fit than either a single factor or a four-factor solution with a higher-order single factor. Cronbach's α reliabilities reached the acceptable criterion in both samples for the overall score as well as for the subscale scores. Measurement invariance also suggested that the GRCS-SF has a similar structure between heterosexual and gay Chinese men.

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Keywords

gender role conflict; Chinese men; measurement invariance; gay men; heterosexual men

Because of increasing globalization, Western and Chinese cultures are becoming more intertwined. Therefore, Chinese men may also be constricted by the traditional Western masculine gender role norms. At the same time, because of the cultural demands unique to Chinese heritage, there may be additional gender-related factors specifically faced by Chinese men. Chinese culture values harmony and a balance of behavioral options (Louie, 2002) whereas Western culture socializes boys into a much more unidimensional masculinity (e.g., O'Neil, 2011; Wester & Vogel, 2012). The construct of male gender role conflict (GRC; e.g., O'Neil, Helms, Gable, David, & Wrightsman, 1986) might be uniquely poised to understand such tension (O'Neil, 2008), but it has been generally overlooked in Chinese psychological research. Previous studies suggest that GRC is applicable to the experiences of Chinese men (e.g., Liu & Iwamoto, 2006; Wester, Kuo, & Vogel, 2006; Xu, 2009). However, the participants in these studies were Chinese-American, Chinese-Canadian, and Chinese high-school students, respectively. To date, we are unaware of any published studies that have explored GRC among native Chinese adult men.

To conduct such an investigation, one must first have culturally valid measurement tools. Without such tools, it is unknown how applicable the results of any particular cross-cultural study would be because the results could be due to either the constructs of interest or measurement error that is based on changes in the psychometric properties. For example, in the *Wiley Handbook of Counseling Psychology*, Miller and Sheu (2008) suggested that researchers must examine measures using diverse samples of participants to determine which aspects of the measures have universal utility. In response, Wester, Vogel, O'Neil, and Danforth (2012) developed a short form of the Gender Role Conflict Scale (GRCS; i.e., GRCS-SF) on several diverse samples of male participants. Building on this, in the current study we examined the psychometric properties of the GRCS-SF in Chinese heterosexual and gay populations. We conducted confirmatory factor analysis (CFA) to test the factor structure as well as a measurement invariance (MI) analysis to examine the measurement equivalence (configural invariance, metric invariance, and scalar invariance) to confirm the cross-cultural utility of this measure (e.g., Miller & Sheu, 2008).

Method

Participants

Participants included 256 Chinese heterosexual men and 250 Chinese gay adult men. Participants indicated their sexual orientation by responding to an adaptation of the Kinsey Scale of Sexual Orientation (Kinsey, Pomeroy, Martin, & Gebhard, 1953). Participants rated their present sexual orientation on a 7-point scale ranging from 0 (*exclusively heterosexual*) to 6 (*exclusively gay*). Heterosexual participants were included in the analyses if they scored a 0 or a 1, and gay participants were included in the analyses if they scored a 5 or a 6. This method for coding sexual orientation is commonly used by researchers (e.g., Blashill & Vander Wal, 2009). In the heterosexual sample, the average age was 23.96 years ($SD = 4.61$;

range = 18–42). In the sample of gay men, the average age was 23.98 years ($SD = 5.00$; range = 18–39).

Measures

Back translation and assessment of equivalence—Because no existing translations of the GRCS-SF into Chinese were available at the time of this research, it was translated into Chinese by the first author. Following the standard steps for translating measures into other languages, the appropriateness of this translation was evaluated by six master’s level students in personality assessment. Next, the Chinese version was back-translated into English by a faculty member in the English Department at Southwest University in Chongqing, China. The back-translated version was compared with the original English versions. Any problematic items were discussed until consensus was achieved.

GRC—Each participant completed the GRCS-SF, a measure of negative outcomes from experiencing restricted gender roles (O’Neil, 2008, O’Neil et al., 1986; Wester & Vogel, 2012). The GRCS-SF was developed from the items of the GRCS, which is the most used tool to measure GRC (O’Neil et al., 1986). The questionnaire requires respondents to rate their agreement with items on a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). The GRCS-SF contains 16 items that make up four subscales: Success, Power, and Competition (SPC); Restrictive Emotionality (RE); Restrictive Affectionate Behavior Between Men (RABBM); and Conflict Between Work and Family Relations (CBWFR). Higher scores indicate greater endorsement of restrictive masculine gender roles and conflict as a result. For this sample, the α coefficients of the overall GRCS-SF score were .84 (heterosexual participants) and .82 (gay participants). For the subscales, all α coefficients provided acceptable reliability estimates across both samples (from .72 to .79).

Procedure

Data collection for this study occurred as part of a larger research project. To collect a sample of heterosexual and gay men who were diverse across age and education status, we used an online data-collection service. We advertised for participants in two separate stages. First, we recruited participants on various gay-related Internet-based discussion boards. Second, we advertised the study on several more general Internet-based discussion boards (i.e., QQ groups, weibo.com). After reading the recruitment statement, participants completed the survey if they wished to participate. No compensation for participating in the study was provided. Through this method, 250 gay and 256 heterosexual participants met our criteria.

Results

Test of Competing Models

CFA was conducted on the GRCS-SF scores for the heterosexual and gay samples using Mplus (version 6.11; Muthén & Muthén, 1998–2010). Three competing models were tested: (a) a four-factor model based on the results from O’Neil et al. (1986) and Wester and Vogel (2012); (b) a comparison one-factor model that included all 16 of the GRCS-SF items; and (c) a second-order factor model to best determine whether the four first-order factors would

load in a single higher-order factor. Factor loadings of the GRCS-SF items on the final model are listed in Table 1.

Our evaluation of model acceptability was based on several fit indices: the comparative fit index (CFI), the Tucker Lewis index (TLI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). For the CFI and TLI, values greater than .90 indicate acceptable fit for CFA analyses (Bentler, 1990; Quintana & Maxwell, 1999; Weston & Gore, 2006). For the RMSEA and SRMR, values of .06 and .08 or below indicate good fit of the model, respectively (Hu & Bentler, 1999).

Table 2 presents the fit indices for the competing models of the 16-item GRCS-SF in the heterosexual and gay samples. In both samples, the one-factor model was rejected because it failed to meet the recommended cutoff values. The four-factor model and second-order factor model reached appropriate levels of fit. However, the χ^2 difference test indicated that the difference in fit between the four-factor and second-order models was statistically significant (heterosexual participants: $S-B\chi^2 = 7.01$, $df = 2$, $p = .03$; gay participants: $S-B\chi^2 = 20.73$, $df = 2$, $p < .001$). This means that the published four-factor structure of the GRCS-SF (Wester & Vogel, 2012) was confirmed in samples of Chinese heterosexual and Chinese gay men.

MI

We used the robust maximum likelihood estimation in Mplus 6.11 to assess for MI across the samples. Three most frequently assessed forms of MI were examined (configural invariance, metric invariance, and scalar invariance) using multiple-group CFA (Miller & Sheu, 2008). We used two approaches to compare MI models. First, the corrected scaled difference test developed by Satorra and Bentler (2001) was used to compare nested models. However, it has been suggested that changes in CFI criteria (i.e., $CFI > .01$; see Cheung & Rensvold, 2002) best reflect across-group invariance given that such changes are less vulnerable to variations in number of items or sample size than χ^2 changes (see also Chen, 2007).

Configural invariance was the first step in the analysis process. Configural invariance is present to examine whether the overall pattern of factor loadings are similar across different samples. Table 3 presents the results of model fit and model comparisons. The results showed an acceptable fit to the data and support the configural invariance, suggesting the overall construct provided an acceptable fit to the samples. Next, to examine the metric invariance, we compared a fully invariant model, in which each model factor path was set to be equal across the two groups, to the previous configural model, in which all of the paths were allowed to freely estimate across the different groups. Metric invariance is present when the specific factor loadings are similar across groups. The results showed that the heterosexual was fully invariant with the gay Chinese sample ($S-B\chi^2 = 9.16$, $df = 12$, $p = .69$; $CFI < .01$).

The third step was to examine if scalar invariance was supported. We compared a fully invariant model, in which each item intercept (full invariance) was set to be equal across models, to the previous nested metric models. Scalar invariance is present when a sufficient

number of item intercepts are similar across groups. Steenkamp and Baumgartner (1998) have suggested that at least two invariant items per factor (i.e., partial invariance) are needed for meaningful mean comparisons to be made. The results showed that the full metric invariance was not supported ($CFI > .01$ and $S-B\chi^2 = 193.73$, $df = 12$, $p < .001$). To examine if partial metric variance was supported, we relaxed the constraints in the models in which the modification indices (MIs) and expected parameter changes (EPCs) were substantial in a sequential fashion (see MacCallum, Roznowski, & Necowitz, 1992). This led to a freeing of five paths (Items 1, 4, 8, 10, and 16). At this point, the χ^2 difference test did not support partial scalar invariance ($S-B\chi^2 = 13.79$, $df = 2$, $p = .001$); however, the CFI was .006 (less than the criterion .01), with 11 of the 16 items being invariant across groups.

Discussion

This was the first known study to investigate the GRCS-SF in a sample of Chinese men. Our findings support the stability of the GRCS-SF construct as experienced by Chinese men and add to the growing body of research documenting the critical importance of GRC in diverse populations (e.g., Lease, Ciftci, Demir, & Boyraz, 2009; Szymanski & Carr, 2008; Wester, Pionke, & Vogel, 2005). As a short form of the GRCS, the GRCS-SF was demonstrated to be reliable and valid in a diverse sample (Wester & Vogel, 2012). As such, more confidence can now be placed in the use of the GRCS-SF with Chinese men. These findings add to the literature that supported GRC as a universal construct across men of diverse cultures and sexual orientations.

GRC has become a construct critical to understanding how restrictive gender roles affect men from diverse backgrounds. Chinese men seem to be facing a difficult convergence of gender-related situations that makes them vulnerable to distress stemming from male GRC. Chinese culture represents life as a balance of behavioral options available to people navigating their lives (e.g., Louie, 2002). For example, the Chinese philosophy of Zhouyi depicts the universe as a mixture of these two vital energies: yin and yang. Yin is feminine whereas yang is masculine. For Chinese men in particular, yin and yang should exist together in harmony, balancing each other and enabling a diverse range of behavioral choices in response to changing situational demands.

This is in direct contrast to Western culture, which socializes boys into a masculinity characterized by yang in general and, most specifically, the avoidance of any behaviors traditionally associated with Western femininity—the yin side of the equation. To wit, for Chinese men growing up in a culture of origin that values a masculinity defined by a wider range of behaviors and ideals than Western culture, coupled with increasing interactions with (and evaluation by) that same Western culture, means that skills valued in one situation are not valued in another (e.g., Wester, 2008). Indeed, if a Chinese man was to choose their culture of origin, then that might be interpreted by some as effeminate and less than manly, leading to negative consequences. Conversely, if they were to choose the Western ideal, then that might be seen as a rejection of their culture, and conflict might result (e.g., Wester & Vogel, 2012).

At the same time, the results of this study suggest that there are issues stemming from the intersection of sexual orientation and Chinese culture that need to be more fully explored. For example, the metric invariance indicated that all items of the GRCS-SF were invariant, suggesting that the GRCS-SF assesses a universal construct that can be meaningfully measured in heterosexual and gay Chinese men. However, the scalar invariance, although generally showing sufficient invariance for meaningful cross-group comparisons to be made, still showed that five items exhibited variance in terms of their intercepts (Items 1, 4, 8, 10, and 16). The content of these items most closely aligns with the concept of yin and should be further examined from this cultural perspective. For example, Chinese society has long held negative attitudes toward homosexuality, but homosexual behaviors might be acceptable provided they do not interfere with a man's fulfillment of family responsibilities (e.g., He, 2012; Hwang, 2001). Failing to fulfill these duties (e.g., in the form of not fathering children) represents a stronger cultural violation than gay behaviors (Kou, 2002; Kumashiro, 1999; Neilands, Steward, & Choi, 2008). Furthermore, compared with the overtly public and intensive debate on gay issues in Western society, Chinese society has historically kept this material out of the public square (Zhang, 2011) as long as gay men fulfilled other more salient (i.e., family) aspects of the gender role. Therefore, Chinese gay men may have responded differently to certain items, suggesting further investigation may be warranted.

Limitations

First, the sample was one of convenience, recruited online, which may have produced a much younger sample because of their familiarity with technology. Thus, the results may not generalize Chinese heterosexual and gay men who lack Internet access or those who do not frequent such websites. This may also contribute to the second limitation: These participants who have Internet access and frequent the Web may experience more exposure to Western culture. Third, for the purpose of this study, only present self-identification of sexual orientation was assessed. Although the Kinsey Scale of Sexual Orientation has gained widespread use, there are some potential shortcomings (e.g., overattention to overt sexual experiences and the polarizing of heterosexuality and homosexuality as opposites on a bipolar continuum; Moradi, Mohr, Worthington, & Fassinger, 2009).

Conclusion

China is a populous nation with a culture that is deeply rooted in its traditional values and rapidly evolving. With the applicability of the GRCS-SF, more studies can now be conducted among Chinese men. Furthermore, it should not be assumed that GRC is the only way in which tensions among Chinese masculinities can be operationalized; much more research is needed, especially as the cultures continue to interact.

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Table 1

Items and Loadings of the GRCS-SF Subscales

	Loading	
	Heterosexual	Gay
RABBM		
(1) Affection with other men makes me tense.	.75	.64
(4) Men who touch other men make me uncomfortable.	.63	.70
(7) Hugging other men is difficult for me.	.63	.60
(13) Being very personal with other men makes me feel uncomfortable.	.59	.63
RE		
(2) Talking (about my feelings) during sexual relations is difficult for me.	.69	.66
(3) I have difficulty expressing my emotional needs to my partner.	.76	.62
(6) I have difficulty expressing my tender feelings.	.51	.69
(11) I do not like to show my emotions to other people.	.62	.66
CBWFR		
(5) Finding time to relax is difficult for me.	.67	.51
(9) My needs to work or study keep me from my family or leisure more than I would like.	.69	.68
(12) My work or school often disrupts other parts of my life (home, health, leisure, etc).	.72	.64
(15) Overwork and stress, caused by a need to achieve on the job or in school, affects/hurts my life.	.54	.69
SPC		
(8) Winning is a measure of my value and personal worth.	.68	.61
(10) I strive to be more successful than others.	.67	.65
(14) Being smarter or physically stronger than other men is important to me.	.71	.74
(16) I like to feel superior to other people.	.72	.77

Note. *n* for heterosexual sample = 256; *n* for gay sample = 250.

Table 2
 Summary of χ^2 and Fit Indices for the Competing Models of the 16-Item GRCS-SF

Model	S-B χ^2	df	CFI	TLI	SRMR	RMSEA
Heterosexual						
One factor	478.479	104	.639	.583	.102	.119 (CI: .108, .129)
Four factor	155.783	98	.944	.932	.053	.048 (CI: .033, .062)
Second-order factor	162.343	100	.940	.928	.057	.049 (CI: .035, .063)
Gay						
One factor	516.219	104	.557	.488	.115	.126 (CI: .115, .137)
Four factor	145.091	98	.949	.938	.051	.044 (CI: .028, .058)
Second-order factor	164.414	100	.931	.917	.069	.051 (CI: .036, .064)

Note. n for heterosexual sample = 256; n for gay sample = 250. CI = 90% confidence interval.

Table 3
Metric Invariance Comparison of the GRCS-SF Between Heterosexual and Gay Chinese Samples

	S-B χ^2	df	CFI	TLI	SRMR	RMSEA	CFI	χ^2	Model Comparison
Configural	301.099	196	0.947	0.935	0.052	0.046			
Metric									
Full	311.438	208	0.947	0.939	0.055	0.044	0.000	9.16	Configural
Scalar invariance									
Full	479.031	220	0.868	0.856	0.071	0.068	0.079	193.73***	Metric
Partial	325.229	210	0.941	0.933	0.055	0.047	0.006	13.79**	Metric

Note. S-B χ^2 = Satorra-Bentler χ^2 .

**
 $p < .01$.

 $p < .001$.