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## The Initial Validation of the Contemporary Chinese Masculinity Inventory

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The Initial Validation of the Contemporary Chinese Masculinity Inventory

by

Ge Song

Presented to the Graduate and Research Committee

of Lehigh University

in Candidacy for the Degree of

Doctor of Philosophy

in

Counseling Psychology

Lehigh University

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Approved and recommended for acceptance as a dissertation in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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## Abstract

Masculinity is defined as “cultural belief systems about masculinity and male gender, rooted in the structural relationships between the two sexes” (Pleck, 1995, p. 19). Contemporary Chinese masculinities are influenced by Taoism that supports androgynous gender roles, Confucianism that promotes male dominance and familial responsibilities, *wen* masculinities that stress men’s societal responsibilities, and the socio-cultural changes taking place in China since the 19<sup>th</sup> century (Hirschman & Teerawichichainan, 2003). The current studies describe the development and validation of the Contemporary Chinese Masculinity Inventory (CCMI). In study one, five factors emerged in Exploratory Factor Analysis with 338 Chinese men. The factors are: Responsible and Upright, Big-Hearted, Egalitarian, Leadership, and Dominance. In study two, the five-factor structure was confirmed by Confirmatory Factor Analysis ( $\chi^2(395, N = 228) = 652.57, p < .001, RMSEA = .054, SRMR = .075, CFI = .87.$ ) with another 228 Chinese men. In study three, the CCMI demonstrated acceptable one-month test-retest reliability with 38 Chinese men. In addition, the CCMI demonstrated strong criterion-related validity and convergent-related validity through significant correlations with scores on measures of depression, aggression, generosity, male dominance, and the subscales of CCMI. Limitations and contributions of the current studies were discussed.

## **Chapter I**

### **Introduction**

Over the past two decades, counseling psychologists have taken leadership in addressing international issues by engaging in cross-national collaboration and conducting research or practicing counseling globally (Heppner, Leong, & Chiao, 2008). However, a major challenge facing the internationalization of counseling psychology is the risk of imposing Western values in other countries (e.g., Heppner et al., 2008; Northworthy, 2005). Theories developed based on Western values are likely to miss nuanced elements when applied to another culture or nation (Heppner et al., 2008). Administering a Western-based instrument to participants from a non-Western nation is an example of imposing values in other cultures. Even with rigorous translation, back translation, and high reliability, the underlying cultural assumptions of these instruments may omit components of a construct that are essential to a different cultural group (Heppner et al., 2008). The current study contributes to the internationalization of counseling psychology and masculinity by studying masculinity ideologies that are specific to the Chinese culture. Specifically, this study sought to develop an instrument to study Chinese masculinity ideologies.

#### **Masculinity: A Cross-Cultural Critique**

Masculinity is defined as “cultural belief systems about masculinity and male gender, rooted in the structural relationships between the two sexes” (Pleck, 1995, p. 19). In the current study, masculinities and masculinity ideologies were used interchangeably to refer to the culturally-bound beliefs and expectations of the male gender. Masculine gender norms on the other hand, is the prescription of societal and cultural beliefs about masculinity and male gender

(Rossi, 1993). Specifically, masculine gender norms are attitudes and behaviors (Rossi, 1993).

The dominant form of masculinity ideologies in the United States promote the power and authority of White heterosexual cisgender middle-class men and subordinate the social position of women and other forms of masculinities (Connell, 1995). Desired hegemonic masculinity qualities include dominance, self-reliance, power over women, restrictive emotionality, seeking violence and adventure, having an active sex life and seeking non-committed sexual relationships, avoidance of femininity, and negativity towards sexual minorities (e.g., Levant, Hall, & Rankin, 2013; Mahalik et al., 2003; Parent & Moradi, 2009).

Hegemonic masculinities are studied largely from a social constructionist perspective, which suggests that individuals actively construct specific meanings of masculinities in their socio-cultural contexts (Courtenay, 2000). Addis and Cohane (2005) also suggest that how one engages in their masculinities will shift depending on their age and social contexts. Given that masculinity ideologies vary across age and socio-cultural context, scholars have moved toward use of the more inclusive term of masculinity ideologies over masculinity. Despite the shift to a more inclusive terminology, most research on masculinities has primarily been based in the US or Europe and on White and heterosexual men (Shek, 2006; Song & Liang, in press). Without fully understanding alternative forms of masculinities, psychologists run the risk of imposing values and beliefs of the heteronormative White middle class to other cultural groups.

### **Masculinity Ideologies in Mainland China**

With almost 52% of mainland China's 1.38 billion population being male, mainland Chinese men make up close to one fifth of the world's male population (Department of Economic and Social Affairs, 2015). Understanding the masculine norms to which these men are

expected to conform is critical. Chinese masculinities are complex. Influenced by Confucian values, traditional Chinese masculinities emphasize men's dominance over women and men's familial responsibilities (Levant, Wu, & Fischer, 1996). On the other hand, according to Taoism, men are supposed to have both feminine and masculinity qualities (Edwards & Louie, 1994). In addition, *wen* masculinities expect men to demonstrate inner strengths and *wu* masculinities emphasize physical and military power (Louie, 2012). The socio-cultural changes taking place in China since the 19<sup>th</sup> century have challenged male dominance (Hirschman & Teerawichichainan, 2003). As a result, in contemporary China, expectations for men to take on domestic responsibilities and be gentle and caring with their family co-exist with male dominance (Song & Hird, 2013). Contemporary Chinese masculinities also vary across social contexts. At work, the emphasis is on men's ability to be a leader and make good money; in the social context, a well-behaved gentleman is popular; with male friends, *yiqi* (loyalty) is required; in the family context, men are expected to demonstrate more emotions and gentleness.

However, three of the six published studies that quantitatively examined mainland Chinese masculinities used Western-based masculinity instruments. Levant et al. (1996) and Wu, Levant, Seller (2001) conducted studies that examined Chinese masculinities using the Male Role Norm Inventory (MRNI; Levant & Fischer, 1996). Levant et al. and Wu et al. found that Chinese college students ( $N = 394$ ) endorsed traditional masculine norms that emphasize male dominance. Another quantitative study exploring important masculine traits in Asia using Men's Attitudes to Life Events and Sexuality (Rosen et al., 2004) included 2055 Chinese community adults (Ng et al., 2008). Having a lot of money, having a good job, being seen as a man of honor, being in control of your own life, and being a family man were identified as the top five

masculine traits by Chinese participants (Ng et al., 2008). A major limitation to the three studies is their use of quantitative masculinity instruments that were developed using predominantly White samples. Although Ng et al. conducted focus groups to explore the validity of masculinity attributes identified in the Men's Attitudes to Life Events and Sexuality instrument, no participants from mainland China were included in these focus groups. Therefore, *wen* masculinities, the expectation for men to be gentle and caring, and men's willingness to have an egalitarian relationship with women were not captured in these three studies due to this limitation in their methodology.

Quantitative instruments have been developed to examine Chinese college students' perception and endorsement of masculinities and femininities. In one study, Qian, Zhang, Luo, and Zhang (2000) developed the 100-item Chinese College Student Sex Role Inventory (CCSSRI) by having college students identify adjectives that reflect masculinities and femininities. In the second study, Wang and Zhang (2005) created a pool of 118 adjectives that describe masculinities and femininities using a similar approach. In the third study, Liu et al., (2011) created a short version of CCSSRI. All three studies identified masculinity traits that reflect *wen* masculinities. However, these studies explored only masculine traits and did not capture how these masculinities reflect in behaviors or vary based on social context.

The lack of research on Chinese masculinity may be a function of the lack of culturally valid instrumentation. This current study aims to bridge the gap in research on masculinity by developing and validating a quantitative instrument that captures Chinese masculinity ideologies endorsed by middle-class adult men between 18 to 40 years old. In the present study, the development of the Contemporary Chinese Masculinity Inventory was described and its

psychometric properties (i.e., factor structure, reliability, and validity) were examined with a sample of adult citizens from mainland China.

It was hypothesized that exploratory factor analysis (EFA) of the new instrument would yield seven factors based on Song and Liang (in press)'s qualitative study: (a) Dominant and Brave, (b) Rational and Calm, (c) Caring, (d) Respectful and Non-Violent, (e) Responsible, (f) Honest and Law-abiding, (g) as well as Forgiving and Generous. With a separate sample, confirmatory factor analysis (CFA) is expected to validate the factor structure emerged in the EFA.

Regarding criterion-related validity, it was expected that depression would be positively correlated with the Rational and Calm factor, the Dominant and Brave factor would be negatively correlated with the Caring factor, Non-Violence and Respect factor, as well as the Forgiving and Generous factor. In addition, the Rational and Calm factor was hypothesized to be negatively correlated with help seeking as an evidence of criterion-related validity. In terms of convergent validity, it was hypothesized that the Dominant and Brave factor would be positively associated with success, power, competition, leadership, braveness, as well as power over women; the Rational and Calm factor would be positively related with Restricted Emotionality, Emotional Control, and Rationality; the Caring factor would be positively correlated with femininity and compassion; the Forgiving and Generous factor would be positively correlated with forgiveness and generosity; and the Responsible subscale would be positively correlated with primacy of work. The Dominant and Brave factor was expected to be negatively related with femininity; the Respectful and Non-Violent factor was expected to be negatively related with aggression and violence; the Caring factor was expected to be negatively related with

restrictive emotionality; and the Honest and Law-Abiding factor was expected to be negatively correlated with playboy attitudes.

However, this hypothesized seven-factor structure did not emerge. Instead a five-factor structure emerged. Therefore, the five-factor structure were retained and used for the CFA. In addition, the validity studies were re-conceptualized according to the five-factor structure.

## **Chapter II**

### **Literature Review**

In this chapter, a literature review on masculinities in the US and China was provided. The emphasis of the literature review was placed on Chinese masculinities and the reconstruction of Chinese masculinities under the influence of fundamental socio-cultural changes taking place in contemporary China. A review on the associations between major constructs of Chinese masculinities and related constructs were also conducted to establish the theoretical and empirical support for the proposed validity studies. At the end of this chapter, hypotheses of the current studies were provided.

#### **Western Masculinities**

According to the Gender Role Strain Paradigm theory, masculinities are culturally bound beliefs informing what traits men should demonstrate emotionally, cognitively, and behaviorally based on his gender (Pleck, 1981, 1995). Individuals construct their expectations for what qualities men should have based on their cultural values, location in the society, identity, social contexts, and life domains (Addis & Cohane, 2005; Courtenay, 2000). In the current studies, masculinities and masculinity ideologies were used interchangeably to refer to the culturally-bound beliefs and expectations of the male gender. Another term that was used is masculine gender norms. It is the prescription of masculinity ideologies reflected in attitudes and behaviors (Rossi, 1993).

In a society, the masculinity ideologies constructed by the dominant group affect all members including the members of the non-dominant group because they are held up as the standard to evaluate all members (Mahalik et al., 2003). Masculine ideologies of the dominant



group are communicated to all members explicitly and implicitly through education, media, politics, parenting, and etc.

In the United States, the dominant form of masculinities, hegemonic masculinities, are constructed based on the cultural beliefs of White heterosexual cisgender middle-class men. Several main constructs of hegemonic masculinities have been identified in the literature. First, men in the U.S. are expected to be dominant. At work, men are expected to be leaders. At home, men are expected to make important decisions for their family. They are expected to always thrive for success and achievement (Levant, Hall, & Rankin, 2013; Mahalik et al., 2003). Second, men are expected to be self-reliant and independent. For example, solving problems on their own and refraining from seeking help are preferred (Levant et al., 2013; Mahalik et al., 2003). Third, men are expected to restrict their emotions. Detaching from their emotions and keeping emotions to themselves are endorsed as desirable male qualities. Crying and showing vulnerability to others is discouraged (Levant et al., 2013; Mahalik et al., 2003). Success in career is endorsed as a primary purpose in men's lives. They are expected to prioritize their career over their caretaking responsibilities in their family (Levant et al., 2013; Mahalik et al., 2003). Men are also discouraged from showing affection toward other men. Instead, they are socialized to show disdain toward sexual minorities and endorse the superiority of heterosexual beliefs, values, and behaviors (Levant et al., 2013; Mahalik et al., 2003). The use of violence is acceptable and sometimes encouraged for men. In addition to seeking violence, men are also expected to seek adventure and engage in risky behaviors. They should be ready for confrontation and refrain from withdrawing from conflicts regardless of physical injury or pain (Levant et al., 2013; Mahalik et al., 2003). In terms of their relationship with women, hegemonic

masculinities expect men to have power and control over women instead of developing an egalitarian relationship with women (Levant et al., 2013; Mahalik et al., 2003). In terms of their sex life, men are encouraged to have an active sex life and seek non-committed sexual relationships. They are expected to always have the drive for sex and engage in sex without much emotion engagement (Levant et al., 2013; Mahalik et al., 2003). In addition, men should always avoid thinking and behaving in a feminine way (Levant et al., 2013; Mahalik et al., 2003). The Male Role Norm Inventory (MRNI; Levant & Fischer, 1996), the Conformity to Masculine Norms Inventory (CMNI; Mahalik et al., 2003), and the Gender Role Conflict Scale (GRCS; Neil, Helm, Gable, David, & Wrightsman, 1986) are popular instruments that measure hegemonic masculinities.

Hegemonic masculinities have been found to be associated with substance use, mental-health related outcomes, and interpersonal relationship patterns. First, hegemonic masculinities have been found to significantly relate to increased alcohol and substance use among predominantly White samples (Iwamoto, Cheng, Lee, & Takamatsu, 2011; Iwamoto & Smiler, 2013). Second, significant relationships between hegemonic masculinities and depression, aggression, as well as anxiety have also been established using different hegemonic masculinity instruments (O'Neil, 2013; Wong et al., 2017). This positive correlation also exists in studies using diverse samples including samples of African Americans, Hispanics, Koreans, Japanese, Australians, and gay men (Watkins, Walker, & Griffith, 2010; O'Neil, 2013). Alexithymia, the difficulty to verbally express one's feelings, is another factor that has been found to positively correlate with hegemonic masculinities (Sullivan, Camic, & Brown, 2015; O'Neil, 2013). This correlation remains significant after demographic variables are controlled, which indicates that

hegemonic masculinities uniquely explains a certain portion of men's alexithymia (Levant et al., 2003). Also, studies have shown a negative relationship between hegemonic masculinities and help-seeking attitudes and behaviors (J. Steinfeldt & M. Steinfeldt, 2012; Vogel, Heimerdinger-Edwards, Hammer, & Hubbard, 2011; Wimer & Levant, 2011). In terms of interpersonal relationship patterns, both college men and midlife men who endorse hegemonic masculinities to a higher degree have been found to struggle with intimacy (Maxton, 1994; O'Neil, 2008; O'Neil, 2013), experience a lower relationship satisfaction, communicate less openly (Mcgraw, 2001), and participate in less childcare (Bonney, Kelly, & Levant, 1999). In addition, hegemonic masculinities have been identified as a significant predictor for men's sexism and negative attitudes toward racial minorities, and sexual violence toward women. Specifically, men who endorse hegemonic masculinities to a greater extent are more likely to discriminate against people of color, disregard gender equality (Wade & Brittan-Powell, 2001), and engage in lower levels of gender egalitarianism (Addelston, 1995; Englar-Carlson & Vandiver, 2001; Tokar et al., 1998). Other studies have found a significant positive relationship between hegemonic masculinities and sexual aggression and sexual violence (Gale, 1996; O'Neil, 2008). On the other hand, when men endorse more non-traditional masculinities such as feminine characteristics, are more likely to support racial and gender equality (Wade & Brittan-Powell, 2001).

Literature reviews and meta-analyses have found that different aspects of hegemonic masculinities have unique relationships with mental health-related outcomes and interpersonal patterns. Results of one literature review indicate that men who endorse non-committed sexual relationships and power over women demonstrate more sexist attitudes (Wong et al., 2017). Men

who are highly self-reliant have been found to exhibit increased negative mental health outcomes (Wong et al., 2017). Restrictive emotionality has been identified as a consistent predictor of depression across 27 studies (Wong et al., 2017). It also predicts hopelessness (Birthistle, 1999; Brewer, 1998), self-destructiveness (Naranjo, 2001), and substance use in men (Wong et al., 2017). Rigid and strong drive toward success through competition is another consistent predictor for substance and depression in both White men and men of color (O'Neil, 2008). Rigid and strong drives toward success along with restrictive affectionate behaviors between men have been found to significantly associate with low marital and relationship satisfaction (Breiding, 2005; Brewer, 1998; Campbell & Snow, 1992). In addition, restrictive affectionate behavior between men consistently predicts homophobia (Kassing et al., 2005; Lindley & Schwartz, 2006; Rounds, 1994; Schwartz, Tylka, & Hood, 2005; Van Hyfte, 1999; Walker et al., 2000; Wilkinson, 2004). A significant and positive correlation has been established between a high level of endorsement of restrictive affectionate behavior between men and coercive male behaviors (Senn et al., 2000), sexual aggression (Rando et al., 1998), and domestic abuser's behaviors (Wall & Walker, 2002). However, not all aspects of hegemonic masculinity lead to negative outcomes. For example, both primacy of work and disdain for sexual minority attitudes have not been found to significantly relate to either positive or negative mental health outcomes (Wong et al., 2017). Interestingly, although risk-taking attitudes and behaviors have been found to predict negative mental health outcomes, it has also been found to associate with positive mental health outcomes (Wong et al., 2017). This complicated relationship between risk-taking and mental health outcomes may suggest that some aspects of hegemonic masculine are protective of men's mental health.

## Chinese Masculinities

**Taoism's influence.** Several concepts have shaped traditional Chinese masculinities. The first concept is the yin-yang dyad. In Taoism, yin is associated with calmness and quietness; yang is associated with power and action. The dyad represents two equal but complementary energies that act together to create a complete and harmonious cosmos (Rosenlee, 2006). According to Taoism, men and women are equal. Yin and yang qualities can be found in both men and women. Taoism encourages men to rely on yin qualities when approaching conflicts. For example, Chapter 61 of the *Daode Jing* (Laozi, 2004) reads, "The feminine always conquers the masculine by her quietness. Hence if a great country can lower itself before a small country, it will win over the small country." Therefore, an androgynous man with balanced feminine and masculine qualities represents Taoist masculinities. The yin-yang dyad may explain why male characters with feminine beauty are popular in traditional Chinese literature (Louie, 2002). For example, Jia Baoyu, a principal character in the classic Chinese novel *Dream of the Red Chamber*, is a young man who demonstrates many "effeminate" behaviors and socializes predominantly with his female cousins and maids (Edwards, 1988).

**Confucianism's influence.** Confucianism dichotomizes the concept of yin and yang and creates gender hierarchies to privilege men and oppress women (Louie, 2002). According to Confucianism, yin reflects a position of passivity and weakness of women while yang reflects a position of power and strength of men (Swann, 1968). Confucianism supports the complementary relationship between men and women but at the same time endorses male dominance. On one hand, men and women complement each other by participating in completely difference social spheres: Men pursue their career and academic achievements in the public and

societal sphere and women perform domestic responsibilities (Liu & Chang, 2008). On the other hand, men are believed to possess moral characteristics and women are labeled as mean, non-reliable, and deceptive (Song & Hird, 2015). Confucius's famous statement "It is only women and morally retarded men that are difficult to raise and provide for. Drawing them close, they are immodest and keeping them at a distance, they complain (Ames & Hall, 1998 p88)" illustrates the male dominance embedded in Confucian gender role ideologies. Along with women's immoral characteristics, female sexuality is also regarded as both a threat and actual danger to men's well-being and virility (Song, 2004). Yang Yuhuan, the beloved consort of Emperor Xuanzong of the Tang Dynasty, was blamed for the rebellions' effort in taking over power and eventually killed with the permission from Emperor Xuangzong.

Confucian gender ideologies emphasize different aspects of masculinities in different social contexts. In the societal context, the image of *junzi*, a gentleman who is honest, loyal, straightforward, and tolerant, is used by Confucius as an exemplar of an ideal man (Yang, 2005). In the family context, masculinities reflect in men's fulfilling responsibilities for their families. Confucianism prescribes that men should financially provide for their family, practice filial piety by respecting their parents, produce children to continue the family lineage, and discipline women (Liu & Chang, 2008). In addition, men's access to power changes based on their positions in the Confucian social hierarchy. As a husband, a man has much more power than his wife. As a scholar, a man has much less power than the emperor he serves. When men are in positions of less power, they are expected to demonstrate feminine qualities such as obedience and passivity (Louie, 2002).

***Wen and wu masculinities.*** The concept of *wen* and *wu* are also important constructs of

traditional Chinese masculinities. *Wu* refers to physical strength and military power. The image of a *yingxiong* (hero) or *haohan* (good bloke) exemplifies the *wu* qualities. The two famous warlords, Xiang Yu of Western Chu and Guan Yu of Shu Han, are symbols of *wu*. Both of them were fierce warriors on the battlefield who defeated numerous enemies and refused to surrender when they had no chance of winning the battle. The macho and mighty *wu* masculinities are counterbalanced by the softer and civil *wen* masculinities, which refers to the inner strength that demonstrates morality, abilities to resolve conflicts peacefully, succeed in their scholarly pursuits, and contribute to the society (Louie, 2002). *Caizi*, the image of a gentlemen-scholar symbolizes *wen* qualities. An example of *Caizi* in China's history is Su Shi, a famous poet, calligrapher, painter, gastronome, and politician of the Song Dynasty whose poems and writings remain popular in modern China. In imperial China, fictional and historical figures with *wen* or *wu* qualities are both accepted as representations of Chinese masculinities (Louie, 2002). Ideally, men are encouraged to strike a balance between *wen* and *wu* qualities in order to succeed in governing their country, family, and self (Louie & Edward, 1994).

However, Louie and Edward (1994) conceptualized that Chinese masculinities favor *wen* over *wu*. They argued that elements of *wen* can be found in *wu* because non-violence and the ability to determine when military force should not be relied upon are two core values of *wu*. In imperial China, *wen* was associated with elite masculinities while *wu* was regarded as inferior forms of masculinities (Louie & Edward, 1994). For example, the saying “a good piece of metal does not become nails and a good man does not become a soldier” reflects the unequal relationship between *wen* and *wu*. Zhuge Liang, a renowned strategist during the Three Kingdoms period, exemplifies Chinese masculinities' favoring *wen* over *wu*. As the military

strategist of Shu Han, Zhuge Liang was famous for his negotiation skills, astuteness and resourcefulness in resolving conflicts peacefully. In addition, when he started to work for Liu Bei, the emperor of Shu Han, Guan Yu and Zhang Fei, two of Liu Bei's most important generals, were upset with Zhuge Liang's increasingly close relationship with him and complained. Liu Bei responded, "Now that I have Kongming (i.e., Zhuge Liang), I am like a fish that has found water. I hope you'll stop making unpleasant remarks (Chen, 1977, p.59)". Liu Bei's response as well as Guan Yun and Zhang Fei's willingness to work under Zhuge Liang also implies that Chinese masculinities favor *wen* over *wu*.

Although *wen* qualities seem to possess feminine traits, the *wen-wu* paradigm applies only to men. Women are prohibited from participating in the societal and public spheres where *wen* and *wu* qualities are demonstrated (Louie & Edward, 1994). Several women in history, for example the legendary female warrior Hua Mulan and the female scholar Zhu Yintai, entered men's spheres and demonstrated *wen* and *wu* qualities only after they disguised their gender (Louie & Edward, 1994). The *wen-wu* paradigm complies with the Confucian gender ideology such that women are treated as threats for men to lose either *wen* or *wu* qualities (Louie, 2002). The ability to resist and repress their romantic desires for women is an important *wu* masculinity. Men who endorse *wu* masculinities reject women and sometimes eliminate women in a violent manner (Louie, 2002). In contrast, men who endorse *wen* masculinities establish closer relationships with women and are expected to fulfill his responsibilities to women. However, they still maintain dominance over women and possess autonomy to terminate such relationships (Louie, 2002).



Three studies demonstrate the impact of *wen* and *wu* on Chinese college students' perception of masculinities. In the first study, Qian et al. (2000) developed the 100-item Chinese College Student Sex Role Inventory (CCSSRI) by having college students identify adjectives that reflect masculinities and femininities. Then, 240 college students were asked to use the CCSSRI to rate to what extent they have the 100 identified gender traits. In the second study, Wang and Zhang (2005) first asked 140 college students (50% male) to write down adjectives reflecting masculinities. They then integrated adjectives from the Bem Sex-Role Inventory (BSRI; Bem & Lipsitz, 1981) and the CCSSRI and created a pool of 118 adjectives. Another 100 college students (50% male) were asked to select 20 adjectives that best describe desired masculine traits from the pool. Adjectives frequently endorsed in the two studies reflecting both *wen* masculinities (e.g., honest, responsible, forgiving, generous, confident, kind, humorous, creative, chivalrous and altruistic, uninhibited and spontaneous, initiative, and optimistic) and *wu* masculinities (e.g., brave, strong, indomitable, unbeatable, steady and dependable, stoic and resilient). In the third study, Liu et al., (2011) created a short version of CCSSRI using a similar approach (CCSSRI-50). Based on the responses of 5008 Chinese college students, four factors emerged in the masculinity subscale including Leadership, Braveness, Rationality, and Generosity (Liu et al., 2011), which also reflect both *wen* and *wu* masculinities.

**Social-economical changes' influence.** Since the 19<sup>th</sup> century, China has experienced fundamental socio-cultural changes that resulted in the reconstruction of traditional Chinese masculinities (Hirschman & Teerawichichainan, 2003). China started to encounter increasing encroachment of Western imperialism in early 19<sup>th</sup> century. Reformers of the Qing Dynasty began to learn from Western models of social system, family and marriage patterns. They started

to critically examine traditional Chinese culture and the Confucian social hierarchy (Li, 2000). In 1902, the practice of foot-binding was banned by an official order of the Qing Dynasty. In 1912, the 2000-year imperial rule in China collapsed. In the same year, the New Culture Movement directly revolted against the patriarchal social order upheld by Confucian ideologies (Glosser, 2002). Young scholars called for a democratic society, egalitarian relationships between men and women, and a monogamous and compassionate form of marriage believing that the Confucian social and familial hierarchy hinders China's economic productivity and social progress (Glosser, 2002). The May Fourth Feminism movement further challenged the gender stratification of traditional Chinese society. Male intellectuals and activists attributed the invasion of Western powers to the problematic structure of Chinese family that limits women's potential (Li, 2000). As a result, schools and colleges for women were established, marriage laws were reformed, and a small number of highly-educated men started to adopt a more egalitarian relationship with women (Li, 2000). However, the impact of these movements was limited to the urban elite communities.

The gender stratification of traditional Chinese society remained largely unchallenged until the establishment of the communist government in 1949. The communist party implemented new laws and regulations to promote gender equality across the country. For example, women were granted rights to access various job opportunities (Pimentel, 2006). During the Great Leap and the Cultural Revolution, Mao's claim that "women hold up half of the sky" further mobilized women to participate in the labor force. The communist government's radical gender reform reconstructed both male and female gender roles in the public sphere. However, men were still exempt from performing domestic responsibilities such as housework

and childcare (S. Song, 2006). Male dominance in the private sphere remained unchallenged (Stacey, 1983). For example, when the communist government redistributed land, only male farmers were eligible to receive a distribution (Li, 2000). The communist government promoted gender equality for political and economical purposes. Women were encouraged to work outside of their homes because their labor force was needed in order to meet the high demand of developing industrial economy and restoring cities (Li, 2000). Nevertheless, the gender reform during Mao's era introduced egalitarian beliefs to the general public in China.

Lei Feng, a selfless and humble cultural icon created by the Communist Party during the 1960s, exemplifies masculinity ideologies during Mao's era. Lei Feng is famous for his altruism. His altruistic behaviors include both traditionally male performed tasks such as constructing buildings, changing tires and escorting children as well as traditionally female performed tasks such as mending clothes, sweeping floors, and washing laundry. However, it is in the public context, an army barracks, that Lei Feng performs all feminine tasks. Furthermore, the beneficiaries of these feminine tasks carried out by Lei Feng are exclusively men. Therefore, it is argued that these actions of Lei Feng reflect traditional Chinese masculinity's emphasis on *yi*, brotherhood rather than the transformation of masculine gender role norms in the private sphere (Roberts, 2010).

Over the past three decades, the communist government opened doors for foreign business, went through market reform, and implemented the One-Child Policy. Although the One-Child Policy was phased out in 2015, the target population of the current studies was born during the implementation of the One-Child Policy. Contemporary China experienced significant economic growth and fundamental changes in family structures. The transformation of economic

and social landscape in contemporary China further reconstructed gender roles as well as masculinities and femininities. Men are forced to have a more egalitarian relationship with women. The One-Child Policy left little room for metropolitan parents to prioritize education to sons (Jie & Kanji, 2003). With women closing the education gap with men (Mu & Xie, 2014), they have gained more voice in reconstructing Confucian gender ideologies that subordinate them. Rapid inflation, privatization of education, and marketization of health care also increases the difficulty for middle-class families to survive with only one income. As women take on more financial responsibility, they also expect men to take on domestic responsibilities commensurate with their work outside of the home. In addition, women's increasing financial independence gives them more power in reconstructing traditional masculinities and femininities (Liu et al., 2011).

In the societal context, the shift in contemporary Chinese masculinities is reflected in the increasingly popular image of a white-collar gentleman who dresses appropriately, speaks elegantly, and most importantly, treats women with courtesy and respect (Song & Hird, 2013). In the family context, the opening up of China has exposed Chinese men and women to Western non-patriarchal family structure and compassionate marriage style. The generations born after the Cultural Revolution growing up exposed to both Chinese and Western values. These younger generations expect a man to communicate his thoughts and feelings to his wife and children, cherish his wife, and actively participate in housework and parenting. Their expectations come from their dissatisfaction with their fathers' authoritarian parenting style and lack of emotional connection with other members in the family (Song & Hird, 2013). Images of a caring and engaging father, sensitive and power-sharing spouse, and emotionally expressive man have

caught the spotlight of the media (Song & Hird, 2013). For instance, since 2013, two Chinese reality TV shows (i.e., *Where Are We Going, Dad?* and *Dad Is Back*) documenting men performing domestic responsibilities have gained popularity. In both shows, celebrity Chinese fathers spend time with their children and cook for them without the presence of the mothers.

According to Song and Hird (2013)'s ethnography, the generations born after the Cultural Revolution were raised with the expectation that men should be an engaging father and a sensitive and power-sharing spouse. Two studies examining endorsement of gender role schema indicate that both male and female Chinese college students are moving away from dichotomous gender role ideologies to embrace androgynous gender role schema (Liu et al., 2011; Qiang et al., 2000). In Qiang et al. (2000)'s study, four gender schemas were identified, with 31.5% of male and 25% of female participants scored high on both the masculinity and femininity subscales and were classified as androgynous, 24.7% of male and 22.5% of female participants scored high on the masculinity subscale and were classified as masculine, 15.4% of male and 28% of female participants scored high on the femininity subscale and were classified as feminine, and 28.4% of male and 24% of female participants scored low on both the masculinity and femininity subscales and were identified as undifferentiated. In Liu et al. (2011)'s study, both male and female students demonstrated a higher rate of androgynous (male 37% and female 30%) and undifferentiated (male 30.4% and female 30.1%) gender schemas than traditional masculinity (male 25% and female 13%) and femininity (male 7.4% and female 26.4%) schema.

It is important to not overstate the shift from patriarchal to egalitarian structures in contemporary China. Male dominance persists in Chinese families and communities regardless of the increasing commitment to gender equality. Levant et al. (1996) and Wu, Levant, and

Seller (2001) administered MRNI to mainland Chinese college students. Both studies found that Chinese participants endorsed traditional masculinity norms emphasizing male dominance to a greater extent compared to their American counterparts. These two studies also found that the gender difference between male and female Chinese participants' endorsement of traditional masculinity ideologies was significantly smaller than that of American participants. In another study, the majority of participants reported that men need to have higher status and make more money than their wives (Hird, 2009). Song and Hird (2013)'s ethnography also showed that even when their wives bring an equal or higher income home, many men still expect their wives to perform most of the domestic duties. Also, men are still expected, by both men and women, to buy an apartment and pay for the majority of wedding expenses when they get married (Song & Hird, 2014). Women with advanced degrees or are financially independent face more obstacles in finding a romantic partner because many men feel threatened by their potential partner's higher status. These men labeled women with Ph.D. degrees as the third gender implicating that smart women are not attractive. In addition, similar to Mao's period, the government decides whether women can participate in the labor force based on economic and political reasons (Pimentel, 2006). Xi's administration, for example, encourages women to return to homes and focus on their responsibilities as wives and mothers because the labor market is crowded, and men face heated competition from qualified and talented women at work.

Male dominance is endorsed at a more extreme level among upper class and rural communities in contemporary China. Entrepreneurs demonstrate their economic power over their wives by requiring them to stay at home taking care of their children and household (Hird, 2009). At the same time, they socialize and negotiate with their partners in sexual entertainment settings

(Osburg, 2013). Utilizing ethnography, Xiao (2011) revealed that it is a common practice for Chinese businessmen to have a second wife (i.e., having a long-term extramarital relationship with another woman who is economically dependent on him), and therefore construct their masculinity based on objectification of women and having full dominance over women. In rural communities, male superiority remains prevalent. Many rural families continue to have children until they produce a son. The One-Child policy allows rural families to have a second child when the first-born is a daughter. When men in these rural communities need a spouse, their families may purchase a trafficked woman to force a marriage.

Therefore, contemporary Chinese masculinities embody plural and sometimes contradictory forms. Men in contemporary China are simultaneously exposed to the *wen* and *wu* forms of masculinities, male dominance and gender equality, as well as the expectation for them to be the breadwinner but also an engaging father and sensitive husband. A quantitative study exploring important masculine traits in a non-college Chinese adult sample (Ng et al., 2008) illustrates the complexity of contemporary Chinese masculinities. Using the Men's Attitudes to Life Events and Sexuality (MALES; Rosen et al., 2004), Chinese participants identified (a) having a lot of money, (b) having a good job, (c) being seen as a man of honor, (d) being in control of your own life, and (e) being a family man, as the top five masculine traits (Ng et al., 2008). Contemporary Chinese masculinities also vary across social contexts. Integrating information from literary studies, ethnographies, interviews, and discourse analysis, Song and Hird (2014) identified that contemporary Chinese masculinities emphasize different aspects of masculinities in different social contexts. At work, the emphasis is on men's ability to be a leader and make good money; In the social context, a well-behaved gentleman is popular; with male

friends, *yiqi* (loyalty) is required; in the family context, men are expected to demonstrate more emotions and gentleness (Song & Hird, 2014).

### **Problematic Nature of Applying Western-Developed Masculinity Measures in China**

A major limitation of the current masculinity literature is its direct administration of US-based masculinity instruments across different cultures. When English is not spoken by the target population, translation and back-translation is employed to ensure the translated instruments are linguistically equivalent to the original instrument. However, this procedure does not address construct bias because core constructs of the same concept may differ across cultures (Vijver & Tanzer, 2004). Contemporary Chinese masculinities differ significantly from the dominant form of masculinities in the United States that endorses dominance, self-reliance, power over women, restrictive emotionality, avoidance of femininity, negativity towards sexual minorities, seeking violence and adventure, and having an active sex life and seeking non-committed sexual relationships (e.g., Levant, Hall, & Rankin, 2013; Mahalik et al., 2003; Parent & Moradi, 2009). Using Western-based masculinity instruments to study masculinity in mainland China is susceptible to construct bias. In the history of psychology, instruments with unexamined construct bias have been used to make discriminatory conclusions about abilities and traits of people of color (Vijver & Tanzer, 2004). Using Western-based masculinity instruments to study masculinities in mainland China also runs the risks of imposing Western values and culture onto the Chinese culture.

However, among the few quantitative studies that explore masculinity in mainland China, the majority of them utilized instruments developed in the US. Levant et al. (1996) and Wu et al. (2001) administered the Chinese version of MRNI to mainland Chinese college students with the



intention to compare Chinese masculinities with hegemonic masculinities. Four items of the Chinese version of MRNI utilized equivalent concept instead of direct translation to reduce item bias. Formal back-translation was not performed. Only three of the eight subscales of the Chinese version of MRNI yield acceptable internal consistency (E. Gliem, & R. Gliem, 2003). Another limitation of both studies are their use of instruments that were developed using predominantly White samples that leave out core concepts that are principal to individuals outside the U.S. (Heppner et al., 2008). The construct bias of MRNI resulted in these two studies' failure in capturing *wen* masculinities or the expectation for men to be gentle and caring in the family and romantic relationship contexts.

In another study, Zhang et al. (2015) examined the factor structure and reliability of 16-item Chinese version of GRCS-SF with mainland Chinese heterosexual and gay adult men. Formal back-translation was utilized to ensure the item-level equivalence of the Chinese version of GRCS-SF. Confirmatory factorial analysis indicated that the four-factor structure was supported by the Chinese sample. Although the Chinese version of GRCS-SF demonstrates a higher internal consistency and supports the factor structure of the English version of GRCS-SF, the construct bias of GRCS-SF was not addressed and therefore the Chinese version of GRCS-SF still does capture masculinity constructs that are present in Chinese culture. Another improvement of the Chinese version of GRCS-SF is its utilization of formal back-translation. However, a linguistically equivalent instrument may contain unknown transformations in meaning and social desirability, which can affect participants' endorsement of the translated items and threaten the validity of the instrument (Vijver & Tanzer, 2004).

In order to reduce the construct bias of the Men's Attitudes to Life Events and Sexuality

(MALES; Rosen et al., 2004) scale, Ng et al. (2008) translated and adapted the instrument. Ng et al. (2018) also asked participants in Malaysia and Taiwan to determine the relevance of 13 masculinity traits adapted from the MALES study and identify other important masculinity traits that were left out by MALES. The adapted MALES included few items that reflect *wen* masculinities (e.g., being a man of honor) and the Confucian gender ideology (e.g., being a family man). Then the adapted MALES was administered to participants in five Asian countries including mainland China. Results indicated that very few mainland Chinese participants endorsed items that reflect hegemonic masculinity such as “having an active sex life” and “Being physically attractive.” However, because mainland Chinese participants were not included in the focus groups, masculinity traits that are unique to the mainland Chinese culture may have been omitted. For example, the expectation for men to be gentle and caring in romantic relationships, which was found by Song and Liang (in press), was not reflected in the adapted version of MALES.

The 100-item Chinese College Student Sex Role Inventory (CCSSRI; Qian et al., 2000) is the first gender traits inventory that has been developed and normed with the mainland Chinese participants. Qian et al. (2000) developed the CCSSRI by asking college students to identify adjectives that describe gender traits. Wang and Zhang (2005) modified the CSSRI by integrating adjectives from The Bem Sex-Role Inventory (Bem & Lipsitz, 1981). Liu et al. (2011) utilized a similar approach and created a short version of CCSSRI (CCSSRI-50). All studies identified masculinity traits that are unique in the Chinese cultural contexts. All three studies have identified *wen* and *wu* masculinity traits that are not captured by masculinity instruments developed in the West, which suggest the importance of understanding masculinities

in the Chinese cultural contexts. However, these studies explored only masculine traits without paying attention to how individuals in China conform to Chinese masculine ideology. In addition, the CCSSRI did not capture how these masculinities reflect in behaviors or vary based on social context.

### **Measuring Chinese Masculinity with Cultural Sensitivity**

This current study aimed to develop a culturally appropriate quantitative instrument to measure contemporary masculinity ideologies endorsed by middle-class mainland Chinese men between 18 to 40 years old because Western-based masculinity instruments do not capture all the core constructs of contemporary Chinese masculinities. This new instrument measures beliefs about masculinities in the contemporary Chinese culture with the intention to fill the gap in the literature. As a first step to develop this quantitative instrument, Song and Liang (in press) used open-ended questions to explore masculine gender role expectations in several social contexts (i.e., family, work, romantic relationship, and society) in mainland China and analyzed the results qualitatively. Eight core constructs of contemporary Chinese masculinities emerged from this study. Although several of these constructs share some qualities with those of hegemonic masculinities, others were directly opposed, or completely distinct

The first construct is being brave and self-starting. This construct emphasizes men's leadership skills including taking initiative, making decisive decisions, and demonstrating resiliency when encountering difficulties. This construct shares qualities captured by male dominance. Although research on the association between endorsement of male dominance and health-related outcomes in China does not exist, endorsement of male dominance has been found to positively correlate with negative mental health such as depression in the US. For example,

Wong, Ho, Wang, and Miller (2016) conducted meta-analyses on the relationship between the endorsement of hegemonic masculinity measured by CMNI and mental health-related outcomes and found a significant positive relationship between male dominance and negative mental health outcomes. Regarding people of Asian origination, Iwamoto, Liao, and Liu (2010) found that Asian American males' endorsement of male dominance significantly predicted depression. Also, Maxton (1994) found that endorsement of hegemonic masculinity was significantly and positively related with men's fear of intimacy. Since male dominance is an important construct of hegemonic masculinity, endorsement of male dominance is likely significantly predicting fear for intimacy in men. In addition, endorsement of hegemonic masculinity has also been found to correlate with discriminative attitudes and violence behaviors. In Wade and Brittan-Powell (2001)'s study, college male participants who endorsed hegemonic masculinity to a higher extent were found to have more sexist attitudes and are less likely to support gender equality. In other studies, significant positive correlations have been identified between endorsement of hegemonic masculinity and sexual aggression (Gale, 1996) and relationship violence (Jakupack, Liasak, & Roemer, 2002) in college men in the US.

The second construct that emerged from Song and Liang (in press)'s study is being rational and calm. This construct shares some qualities with restrictive emotions but addresses how men need to control their emotions and have good stress management skills. For example, men are expected to manage their negative emotions at work. In their meta-analysis, Wong et al. (2017) also identified a significant positive correlation between emotional control and negative mental health outcomes. In another study, O'Neil (2013) reviewed 350 empirical studies using GRCS and identified restrictive emotion as the most consistent predictor depression. Also, men

who endorse emotional control demonstrate more negative attitudes toward seeking professional psychological help. In Good and Dell's (1989) study, emotional control was found to predict both negative attitudes toward seeking professional psychological help as well as past and future help-seeking behaviors in US college males. Robertson and Fitzgerald (1992) found similar results with a different sample of college students.

The next two constructs emerged from Song and Liang's (in press) study demonstrate masculine gender role expectation that are opposite of the values reflected in hegemonic masculinities. The third construct is being caring. Men are expected to be caring in the contexts of romantic relationships and society. In romantic relationships, men in China are expected to be sensitive and attentive to his partner's needs and wants. In society, men in China are expected to help and encourage others. The fourth construct is being respectful and non-violent, which includes respecting women, demonstrating respectful manners, and avoiding violence. Wade and Brittan (2001) found greater endorsement of non-traditional masculinities such as feminine traits were significantly associated with greater endorsement of gender equality and more respectful behaviors toward women and racial minorities. Similar results are supported with an Asian male sample. Liu (2000) found that Asian males who endorsed non-traditional hegemonic masculinity to a greater extent were more likely to support diversity and have less prejudice attitudes.

The next three constructs are unique constructs of Chinese masculinities: Responsible, honest and law-abiding, and forgiving. The construct of being responsible indicates that in contemporary China, men are expected to demonstrate a good work ethic and own their mistakes at work and share familial responsibilities at home such as providing for his family and taking on parenting responsibilities (Song & Liang, in press). Being honest and law-abiding means that

men in mainland China are expected to keep their promises in all aspects of their lives, be loyal to his friends and romantic partner, and comply with laws and regulations (Song & Liang, in press). The last construct is being forgiving. In the Chinese cultural context, being forgiving means that men should approach interpersonal conflicts with patience and tolerance. In a study with a diverse sample of college students in the US, self-forgiveness has been found to negatively correlate with depression (Hirsch, Webb, & Jeglic, 2011). Similar results were found in another study with Korean participants. In this study, Korean teachers who had a higher level of forgiveness experienced a lower level of depression and this relationship was weakened by a higher level self-compassion (Chuang, 2016). In addition, high level of forgiveness has been found to negatively relate with anger and aggression (Rye et al., 2000; Seybold, Hill, Neumann, & Chi, 2001).

The last construct is avoidance of femininity including avoidance of being sissy, avoidance of nagging too much, avoidance of being weak, and avoidance of spending too much time on his appearances. Although this eighth construct emerged from the data, it was endorsed much less frequently comparing to the other seven constructs. Results of Song and Liang's (in press) study are consistent with the literature on Chinese masculinities. Therefore, the constructs emerged in Song and Liang's except the avoidance of femininity were used as the foundation for the quantitative instrument development.

**Hypotheses.** The purpose of the current studies was to develop a quantitative instrument that measures contemporary Chinese masculinities. To that end, these proposed studies examined its factor structure, and offer evidence for its reliability, and validity. First, the EFA explored the factor structure of the new instrument. The literature and Song and Liang (in press)'s qualitative

study suggests that seven factors were expected to emerge: Dominant and Brave, Rational and Calm, Caring, Respectful and Non-violent, Responsible, Honest and Law-abiding, as well as Forgiving and Generous. The CFA was hypothesized to confirm the factor structure emerged in EFA. Also, the new instrument was expected to demonstrate good internal consistency. Specifically, Cronbach's alphas for the entire scale and all subscales were expected to be greater than .70 to indicate adequate internal consistency. Cronbach's alphas greater than .60 indicated acceptable internal reliability

Evidence for criterion-related validity of the new instrument would be demonstrated through significant associations between scores on a measure of Depression and the Rational and Calm factor, the Dominant and Brave factor, the Caring factor, the Non-Violence and Respect factor, and the Forgiving and Generous factor. It was expected that scores on a measure of Depression would be positively correlated with the Rational and Calm factor and the Dominant and Brave factor of the new instrument as well as negatively correlated with the Caring factor, Non-violence and Respect factor, and the Forgiving and Generous factor of the new instrument. In addition, the Rational and Calm factor of the new instrument was hypothesized to be negatively correlated with attitudes toward help-seeking to indicate evidence for criterion-related validity.

In terms of convergent validity, it was hypothesized that the Rational and Calm factor would be positively related with Restrictive Emotionality, Emotional Control, and Rationality; the Dominant and Brave factor would be positively related with success, power, competition, leadership, braveness, as well as power over women; the Caring factor would be positively correlated with femininity and compassion; the Forgiving and Generous factor would be

positively correlated with forgiveness and generosity; and the Responsible subscale would be positively correlated with primacy of work. The Dominant and Brave factor of the new instrument was expected to be negatively correlated with femininity, the Respectful and Non-violent factor of the new instrument was expected to be negatively related with aggression and violence, the Caring factor of the new instrument was expected to be negatively relate with restrictive emotionality, and the Honest and Law-abiding factor of the new instrument was expected to be negatively correlated with playboy attitudes.

Because the seven-factor structure suggested by Song and Liang (in press) did not emerge in the EFA and the data indicated a five-factor structure, the five-factor structure was examined in the CFA and the validity hypotheses were re-conceptualized according to the new factor structure in the Results section. In addition, the new instrument was hypothesized to demonstrate a good test-retest reliability indicating by a Pearson correlation coefficient greater than .65.



## **Chapter III**

### **Method**

#### **Study 1**

##### **Participants.**

Study one explored the factor structure as well as criterion-related validity of the CCMI with adult Chinese men. In order to participate in the study, all participants needed to be between 18 to 40 years of age and reside in mainland China when answering the survey package. Participants were eligible to participate in this study irrespective of his sexual orientation. The minimum number of the participants for the exploratory factor analysis (EFA) was 300 because it is a recommended sample size for EFA regardless of the number of items (Kahn, 2006; Worthington & Whittaker, 2006). Participants in study one completed the CCMI and questionnaires that examined the criterion-related validity of the CCMI.

##### **Procedure**

Data was collected using a Chinese online survey platform (i.e., Wenjuanxing). The survey package for study one was in Chinese and consisted of the demographic questionnaire, CCMI, CES-D, ATSPPH-SF. It was accessed through hyperlink one. Potential participants were provided with link one, upon which they were presented an informed consent form. At the end of the informed consent text, a statement reads, "I have read the procedure described above and by clicking the 'Next' button below, I am voluntarily agreeing to participate in this survey study." This served in place of a signature to further ensure the anonymity of participants. Next, individuals who agreed to participate completed the survey package. The survey concluded with a debriefing form. In the debriefing form, participants were asked to leave their email address if

they wanted to take the CCMI in two weeks. Upon completion of the survey package, eligible participants received a cash incentive in Chinese currency. The Wenjuanxing platform charged a fixed basic rate of 1 RMB for 10 items per response. With the specification of gender and age group, the platform charged an extra 3 RMB for each participant. Participants received 30% of the fee paid to the platform as their incentive. In study one, the platform charged 13 RMB per response and eligible participants received 4 RMB (60 cents U.S. currency) per response. The Wenjuanxing Platform credited the cash incentive to participants' online bank account within 48 hours of the submission of the responses. The author did not have access to participants' online bank account information. Participants would be eligible to receive the cash incentive if she or he provided the correct answer to the validity questions and submitted the questionnaire in a reasonable amount of time. Participants would receive complementation even if they skip questions.

## **Instruments**

**Contemporary Chinese Masculinity Inventory.** The Contemporary Chinese Masculinity Inventory (CCMI) assesses the endorsement of contemporary Chinese masculinities. The CCMI was designed as a multidimensional measure of Chinese masculinities based on the literature. Each subscale of the CCMI reflects one of the core themes that emerged in Song and Liang's (in press) study. The Dominant and Brave factor emphasizes men's leadership skills and resilience when facing challenges. The Rational and Calm factor stresses men's capacity in controlling their emotions and managing stress. The Caring factor depicts men's demonstration of caring and gentleness in romantic relationships. The Respectful and Non-violent factor illustrates men's endorsement of gender equity and the non-violent approach. The Responsible

factor reflects men's fulfilling his responsibilities at work and home. The Honest and Law-abiding factor highlights the expectation for men to keep his promises, demonstrate his loyalty to friends and family, and comply with societal laws and regulations. The Forgiving and Generous factor stresses men's ability to manage interpersonal conflicts with tolerance.

The items of each dimension were created based on the examples that participants provided in Song and Liang's (in press) study. In each of the dimensions, items depict how this core construct of contemporary Chinese masculinities is reflected in behavior in both the public context and private context. Specifically, four items for the public sphere and four items for the private sphere were developed for each dimension. In total, 56 items were created for CCMI. The response range of the CCMI is a 7-point Likert scale (from 1 = *Strongly disagree*, to 4 = neutral, to 7 = *Strongly agree*).

Following Worthington and Whittaker (2006)'s recommendation, these initial items were first reviewed by two online focus groups. Each of the online focus groups consisted of six Chinese nationals. Group one consisted of three men and three women, four members majored in psychology in college but worked in non-psychology fields after graduation. The other two members had never taken course or worked in the field of psychology. Group two consisted of four men and two women. All members of group two were counselors or counselors in training. Each group met 90 minutes online to evaluate whether the constructs in CCMI reflected Chinese masculinities and identify missing constructs. Group members were also asked to provide feedback on the clarity of the items, the wording of the items, and whether redundant items existed. On the construct level, group members pointed out that an item describing men's ability to engage in self-reflect should be added to the Rational and Calm factor, an item reflecting that

men should have a higher degree than women should be added to the Dominant and Brave factor, and an item indicating that men should not gamble, use drugs, or buy commercial sex should be added to the Honest and Law-abiding factor. The group members also deleted four redundant items. In addition, the group members revised three items to make the meaning of these items more clear and specific. For example, the item “men should behave like a gentleman” was revised as “men should be polite and practice small acts of chivalry.” In addition, group members revised the wording of some of the items to make the sentence more authentic, inclusive, and objective. For example, “wives” was replaced with “partners,” and “bad temper” was replaced with “negative emotions.” After the first round of revision, 55 items remained in CCMI.

Shortly thereafter, the revised items were reviewed by two experts in the field of Chinese masculinities independently. One expert was a male associate professor in the psychology department in a university in mainland China. The other expert was a male associate professor in the School of Chinese in a university in Hong Kong. The two experts suggested the author to replace some items with reversely coded items and to add “man should perform well in sex” into the Dominant and Brave factor. Upon receiving their feedback, the author revised the items. After the second round of revision, 56 items remained in CCMI.

Then, the author piloted the full scale (i.e., 56 items) with another 30 adults in mainland China. The pilot study aimed to explore the internal consistency of the revised items and assess the variability of the responses of each item. Four items resulted in low internal consistency (i.e. below .70). The inter-correlation of these items and other items that measure the same constructs

were examined. These four items that were poorly correlated with other items were revised to improve reliability and internal consistency.

**Depression.** The Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) is a 20-item self-reported instrument to measure depression in general adult population. Participants rate the level of their depressive symptoms on a 4-point Likert-type scale from 0 = *not at all* to 3 = *a lot*. Higher scores indicate more depressive symptoms. A sample item is “I feel like I could not pay attention to what I was doing.” The Chinese version of CES-D (Lin, 1989) has been validated with elderly adults in mainland China (Zhang et al., 2011), community adults and clinical sample in mainland China (Lin, 1989; Yen, Robins, & Lin, 2000), migrant workers (Mou et al., 2011), and mainland adolescent (Wang et al., 2013). The internal consistency of the full scale of the CES-D-Chinese is good. Across multiple studies, its Cronbach’s coefficients ranged from .83 to .90 (Lin, 1989; Mou et al., 2011; Yen et al., 2000). In terms of convergent validity, the Chinese version of CES-D has been found to be significantly related to decreased general health (Mou et al., 2011). In terms of discriminate validity, the Chinese version of CES-D successfully differentiated the general sample and the clinical sample in Yen et al. (2000)’s Study. In this study, the Cronbach’s Alpha of the Chinese version of CES-D was .91.

**Help-Seeking Attitudes.** The Attitudes Toward Seeking Professional Psychological Help Scale-Short Form (ATSPPH-SF; Fisher & Farina, 1995) measures individuals’ preference for seeking professional psychological help. It is a 10-item instrument that uses a 4-point liker scale response format from 1 = *disagree* to 4 = *agree*. Higher scores indicated more favorable attitudes toward seeking professional psychological help. A sample item is “A personal with an emotional problem is likely to solve it with professional help.” The ATSPPH-SF demonstrated good

internal consistency with US-based college samples ranging from .77 to .84 (Constantine, 2002; Elhai, Scheinle, & Anderson, 2008; Komiya et al., 2000). With a US-based clinical sample, the ATSPPH-SF also yielded good internal consistency (.78; Elhai et al., 2008). The one-month test-retest reliability of the ATSPPH-SF was .80 with a US-based college sample (Fischer & Farina, 1995). In terms of validity, higher scores of the ATSPPH-SF have been found to significantly associate with higher previous usage of mental health services and lower stigma regarding mental health services (Elhai et al., 2008; Fisher & Farina, 1995). Fang, Pieterse, Friedlander, and Cao (2011) developed the Chinese version of ATSPPH-SF and found its internal consistency lower (.65) than the English version. Fang et al (2011) suggested future researchers to add a natural point in the rating and expand its range to increase the reliability of the scale. Therefore, this study used the Chinese version of the ATSPPH-SF on a 7-point Likert-type scale from 1 = *strongly disagree* to 4 = *neutral* to 7 = *strongly agree*. Its Cronbach's Alpha with the current sample was .75.

### **Analytic plan**

Responses with no more than 15% of missing data at the item level and no more than 10% of missing data at the variable level were retained. Missing data was replaced with the person mean substitution approach (Dodeen, 2003). The Kaiser-Meyer-Olkin (KMO; Cerny & Kaiser, 1977) measuring of sampling adequacy and Bartlett's test of sphericity (Burkey, Wong, & Bell, 2016) were performed to explore whether data was appropriate for factor analysis. A principal axis factoring (PAF) was conducted to examine the factor structure of the CCMI because PAF focuses only on common variance among variables and is more accurate in identifying latent variables than the principal components analysis (Kahn, 2006; Worthington &

Whittaker, 2006). The oblique rotations were used to explore factor solutions because factors of CCMI were hypothesized to correlate with each other (Gorsuch, 1988; Thompson, 2004). Specifically, promax rotation was used because it is easy to conceptualize and is one of the most commonly used oblique rotation (Gorsuch, 1983). The parallel analysis and Cattell's scree-plot method were used to determine the number of factors to retain (Kahn, 2006). In parallel analysis, eigenvalues from 1000 random data sets that have the same number of cases and variables of the actual data set were extracted. The eigenvalues from the actual data were compared to the 95<sup>th</sup> percentile of the distribution of the eigenvalues of the random datasets as recommended by O'Connor (2000). The  $k$ th eigenvalue of the random dataset was the first eigenvalue of the random data set that was larger than that of the actual dataset. The number of factors to retain would be  $k$  minus one. The parallel analysis tends to overestimate number of factors (O'Connor, 2000). In Cattell's scree-plot method, first, a plot of eigenvalues of different factor solutions was made (Cattell, 1966). Then, a line was drawn through the point of the last substantial drop in eigenvalues (Cattell, 1966). The number of factors to retain would be the number before the eigenvalues flatten out (Cattell, 1966). When the parallel analysis and the scree-plot method did not converge on the number of factor to retain, the percentage of overall item variance, the percentage of variance accounted for by each factor, the interpretability of the factors were considered to determine the factor solution because factor solution should not be made based on one criterion (Kahn, 2006; Worthington & Whittaker, 2006). In addition, when a factor had less than 3 items, it would be eliminated.

After the number of factors was decided, principal axis factoring with promax rotation was again performed with the number of factors specified. The criterion for a salient factor

loading was .32 (Tabachnick & Fidell, 2001). Items that do not have a salient loading on any factor was deleted. Items with high coefficients on more than one factor were deleted when the difference between their loadings on different factors was less than .15 (Worthington & Whitaker, 2006). Another round of EFA was performed with the remaining items using the same approach to ensure that the factor structure remained the same after deleting items. The percentage of variance accounted for by each factor as well as the correlation between factors were calculated. Cronbach's alpha of the entire scale and subscales of CCMI were calculated to examine the internal reliability of CCMI. A Cronbach's alpha greater than .60 indicated acceptable internal reliability and a Cronbach's alpha greater than .70 indicated adequate internal reliability.

Because the seven-factor structure suggested by Song and Liang (in press) did not emerge in the EFA, the criterion-related validity hypotheses were re-conceptualized. Specifically, the total score of CES-D was expected to be positively correlated with the Leadership and Successful and Powerful factors and negatively correlated with the Egalitarian and Big-Hearted factors. Pearson correlations were conducted between the CES-D and the Successful and Powerful, Egalitarian, as well as the Big-Hearted factor of the CCMI. For exploration purposes, the correlations between the rest CCMI subscales and CES-D and ATSPPH-SF were examined as well. Because 12 correlations were examined at the same time, the Bonferroni correction was implemented to adjust the significant level to .004.

## **Study 2**

### **Participants**



Adult men who were from and resided in China and between 18 to 40 years of age was recruited using the Chinese web-based survey platform for Study Two. Participants were eligible to participate in this study irrespective of his sexual orientation. Study Two used confirmatory factor analysis (CFA) to confirm the factor structure identified in Study One as well as to examine the convergent validity of the CCMI. Following the recommendation of Kline (2005) and Quintana and Maxwell (1999), the sample size for CFA would be equal to or greater than 200.

**Procedure.** Data was collected using the same Chinese online survey platform (i.e., Wenjuanxing). The survey package for Study Two was in Chinese and consisted of the demographic questionnaire, CCMI, GRCS-SF, CCSSRI-50, CMNI, HFS, and AO-SF. It was accessed through hypertext link. Potential participants were provided with link two, upon which they were presented an informed consent form. At the end of the informed consent text, a statement reads, "I have read the procedure described above and by clicking the 'Next' button below, I am voluntarily agreeing to participate in this survey study." This served in place of a signature to further ensure the anonymity of participants. Next, individuals who agreed to participate completed the survey package. The survey concluded with a debriefing form. In the debriefing form, participants were asked to leave their email address if they wanted to take the CCMI in two weeks. Upon completion of the survey package, eligible participants received a cash incentive in Chinese currency. The Wenjuanxing platform charged a fixed basic rate of 1 RMB for 10 items per response. With the specification of gender and age group, the platform charged an extra 3 RMB for each participant. Participants received 30% of the fee paid to the

platform as their incentive. In study two, the platform charged 22 RMB per response and eligible participants received 6.6 RMB (1 U.S. dollars) per response.

### **Instruments**

**Chinese Masculinities.** The Contemporary Chinese Masculinity Inventory is a 30-item self-reported instrument to measure masculinity ideologies in mainland China (CCMI; Song, in progress). Participants rate the endorsement of Chinese masculinity ideologies on a 7-point Likert-scale from 1 = *Strongly disagree*, to 4 = neutral, to 7 = *Strongly agree*). High scores indicate higher level of agreement with Chinese masculinity ideologies. A sample item is “Men should stay loyal to his romantic partner.” The CCMI has five subscales: Responsible and Upright, Big-Hearted, Egalitarian, and Successful and Powerful. The CCMI has been validated in study one with adult men in China. The internal consistency of the whole scale and the five subscales in study one were: .77, .87, .79, .69, .73, .68. Evidence for criterion-related validity was demonstrated through significant negative correlations with scores of depression and significantly positively associations with help-seeking attitudes. In the current study, the Cronbach’s Alpha of CCMI of the whole scale and five subscales were: .73, .83, .83, .67, .64, .67.

**Gender role conflict.** The Gender Role Conflict Scale-Short Form (GRCS-SF; Wester, Vogel, O’Neil, & Danforth, 2012) is a 16 -item scale measuring conflicts and negative consequences men experience as a result of overly restrictive male gender roles. GRCS-SF has four subscales with four items for each subscale (i.e., restricted emotionality, RE; success, power, and competition, SPC; restrictive affectionate behavior between men, RABBM; conflict between work and family relations, CBWFR). GRCS-SF asks participants to report the degree to

which they agree with each item using a 6-point Likert scale from 1 = *strongly disagree* to 6 = *strongly agree*. A sample item is “I have difficulty expressing my emotional needs to my partner.” Scores will be obtained by averaging items, with higher scores indicating greater male role conflicts.

Support for the convergent validity of GRCS-SF has been found through a significant positive relationship between GRCS-SF and its longer form Male Gender Role Scale (GRCS; O’Neil, Helms, Gable, David, & Wrightsam, 1986; O’Neil, 2008). GRCS has found to be positively related to depression, anxiety, and substance use and negatively related to relationship intimacy and connectedness (O’Neil, 2008). Compared to the longer version, the four subscales of the short-form demonstrated lower overlap in variability. With a diverse sample, Wester et al. (2012) reported Cronbach’s reliability coefficients of .77 for both the Restricted Emotionality subscale and the Conflicts between Work and Family relationship subscale, .80 for the Success, Power, and Competition subscale, and .78 for the Restrictive Affectionate Behavior Between Men subscale. Zhang et al. (2015) translated the GRCS-SF into Chinese and examined its factor structure as well as its internal consistence with 506 males in mainland China. About half of the participants were Chinese gay men. CFA confirmed the four-factor model of the Chinese version of GRCS-SF. The Cronbach’s alpha was .84 for the heterosexual participants and .82 for gay participants. The Cronbach’s alphas for the subscales ranged from .72 to .79 for both gay and heterosexual samples. The Chinese version of GRCS-SF was used in this study. The Cronbach’s alpha was .68 of the current sample for the whole scale and .78 for RABBM, .63 for RE, .71 for CBWFR, and .57 for SPC.

**Conformity to Masculine Norms Inventory.** The Conformity to Masculine Norms

Inventory (CMNI; Mahalik et al., 2003) is a 94-item inventory that measures to what extent men conform to hegemonic masculinity on a 4-point Likert scale (from 1 = *strongly disagree* to 4 = *strongly agree*). Higher scores indicate a higher level of conformity to hegemonic masculinity. The CMNI has 11 subscales: Emotional Control, Winning, Playboy, Violence, Self-reliance, Risk-taking, Power over Women, Dominance, Primacy of Work, Pursuit of Status, and Disdain for Homosexuals. With a sample of predominantly White US college students, the CMNI yielded Cronbach's reliability coefficients between .72 to .94 for all 11 subscales (Mahalik et al., 2003). Convergent validity of the CMNI has been established by its significant correlation with the Brannon Masculinity Scale – Short Form (BMS; Brannon & Juni, 1984) and the GRCS. Criterion validity of the CMNI has been demonstrated by its significant relationship with negative help-seeking attitudes and higher psychological distress (Mahalik et al., 2003).

Parent and Moradi (2009) shortened the CMNI and created the 46-item CMNI-46. Confirmatory factor analysis indicated all items of the CMNI maintained the original structure (Parent & Moradi, 2009). However, items of the Dominance and Pursuit of Status subscales had relatively low factor loadings and were therefore eliminated from CMNI-46. Items that had lower loadings on other factors were eliminated as well (Parent & Moradi, 2009). The remaining nine factors of the CMNI-46 were highly correlated with that of CMNI (Parent & Moradi, 2009). The internal consistency of the CMNI-46 was also found to be comparable to that of the original CMNI (Parent & Moradi, 2009). A sample item of CMNI-46 is "It is important for me to win." Rochelle and Yim (2015) developed a Chinese version of the CMNI-46 based on a sample of adults in Hong Kong. All but one item of the CCMNI-46 loaded on the intended latent factor. Five of the 46 items had factor loadings lower than .30 (Rochelle & Yim, 2015). The internal

consistency of the CCMNI-46 was acceptable but lower than that of the CMNI-46. In addition, the Hong Kong sample obtained a lower mean score on the Violence and Playboy subscales compared to the predominantly White sample used in Parent and Moradi (2015)'s study. The Chinese version of CCMNI-46 was used in this study. The Cronbach's alpha was .73 of the current sample for the whole scale and .57 (Winning), .76 (Playboy), .75 (Self-Reliance), .76 (Violence), .84 (Heterosexualism), .60 (Risky Behavior), .63 (Work Primacy), .54 (Emotional Control), and .63 (Power over Women) for the nine subscales.

**Chinese College Student Sex Roles.** The Chinese College Student Sex Role Inventory (CCSSRI, Qian et al., 2000) is a 100-item inventory that measures Chinese students' perception of masculinities and femininities. Liu et al. (2011) created a 32-item briefer version – the CCSSRI- that measures masculinities and femininities. The masculinity subscale includes 16 items that measures Leadership, Braveness, Rationality, and Generosity. The femininity scale includes 16 items that measures Compassion, Femininity, as well as Diligence and Thrifty. The items consist of adjectives that describe commonly endorsed masculinity and femininity norms in mainland China. Participants rate to what extent the adjectives describe themselves from 1 = *totally not me* to 6 *totally me*. Higher scores indicate higher endorsement of Chinese masculinity norms. The masculinity subscale demonstrates good internal consistency. Specifically, in the initial administration and the re-test, the Cronbach's Alphas were .89, and .82 for the masculinity subscale and .84 and .80 for the femininity subscale. The discriminant validity of the masculinity subscale has been indicated by the significant higher endorsement of the masculinity items by male Chinese college students than female Chinese college students. The discriminant validity of the femininity subscale has been established by the significant higher endorsement of the

femininity items by female Chinese college students than male Chinese college students. In the current study the Cronbach's alpha was .87 for the whole scale, .86 for the masculinity subscale, and .88 for the femininity subscale.

**Forgiveness.** The Heartland Forgiveness Scale (HFS; Thompson et al., 2005) is an 18-item instrument that measures forgiveness of self, other, and situations. Responses are rated on a 7-point Likert-type scale (from 1 = *almost always false of me* to 7 = *almost always true of me*). Higher scores indicate higher levels of forgiveness. A sample item is "I eventually make peace with bad situations in my life." The internal consistency of the HFS ranged from .84 to .87 with US college student and community samples (Thompson et al., 2005). The three-week test-retest reliability of the HFS was .83 with a college student sample and .77 with a community sample (Thompson et al., 2005). Discriminant validity of the HFS was demonstrated through its significant negative relationship with the Transgression-Related Interpersonal Motivations Inventory (TRIM; McCullough et al., 1998) (Thompson et al., 2005). In addition, the HFS has been found to be negatively associated with rumination (Nolen-Hoeksema & Morrow, 1991) and hostile thoughts (Snyder et al., 1997). Wu (2016) translated the HFS into Chinese. However, no information on the reliability or validity of the Chinese version of HFS is available. The Chinese version of the HFS was used in this study. Its Cronbach's Alpha of the current sample was .84.

**Aggression.** The 12-item Aggression Questionnaire-Short (AQ-S; Buss & Perry, 1992; Bryant & Smith, 2001) was used to assess participants' beliefs and behaviors about aggression. AQ-S is an abridged version of Buss and Perry (1992)'s 29-item Aggression Questionnaire (AQ). It has four subscales: Physical Aggression, Verbal Aggression, Anger, and Hostility. Participants rate their agreement with the items on a 5-point Likert-type scale from 1 = *not at all*

*accurate* to 5 = *very accurate*. A sample item is “I have threatened people I know”. All four subscales of AQ-S showed strong construct and discriminant validity in CFA when equality constraints was used to test the strength of validity coefficients (Bryant & Smith, 2001).

Criterion validity variables including physical assault, verbal hostility, anger arousal, and global hostility were used in the CFA (Bryant & Smith, 2001). Maxwell (2007) developed the Chinese version of AQ-S (AQS-C) and found that the four-factor model had a better fit with the AQ-S than AQ with a sample of Chinese participants in Hong Kong. Linguistically, responses from bilingual participants indicated that scores of the Chinese and English versions of AQ-S were highly correlated. AQS-C was used in this study. In Maxwell’s study, the four subscales yielded Cronbach’s alphas ranging from .56 to .76 with four different samples. However, the author of this current study was unable to get hold of Maxwell to obtain the AQS-C. Thus, translation and back-translation procedure was utilized to create another Chinese version of AQ-S. This newly created version of AQ-S was utilized in this study. Its Cronbach’s Alpha of the current sample was .68

**Analytic plan.** Responses with no more than 15% of missing data at the item level and no more than 10% of missing data at the variable level were included in the analysis. Missing data was replaced with the person mean substitution approach (Dodeen, 2003). A CFA was conducted using the maximum-likelihood method in IBM SPSS Amos 25.0 . First, normality of data was examined according to guidelines established by Curran, West, and Finch (1996). Two models were tested. The first model was the five-factor identified in the EFA. The second model loaded all items onto one factor. Following Kline (2005) and Worthington and Whittaker (2006)’s advice, three model fits indices were examined: indices: the comparative fit index (CFI)

with a value equal to or greater than .90, the Root Mean Square Error of Approximation (RMSEA) with 90% confidence intervals and a value equal to or smaller than .06, and the Standardized Root Mean Square Residual (SRMR) with a value equal to or smaller than .08 (Quintana & Maxwell, 1999; Weston & Gore, 2006) would indicate a good model fit. The chi-square test statistic was reported but not considered as an index of the goodness-of-fit because it calculates the difference between the observed covariance matrix and is very sensitive to sample size (Bentler, 1990). Sample size, number of degrees of freedom and theoretical bases of the models was considered when evaluating the model (Wester et al., 2012; Weston & Gore, 2006). The chi-square difference test was used to examine whether a significant change occurred from the five-factor model to the one-factor model. In addition, modification indices would be examined and meaningful modification suggestions would be considered.

Because the seven-factor structure suggested by Song and Liang (in press) did not emerge in the EFA, the convergent-related validity hypotheses were re-conceptualized based on the five-factor model. Specifically, Pearson correlations between the five subscales of the CCMI and four subscales of GRCS-SF were conducted. The Leadership and Successful and Powerful subscales of the CCMI were expected to be positively correlated with GRCS's Success, Power, Competition subscale. The Egalitarian subscale of the CCMI was expected to be negatively correlated with the Restrictive Emotionality subscale of the GRCS. Pearson correlations were also conducted between the subscales of the CCMI and subscales of the CMNI. The Leadership and Successful and Powerful subscales were expected to be positively correlated with CMNI's Winning and Power over Women subscales. The Egalitarian subscale was expected to be negatively related to the Violence subscale of CMNI. The Responsible and Upright subscale of



the CCMI was expected to be negatively correlated with the Playboy subscale of CMNI. Pearson correlations between the subscales of the CCMI and that of the CCSSRI were examined. The Responsible and Upright subscale was expected to be positively and significantly related to the Diligence subscale of CCSSRI. The Leadership and Successful and Powerful subscales were expected to be significantly related with CCSSRI's Leadership and Braveness subscales. The Big-Hearted subscale of the CCMI was hypothesized to be positively related with the Compassion and the Generosity subscales of the CCSSRI. In addition, the Leadership and Successful and Powerful subscales of the CCMI was expected to be negatively related with the Femininity subscale of CCSSRI.

In addition, Pearson correlations were conducted between the Egalitarian subscale of the TAO-C. The direction of this relationship was expected to be negative. The Big-Hearted subscale of the CCMI was hypothesized to be positively related with the HFS as well.

For exploration purposes, the correlations between the rest CCMI subscales and the total score and subscale scores of GRCS-SF, CMNI, and CCSSRI as well as the total scores of HFS and AQS-C were examined as well. Because more than 100 correlations were examined at the same time, significant level was adjusted to .001.

### **Study 3.**

#### **Participants**

Study three examined the test-retest reliability of CCMI with 50 male participants who participated in either study 1 or study 2. A sample size of 50 was recommended as an adequate sample size to detect an estimated intra-rater reliability of .80 with a 95% confidence interval for

test-retest studies (Giraude & Mary, 2001). Participants in study three were planned to take the CCMI again two weeks later.

### **Instruments**

**Chinese Masculinities.** The Contemporary Chinese Masculinity Inventory is a 30-item self-reported instrument to measure masculinity ideologies in mainland China (CCMI; Song, in progress). Participants rate the endorsement of Chinese masculinity ideologies on a 7-point Likert-scale from 1 = *Strongly disagree*, to 4 = neutral, to 7 = *Strongly agree*). High scores indicate higher level of agreement with Chinese masculinity ideologies. A sample item is “Men should stay loyal to his romantic partner.” The CCMI has five subscales: Responsible and Upright, Big-Hearted, Egalitarian, and Successful and Powerful. The CCMI has been validated in study one and two with adult men in China. The internal consistency of the whole scale and the five subscales in study one and two were respectively: .77, .87, .79, .69, .73, .68 and .73, .83, .83, .67, .64, .67. In terms of criterion-related validity, the CCMI is significantly negatively correlated with depression and significantly and positively correlated with help-seeking attitudes. In terms of convergent validity, the CCMI has found to be significantly and positively correlated with another measure of Chinese gender role expectations and forgiveness, and significantly and negatively correlated with measures of Western masculinity ideologies and aggression.

### **Procedure.**

Two weeks later, participants who indicated interest in retaking the CCMI were provided with a hypertext link through their email and reminded to take CCMI again. Additional incentives were provided to eligible participants who take the CCMI for the second time. The

Wenjuanxing platform charged a fixed basic rate of 1 RMB for 10 items per response. With the specification of gender and age group, the platform charged an extra 3 RMB for each participant. Participants received 30% of the fee paid to the platform as their incentive. In study three, the platform charged 8 RMB per response and eligible participants received 3 RMB (45 cents U.S. dollars) per response.

**Analytic plan.**

Only responses with no missing data would be included in the analysis. The test-retest reliability of CCMI and its subscales were calculated by correlating Time 1 CCMI overall scores and Time 2 CCMI overall scores and correlating Time 1 and Time 2 subscales scores. A Pearson correlation coefficient greater than .65 would indicate acceptable test-retest reliability. Time 1 and Time 2 was two weeks apart as most health-related scale development research utilizes a one-week or two-week interval (Polit, 2014).

## Chapter IV

### Results

#### Study 1

##### Participants

A total of 398 participants responded to the survey. Seventeen participants completed the survey in less than 3 minutes, 23 participants responded to less than 85% of the questions, 4 participants resided outside of mainland China, and another 16 participants failed the validity questions. Their responses were excluded.

The final sample included 338 male participants who resided in China. Among the 338 responses, 21 responses had missing data. These missing data were substituted by the individual participant's corresponding subscale mean (Doeen, 2003). The participants' age ranged from 18 to 40 years ( $M = 29.31$  years;  $Mdn = 30$  years;  $SD = 5.75$  years). All but six participants (1.8%) were from the Han (i.e., Chinese) ethnic group. The six ethnic minority participants were from the Hui ( $n = 2$ ), Zhuang ( $n = 1$ ), and Man ( $n = 3$ ) ethnic groups. The majority of the participants (89%) identified as strictly heterosexual, 8% of the participants identified as mostly heterosexual, and 1.8% of the participants identified as bisexual, only 0.9% of participants identified as mostly gay. In terms of where participants were born and raised, more than two-thirds of them grew up in rural settings (42%) or small towns (30%). In terms of participants' current location, 73% of them resided in large cities at the time of the recruitment and 22% of them resided in small towns at the time of the recruitment. The majority of the participants were married (55%) or in a committed relationship (20%). About a quarter of the participants were single (25%). Only one participant was divorced (0.3%).

Geographically, participants lived in 27 out of the 31 mainland provinces, autonomous regions, or municipalities. The study recruited no participants from the following four regions: Tibet autonomous region, Ningxia Hui autonomous region, Hainan province, and Guizhou province. About 90% of the participants had a bachelor's degree (81%) or a graduate degree (11%). Twenty-three participants (7%) had a high school degree, four participants (1.2%) had some middle school education, and one participant had only some elementary school education (0.3%). Their occupations were in the fields of marketing and customer services (7.1%), management and HR (13.9%), engineering and programming (12.1%), finance & accounting (3.6%), construction and other types of blue-collar work (4.1%), teaching and research (5.6%), medicine (3.3%), student (13.3%), administration (26.3%), and other (10.4%). Responses indicated that about half of the participants had no (7%) or very little (40%) exposure to materials on gender equality, 42% of the participants had some exposure, and 11% had a lot of exposure.

### **Preliminary Analyses**

In the EFA, negatively worded items were reversely scored for consistency. First, KMO and the Bartlett's test was performed to explore whether the data was appropriate for factor analysis. The KMO indicator was .9, which indicated that the sample was adequate because the recommended value is .6 (Cerny & Kaiser, 1977). Also, a significant Bartlett's test of sphericity ( $\chi^2 (1540) = 7171, p < .001$ ) indicated that there were significant correlations among the variables (Burkey, Wong, & Bell, 2016). Combing the results of KMO and Bartlett's Test, the sample was determined to be appropriate for EFA.

### **Exploratory Factor Analysis**

The first round of PAF with promax rotations was conducted to identify the optimal factor solution. Cattell's scree-plot and parallel analysis were jointly used to determine the factor solution. In parallel analysis, the 10th eigenvalue of the random dataset (.65) was greater than that of the actual dataset (.62) for the first time, indicating that a 10-factor solution could have been derived from sample noise (Franklin et al., 1995). Therefore, the parallel analysis suggested a 9-factor solution. Then, a plot of eigenvalues of different factor solutions was made (Cattell, 1966). Subsequently, a line was drawn through the point of the last substantial drop in eigenvalues (Cattell, 1966). The number before the eigenvalues flatten out was five (see Figure 1, Cattell, 1966). Therefore, the Cattell's scree-plot suggested a five-factor solution.

Because the parallel analysis and the scree-plot method did not converge on the number of factors to retain and the parallel analysis tends to over-estimate and Cattell's scree-plot tends to underestimate (Gorsuch, 1983; Kahn, 2006), the five-, six-, seven-, eight-, nine- factor solutions were all explored in order to determine the optimal factor solution. Items loadings in the pattern matrix were reviewed to determine whether an item loaded saliently on a specific factor (Worthington & Whittaker, 2006). The criterion for a salient factor loading was .32 (Tabachnick & Fidell, 2001). Items that do not have a salient loading on any factor was deleted. Items with high coefficients on more than one factor were deleted when the difference between their loadings on different factors was less than .15 (Worthington & Whitaker, 2006).

Results of the nine-factor solution revealed that this solution accounted for 40.63% of shared variance. The nine-factor solution indicated that item 55 "Men should not hold disdain for the LGBT community" was the only salient item that loaded on the 9<sup>th</sup> factor and item 35 "Men should criticize others when they make small mistakes" was the only salient item that loaded on

the 8<sup>th</sup> factor. The eight-factor solution revealed that this solution accounted for 39.17% of shared variance. This solution indicated that item 55 and item 37 (“Men should allow different opinions at work”) were the only two salient items loaded on the 8<sup>th</sup> factor. The seven-factor solution accounted for 37.66% of shared variance. The 7-factor solution also showed that item 55 and item 37 were the only two salient items loaded on the 7<sup>th</sup> factor. Because Worthington and Whittaker (2006) recommended at least three items for one factor, the nine-, eight-, and seven-factor solutions were eliminated.

The six-factor solution accounted for 36% of shared variance. Initially, every factor in the six-factor solution had three or more items. However, items 32 (“It is ok for men to use illicit drugs, gamble, and consume commercial sex”) and 49 (“Men can beat up his spouse”) cross-loaded on the 1<sup>st</sup> and 6<sup>th</sup> factors. Therefore, item 32 and 49 were deleted. Another round of EFA with a six-factor solution was performed. In this time, the 6<sup>th</sup> factor had only two items left. Therefore, the six-factor solution was also eliminated.

Then, the five-factor solution was examined. Initially, the 5-factor solution accounted for 34.35% of shared variance. Every factor in the 5-factor solution had three or more items. The five-factor solution and six-factor solution overlapped on the loadings of four factors. Items 4, 5, 12, 17, 22, 26, 30, 34, 37, 39, 54, 55, 56 did not load saliently on any factor and therefore were deleted. Items 36, 49 and 53 cross-loaded on the 1<sup>st</sup> and the 3<sup>rd</sup> factors and were therefore deleted. The five-factor solution was examined for the second time with the remaining 40 items. Items 2, 3, 33 did not load saliently on any factor; items 11 cross loaded on both factor two and five; item 21 could not be conceptually interpreted on factor two. Therefore, these five items were deleted. A third round of the five-factor solution was examined with the remaining 35

items. This time, all factors loaded saliently on one factor and no cross loading was identified.

Because the first factor had many more items than the other four factors, five items (23,25,29,32,50) that had the lowest loadings on this factor were deleted in order to optimize scale length and uniform the lengths of the subscales (Worthington & Whitaker, 2006). Another round of EFA was performed. All remaining 30 items loaded on the same factor as the previous round. The final factor loadings are presented in Table 1. With the remaining 30 items, this model accounted for 41.01% of shared variance. Descriptive statistics and bivariate correlations for the five factors are shown in Table 2.

The factors were labelled by extracting common themes among the items that loaded saliently on the same factor. The first factor consisted of two items from the Responsible factor, three items from the Honest factor, another three items on the caring factor, and one item from Non-Violence and Respect factor of the proposed seven-factor model according to Song and Liang (in press)'s study. These 14 items captured the expectations for men to be responsible and upright in family, romantic relationships, society, and at work. It was named Responsible and Upright. A sample item is "Men should be honest with friends." The second factor consisted of one item from the Responsible factor, two items from the Forgiving factor, and three items from the Caring factor of the proposed seven-factor model based on Song and Liang's study. These six items emphasize the importance for men to be altruistic, generous, and forgiving and was named Big-hearted. Six items loaded saliently on this factor. A sample item is "Men should offer help to people who need help." The third factor included six items that were reverse coded to endorse non-violence and respect, caring, forgiveness, household responsibilities, and calm. The third factor was named Egalitarian and consists of six items. A sample item is "Family members'



opinions and feelings are not important to men”. The fourth factor consisted of three items from the Rational and Calm factor and two items from the Dominant and Brave factor of the proposed seven-factor model based on Song and Liang’s (in press) study. These five items indicated that men should possess leadership skills and was therefore named Leadership. A sample item is “men should be role models of their children.” The fifth factor included four items from the Dominant and Brave factor from the proposed seven-factor model based on Song and Liang’s (in press) study. These four items reflect traditional Chinese masculinity’s emphasis on male dominance and was named Successful and Powerful. A sample item is “men should be rich.”

### **Reliability**

Internal consistency of the whole scale and for each subscale were also calculated. The Cronbach’s Alpha for the whole scale was .77, which indicated adequate internal consistency of the 30 items. The Cronbach’s Alpha for the five factors were respectively .87, .79, .69, .73, .68 (See Table 2). The Responsible and Upright factor, Altruistic and Generous factor, and Leadership indicated adequate internal consistency. The Egalitarian and Dominance factors yielded acceptable internal consistency.

### **Validity**

As hypothesized, the Big-Hearted ( $r = -.22$ ) and Egalitarian ( $r = -.25$ ) subscales significantly and negatively correlated with the total score of CES-D. The total score of CCMI ( $r = -.29$ ) and the Responsible and Upright subscale ( $r = -.22$ ) also significantly and negatively correlated with the total score of CES-D. However, contrary from the hypotheses, the Leadership subscale ( $r = -.17$ ) also significantly and negatively correlated with the total score of CES-D and

the Successful and Powerful subscale did not significantly associate with the total score of CES-D ( $r = -.11$ ). In addition, the total score of CCMI ( $r = .23$ ) and the Responsible and Upright ( $r = .21$ ), Big-Hearted ( $r = .23$ ), and Egalitarian ( $r = .23$ ) subscales positively and significantly correlated with total score of ATSPPH-SF. The Leadership ( $r = -.07$ ) and Successful and Powerful s ( $r = .01$ ) subscale were not significantly related to ATSPPH-SF (see Table 3).

## **Study 2**

### **Participants**

A total of 280 participants responded to the survey. Eleven participants completed the survey in less than 5 minutes, 27 participants responded to less than 85% of the questions, 3 participants resided outside of mainland China, and another 11 participants failed the validity questions. Their responses were excluded.

A total of 228 responses were retained for analysis. Among the 228 responses, 16 responses had missing data. These missing data were substituted by the individual participant's corresponding subscale mean (Doeen, 2003). The participants' age ranged from 18 to 40 years ( $M = 29.49$  years;  $Mdn = 29$  years;  $SD = 5.38$  years). All but eight participants (4%) were from the Han (i.e., Chinese) ethnic group. Two participants did not report their ethnicity. The six ethnic minority participants were from the Hui ( $n = 1$ ), Zhuang ( $n = 3$ ), and Man ( $n = 2$ ) ethnic groups. The majority of the participants (91%) identified as strictly heterosexual, 7% of the participants identified as mostly heterosexual, only 1.6% of the participants identified as bisexual or mostly gay. In terms of where participants were born and raised, close to three quarters of them grew up in rural settings (38%) or small towns (36%). In terms of participants' current location, 74% of them resided in large cities at the time of the recruitment and 25% of them resided in small towns

at the time of the recruitment. The majority of the participants were married (56%) or in a committed relationship (20%). A little less than a quarter of the participants were single (24%). Only two participants were divorced (0.8%).

Geographically, participants lived in 30 out of the 31 mainland provinces, autonomous regions, or municipalities. The study recruited no participants from the following Tibet autonomous region. About 94% of the participants had a bachelor's degree (85%) or a graduate degree (9%). Thirteen participants (6%) had a high school degree. Their occupations were in the fields of marketing and customer services (6.6%), management and HR (12.7%), Engineering and programming (14.9%), finance & accounting (3.9%), construction and other types of blue-collar work (4.8%), teaching and research (12.3%), medicine (1.3%), student (8.3%), administration (24.1%), and other (10.5%). Responses indicated that about half of the participants had no (5%) or very little (42%) exposure to materials on gender equality, 43% of the participants had some exposure, and 10% had a lot of exposure.

### **Preliminary Analysis**

Prior to the analysis, the skewness and kurtosis of the 30 observed variables were examined. The skewness values (-1.69 to 1.87) and kurtosis values (-.54 to 5.27) were within the recommended range of -2 to +2 for skewness and -7 to +7 for kurtosis (Curran, West, & Finch, 1996). Normal probability plots for the 30 observed variables showed a relatively straight line, indicating no substantial departures from normality (Stevens, 2009). Based on the above results, the assumption of univariate normality for CFA was satisfied.

### **Confirmatory Factor Analysis**

CFAs were conducted using the maximum-likelihood method in AMOS. Two models

were tested. The first model was the five-factor model identified in the EFA. In this model, all 30 items were constrained to load on the factors identified in study one. The five factors were also allowed to correlate with each other. The second model loaded all items on one factor. For the five-factor model, it has 703 sample moments and 84 estimated parameters. Since the number of sample moments is larger than that of the estimated parameters, the order condition is met. The five-factor model also met the three-indicator rule because at least one latent variable exists in both models, each latent variable has at least three indicators, and no double loadings or covariation among any of the error terms are proposed (Bollen, 1989). For the one-factor model, it has 465 sample moments and 61 estimated parameters. Since the number of sample moments is larger than that of the estimated parameters, the order condition is met. The one-factor model also met the 3-indicator rule because at least one latent variable exists in both models, each latent variable has at least three indicators, and no double loadings or covariation among any of the error terms are proposed (Bollen, 1989).

Following Kline (2005) and Worthington and Whittaker (2006)'s advice, model fits of the five-factor and one-factor models were examined using the following indices: the comparative fit index (CFI) with a value equal to or greater than .90, the Root Mean Square Error of Approximation (RMSEA) with 90% confidence intervals and a value equal to or smaller than .06, and the Standardized Root Mean Square Residual (SRMR) with a value equal to or smaller than .08 (Quintana & Maxwell, 1999; Weston & Gore, 2006). To create the one-factor model, the correlation among the five latent factors were fixed to a value of 1 (Worthington & Whittaker, 2006). The chi-square statistic was reported but not considered as an index of the goodness-of-fit because it calculates the difference between the observed covariance matrix and

is very sensitive to sample size (Bentler, 1990). Sample size, number of degrees of freedom and theoretical bases of the models were considered when evaluating the model (Wester et al., 2012; Weston & Gore, 2006).

The fit of the five-factor model was approaches acceptable. The chi-square statistic for this model was  $\chi^2(395, N = 228) = 652.57, p < .001$ . RMSEA and SRMR met the *a priori* criteria for good fit and CFI was approaching the *a priori* criteria for good fit: RMSEA = .054, SRMR = .075, CFI = .87. The borderline value of CFI might reflect the pattern that CFI tends to decrease when the number of variables increases in the model (Kenny & McCoach, 2003). All observed variables loaded significantly ( $p < .001$ ) on the proposed factors (see Table 4). Four of the five factors were significantly associated with each other with the exception that the Egalitarian factor and Successful and Powerful factor did not significantly relate to each other ( $r = .008, p = .83$ ). See Table 5 for the descriptive statistics and the intercorrelations of the five factors.

For exploratory purposes, modification indices were examined. Modification indices suggested that freeing the covariance between the uniqueness of eight sets of items would improve model fit. The eight sets of items are: items 18 and 28, items 20 and 31, items 27 and 28, items 28 and 31, items 28 and 44, items 43 and 44 under the Responsible and Upright factor, items 47 and 48 under the Altruistic and Generous factor, and items 19 and 41 under that Egalitarian factor. After freeing these parameters, the fit of the five-factor model improved:  $\chi^2(387, N = 228) = 608.24, p < .001$ , RMSEA = .050, SRMR = .073, CFI = .89. However, because the modified model is theoretical in nature and cannot be reflected in the actual scoring of

CCMI, the un-modified model is retained as the validated factorial structure in study two.

Discussion and implications were made based on the unmodified model.

The fit of the one-factor model was poor. Specifically, none of the fit indices met the *a priori* criteria for good fit:  $\chi^2(404, N = 228) = 2414.90, p < .001, RMSEA = .077, SRMR = .30, CFI = .73$ .

### **Reliability**

Internal consistency of the whole scale and for each subscale were also calculated. The Cronbach's Alpha for the whole scale was .73, which indicated adequate internal consistency of the 30 items. The Cronbach's Alpha for the five factors were respectively .83, .83, .65, .64, .67 (see Table 5). The Responsible and Upright factor, Altruistic and Generous factor, indicated adequate internal consistency. The Egalitarian, Leadership, and Successful and Powerful factors yielded acceptable internal consistency.

### **Validity**

As hypothesized, the Responsible and Upright subscale of CCMI ( $r = -.44$ ) was negatively and significantly correlated with the Playboy subscale of CCMI and significantly and positively correlated with the Diligence subscale ( $r = .31$ ) of CCSSRI. The Big-Hearted subscale of CCMI was positively and significantly correlated with the Generous ( $r = .41$ ) and Compassion ( $r = .48$ ) subscales of CCSSRI-32 as well as the total score of HFS ( $r = .38$ ). Also as hypothesized, the Anti Male-Chauvinism subscale of CCMI was negatively correlated with the Restrictive Emotionality subscale ( $r = -.18$ ) of GRCS-SF. The Leadership subscale of CCMI was positively and significantly correlated with the Responsible subscale of CCSSRI-32 ( $r = .46$ ). In addition, the Leadership and Successful and Powerful subscales of CCMI was

positively and significantly related to the SPC ( $r = -.25, -.31$ ) subscale of GRCS-SF and the Winning ( $r = .27, .30$ ) subscales of CMNI-46, as well as the Leadership ( $r = .30, .28$ ) and Braveness ( $r = .29, .21$ ) subscale of CCSSRI-32. In addition, the Successful and Powerful subscale of CCMI was positively and significantly related to the Power over Women ( $r = .27$ ) subscale of CMNI-46.

Surprisingly, the Leadership subscale was not significantly related to Power over Women ( $r = .06$ ). Also, contrary to expectations, neither the Leadership ( $r = .03$ ) nor the Successful and Powerful ( $r = .003$ ) subscales were significantly related to the Femininity subscale of CCSSRI-32. Table 6 - 9 demonstrates all the correlations that were examined in study two.

### Study 3

#### Participants

A total of 118 participants from study one and two indicated their interests in participating in study three. Although it was planned that two weeks later, link three would be sent to these 118 participants to remind them to take CCMI again, due to the miscommunication between the author and the wenjuangxing platform, link three was not sent to the prospective participants until a month later. Therefore, the actual time interval between the test and retest was a month.

A total of 60 participants took CCMI again at Time 2. Five participants responded to less than 85% of the questions, 12 participants provided more than one inconsistent responses to their age (i.e., more than 1 year difference), marital status, educational level, and childhood or current location, 7 participants provided email addresses that did not match any of the email addresses provided by the 118 participants, and 2 participants completed the survey in less than 2 minutes.

Their responses were excluded.

The final sample included 34 male participants who resided in China. The participants' age ranged from 18 to 40 years ( $M = 31.41$  years;  $Mdn = 32.5$  years;  $SD = 5.07$  years). All but one participant (97%) were from the Han (i.e., Chinese) ethnic group. This one (2.9%) non-Han participant was from the Zhuang ( $n = 1$ ) ethnic group. The majority of the participants (97%) identified as strictly heterosexual, 3% of the participants identified as mostly heterosexual, and none of the participants identified as bisexual or as mostly gay. In terms of where participants were born and raised, more than two-thirds of them grew up in rural settings (32%) or small towns (35%). In terms of participants' current location, 79% of them resided in large cities at the time of the recruitment and 21% of them resided in small towns at the time of the recruitment. The majority of the participants were married (65%) or in a committed relationship (15%). About 18% of the participants were single. Only one participant was divorced (2.9%).

Geographically, participants lived in 16 out of the 31 mainland provinces, autonomous regions, or municipalities. All of the participants had a bachelor's degree (88%) or a graduate degree (12%). Their occupations were in the management and HR (23.5%), engineering and programming (14.7%), finance and accounting (5.9%), teaching and research (5.9%), student (5.9%), administration (32.4%), and other (11.8%). Responses indicated that about 40% of the participants had no (11.8%) or very little (29.4%) exposure to materials on gender equality, 44% of the participants had some exposure, and 15% had a lot of exposure.

Test-retest coefficients were .84 for the total CCMI, .65 for Responsible and Upright, .85 for Big-Hearted, .57 for Egalitarian, .55 for Leadership, and .63 for Successful and Powerful (see Table 10).



Internal consistency of the whole scale and for each subscale were also calculated at both the pre- and post- test. The Cronbach's Alpha for the whole scale was .76 at both pre-test and post-test, which indicated adequate internal consistency of the 30 items. The Cronbach's Alpha for the five factors were respectively .70, .86, .35, .46, .73 at pre-test and .68, .79, .35, .62, .69. at post-test.

## Chapter V

### Discussion

The goal of the current study was to examine the factor structure, validity, and reliability of the newly developed Contemporary Chinese Masculinity Inventory. A total of five factors emerged in EFA. They are: Responsible and Upright, Big-hearted, Egalitarian, Leadership, and Successful and Powerful. The CFA indicated that the five-factor model demonstrated a borderline acceptable level of fit with a different sample.

The CCMI also demonstrated criterion-related validity and convergent-related validity. In terms of evidence for criterion-related validity, the total score of CCMI and the majority of its subscales were significantly and negatively correlated with depression and significantly and positively correlated with help-seeking attitudes. Evidence for convergent-related validity was demonstrated through significantly negative correlations between the total score of CCMI, and the majority of its subscales and measures of hegemonic masculinities (i.e., GRCS & CMNI) and aggression. Furthermore, the total score of CCMI and the majority of its subscales were significantly and positively correlated with both the masculinity and femininity subscales of an instrument that measures Chinese gender role expectations (i.e., CCSSRI) as well as forgiveness. In the section below, results of the EFA and CFA, as well as evidence for validity, are discussed.

The five-factor model emerged from EFA was different from the proposed seven-factor model (i.e., dominant and brave, rational and calm, caring, respectful and non-violent, responsible, honest and law-abiding, as well as forgiving and generous) based on Song and Liang's (in press) qualitative study. Many items from the proposed seven-factor structure went to two or three different factors in the five-factor structure. A possible explanation is that factors

emerged in the qualitative study were not as distinct as factors emerged in EFA. In other words, some factors in the seven-factor model overlapped with each other. This explains why the number of factors reduced from seven to five. In both the EFA and CFA studies, the five factors demonstrated significant and moderate bivariate correlations with the exception that no significant association was found among the Egalitarian factor and the Successful and Powerful factor in both studies. This suggests that the five factors represent distinct constructs.

When interpreting the results of the current studies, it is important to note that items of CCMI (e.g., men should take care of the older generation) prompt for participants to indicate how men should behave ideally instead of how participants actually behave. In other words, CCMI measures contemporary Chinese masculinity ideologies instead of actual behaviors. This may explain why many items reflect positive attributes because Song and Liang (in press)'s qualitative study also prompted for ideologies. It is also important to note that the five factors emerged in EFA should be interpreted within the context of the increased gender gap in China over the past 10 years. Specifically, China's ranking on Global Gender Gap fell from 61<sup>st</sup> in 2010 to 103 in 2018 (World Economic Forum, 2018). The emergence of the Egalitarian factor does not mean that gender equality has been reached in China. Instead, it is possible that the widened gender gap has increased awareness for egalitarian relationship between men and women. However, because the CCMI measures masculinity ideologies instead of actual behaviors, it is possible that men who endorsed egalitarian will not actually give up their privilege and power.

In terms of internal consistency, the total scale and the Responsible and Upright factor demonstrated strong internal consistency with both samples. The Leadership factor demonstrated good internal consistency in study one and acceptable internal consistency in study two. The

Egalitarian, and Successful and Powerful factors demonstrated acceptable internal consistency with both samples. In addition, the CCMI demonstrated good one-month test-retest reliability for the total score and the Big-Hearted factor, acceptable test-retest reliability for the Responsible and Successful and Powerful factors, and marginally acceptable test-retest reliability for the Egalitarian and Leadership factors.

The Responsible and Upright factor consisted of two items that emphasize men's duties to take care of their children and older generation, three items that emphasize men's responsibilities to care and support their romantic partner, one item that indicates expectations for men to respect women, and three items that suggests that men stay honest with their romantic partner, friends, and society. The Responsible and Upright factor illustrate different social contexts that Chinese men are expected to be responsible, including at home, in romantic relationships, with friends, and in society. It was significantly and positively correlated with the Diligence subscales of CCSSRI and significantly and negatively correlated with the Playboy subscale of CMNI. This factor reflects the images of *junzi* and family men according to Confucian gender ideologies. The images of *junzi* depicts an honest, loyal, straightforward, and tolerant men in the social context (Yang, 2005). In the family context, Confusion gender ideologies expect men to practice filial piety and provide for their family. The Responsible and Upright factor emphasizes men's filial piety responsibilities in terms of supporting the older generation, their spouses, and children (Liu & Chang, 2008).

It is important to note that the three items that illustrate men's responsibilities to care and support their spouses (e.g., Men should be gentle and patient with his romantic partner) reflect

the expectation for men to *Ti tie* their spouses, which is a caring and gentle action that demonstrates “feminine” qualities. These three items are consistent with Taoism’s gender ideologies for men to demonstrate some yin, or in other words, feminine qualities. In Jankowiak (2013) and Jankowiak and Li (2016)’s studies exploring expectations for men in romantic relationships, Chinese men were also expected to demonstrate feminine qualities. These findings are consistent with studies on many other Asian cultures, such as the as the Japanese culture (e.g., Steger & Koch, 2017), Filipino culture (Parrenas, 2015), the Malaysian culture (Khalaf et al., 2013), which found a similar expectation for men to be gentle and tender in romantic relationships. However, because Confucian gender ideology’s assigns men different masculine gender role in different social contexts, men’s displaying of feminine qualities was permitted only in the private sphere.

The Big-Hearted factor reflects the *wen* masculinities, which represent men’s ability to resolve conflicts peacefully, succeed in their scholarly pursuits, and contribute to the society (Louie, 2002). The Big-Hearted factor consisted of two items indicating expectations for men to resolve conflicts and not be frugal, four items reflecting requirements of men to help others in and contribute to the society. In essence, the Big-Hearted factor reflects expectations that Chinese men prioritize the needs and well-being of society over their individual needs and well-being. This may reflect a collectivistic orientation in China. It was significantly and positively correlated with both the masculinity and femininity subscales of CCSSRI including the Leadership, Braveness, Rationality, Generosity, Compassion, and Diligence subscales as well as the HFS. These associations may be evidence of contemporary Chinese masculinities’ moving toward androgyny.

The Big-Hearted factor reflects *wen* masculinities, whereby the ultimate goal for men is to accomplish achievements in career and scholarly pursuits in the social sphere and to govern the country and create peace in the world (Liu & Chang, 2008). For instance, in most of the dynasties in China's history, scholars (instead of military personnel) held the most important government positions. Many scholars shared scholar Zhongyan, Fan (1046, p. unknown)'s aspiration "I wish to be the first to worry about the nation's woes and the last to share its prosperity."

The Egalitarian factor suggests that Chinese masculinity ideologies may have shifted from male dominance to a more egalitarian relationship with women. The Egalitarian factor is consisted of all the reversely coded items. The Egalitarian factor includes items the need for men to reflect on themselves after conflicts engage in housework, avoid criticizing others when they make small mistakes, attend to family members and sexual partner's needs and feelings, and not endorse male-chauvinism. All the items loaded in this factor depict expectations for men to move away from male dominance and patriarchal family structure promoted by Confucian gender ideologies (Liu & Chang, 2008). These items reflect the increasingly popular image of a white-collar gentleman. The Egalitarian factor was significantly and negatively correlated with Aggression measured by and Violence as well as Power Over Women measured by CCNI. This finding is also consistent with Song and Liang's (in press) qualitative study, in which the expectations for men to be power-sharing and move away from patriarchy also emerged.

The significant correlation also supports Song and Liang's (in press) finding that Chinese men are embracing a more egalitarian relationship with women. Both men and women participated in Song and Liang's study but no gender difference were found among participants'

expectations for masculine gender roles. In the current study, all participants were men and a similar trend of disapproval of Male-Chauvinism was identified. Specifically, before reversely coding responses to items loaded on the Egalitarian factor, As evidenced by mean scores indicated that participants strongly disagreed with statements that reflect male chauvinism. Both studies suggest that Chinese men's masculine gender role expectations have been reconstructed to some extent as a result of social-cultural changes in modern China.

Interestingly, however, the last two factors (i.e., Leadership, Successful and Powerful) emerged in EFA indicated that some other aspects of male dominance still persist. The Leadership factor consisted of three items that reflect the need for men to remain calm and withstand a high level of pressure in critical moments. In other words, these three items indicate that men should be brave and strong in critical moments. The other two items reflect the expectation that men need to be a role model for their children and resolve problems independently. This factor emphasizes the expectation for men to be leaders. Because Confucianism creates hierarchies to privilege men and position men on leadership roles (Louie, 2002), this factor indicates that men are still expected to take leadership roles and possess leadership skills in modern China, which reflects male dominance. With respect to evidence for validity, the Leadership factor was found to be significantly and positively related with Leadership, Braveness, Rationality, and Compassion measured by CCSSRI as well as Success, Power, and Competition measured by GRCS. The Leadership factor's positive correlations with several subscales of CCSSRI may imply that braveness, rationality, and compassion are core components of leadership. The Leadership factor's positive correlation with Success, Power, and

Competition may indicate that the Leadership factor may share something in common with male dominance defined by hegemonic masculinities.

The Successful and Powerful factor consisted of items that represent male dominance according to traditional Chinese masculinities. These items expect men to be rich, have higher degrees than women, have a successful career, and perform well in sex. All four items indicate that men need to have high status in four major life domains: wealth, career, education and sex. The Successful and Powerful factor was significantly and positively correlated with Leadership, Braveness, Rationality, and Generosity measured by CCSSRI, Winning and Power Over Women measured by CMNI, as well as Success, Power, and Competition measured by GRCS. This is consistent with Hird (2009)'s finding that men are expected to have higher status and make more money than their wives. This finding is also consistent with Ng et al. (2008)'s finding, in which "Having lots of money" and "Having a good job" were the most frequently endorsed items by men in mainland China.

The co-existence of the Egalitarian, Leadership, and Successful and Powerful factors reflect the maintenance of the status quo. It is interesting to note that the shift in contemporary Chinese masculinities take place mostly in the private (i.e., family and romantic relationship) sphere. The fact that the whole scale of CCMI, as well as most of its subscales, were significantly and positively related with Success, Power, and Competition but significantly and negatively correlated with Power Over women supports this argument.

In other words, men are still expected to maintain dominance in the public sphere in terms of education, career, and wealth. One explanation is that with women closing the education gap with men (Mu & Xie, 2014) and taking on more financial responsibilities as a



result of social-political changes taking place in modern China, they have more power and voice to reconstruct Chinese masculinities, especially in the private and family sphere where the system is comparatively smaller and women tend to have more voice. Pimentel (2006) found that the division of household labor between women and men has decreased over time in China. However, even in the private and family sphere, men are still expected to take the lead in critical moments and when making important decisions as reflected in Leadership factor.

It is likely that the coexistence of contemporary Chinese masculinities' shifting away from male dominance and resistance to this shift have created some ambivalence and fluctuation in Chinese men's endorsement of male dominance. This trend is reflected in the relatively lower internal reliability of the Egalitarian, Leadership, and Successful and Powerful factors in both study one and two. It is possible that participants agreed with some of the items to a higher degree than other items and therefore reduced the internal reliability of these three factors. Participants' ambivalence and fluctuation regarding male dominance is also reflected in the relatively lower test-retest reliability of these three subscales. Because the concept of male dominance is under reconstruction, Chinese men's endorsement of male dominance likely fluctuates depending down context, critical incidents, and etc.

Among the five factors emerged in EFA, the Egalitarian factor and the Successful and Powerful factor were not significantly correlated with each other in both studies. In study one, all the rest factors positively and significantly correlated with each other. In study two, all but two pairs of factors were positively and significantly correlated with each other. The two pairs that were not significantly correlated with each other were the Egalitarian factor and Successful and Powerful factor, the Responsible and Upright factor and the Successful and Powerful factor. This

finding indicated that the Successful and Powerful factor is a very distinct construct. The Successful and Powerful factor's unique relationship with several of the validity variables (e.g., violence and aggression) is an evidence. This finding can also be interpreted as additional evidence of Chinese men's ambivalence about male dominance. Another possible explanation is that supporting a more egalitarian relationship with women and supporting male dominance do not fall under the same continuum. A person can support both at the same time or support one or the other but whether one supports a more egalitarian relationship with women cannot predict his opinions regarding male dominance in general.

In both studies, the mean scores of the Successful and Powerful factor (4.87, 4.80) were the lowest among the five factors. The mean scores of the remaining four factors were around or above 5.5, which landed between "*somewhat agree*" to "*agree*." The mean score of the Successful and Powerful factor landed between "*neutral*" to "*somewhat agree*," which indicate that participants were more ambivalent about items that more overtly reflect male dominance. In addition, the *SDs* (.86, .88) of the Successful and Powerful factor were much higher than that of the rest four factors in both studies, which indicate that participants' endorsement of male dominance varied to a greater extent. Both findings may support that the concept of male dominance is in the process of being reconstructed and Chinese masculinities are shifting away from male dominance.

Approximately 20 years ago, Levant et al. (1996) found that Chinese participants endorsed male dominance to a greater level than their US counterparts. The result of this study suggests that although male dominance still persist in contemporary China, the significance of it has been reduced over the past two decades, which is likely a result of Chinese women's gaining

more economic and social power over the past two decades. This interpretation needs to be tempered with the acknowledgement that Levant and his colleagues utilized a Western-developed measure of masculinity ideologies. However, the shifting-away from male dominance in the private sphere likely happens mostly within the middle-class only-child generation because women have much fewer financial resources in the upper class and rural communities and studies show that male dominance remain prevalent and unchallenged within these populations (Hird, 2009; Osburg, 2013; Xiao, 2011). More studies exploring Chinese masculinities in the upper class and rural communities are needed.

Another interesting finding is that the Successful and Powerful factor is the only factor that was not significantly correlated with both the masculine and feminine factors of CCSSRR. This finding is consistent with Liu et al. (2011) and Qian et al. (2000)'s finding that both male and female Chinese college students are moving away from dichotomous gender role ideologies to embrace androgynous gender role schema. The androgynous gender schema reflects Taoism's the yin-yang dyad, in which yin and yang not only complement each other but is also an important part of each other.

In summary, the findings of the current studies demonstrate initial evidence for the CCMI and indicate the complexity of contemporary Chinese masculinities. The CCMI may be more capable than western-derived measures of masculinity to study masculine gender role expectations. On one hand, traditional Chinese masculinity ideologies still persist including the yin-yang dyad, the image of *junzi*, *wen* masculinities, and male dominance promoted by Confucian gender ideologies. On the other hand, as a result of the social and political changes taking place in modern China, male dominance in the private sphere has been challenged and the

relationship between men and women is moving toward a more egalitarian relationship. Also, some components of Chinese masculinities contradict each other. For example, although both the yin-yang dyad and Confucian gender ideologies are important components of traditional Chinese masculinities, one supports an egalitarian relationship between men and women, the other supports male dominance. Similarly, in the contemporary time, the co-exist of the force to move Chinese masculinities away from male dominance and the resist to this shift also reflects this dialectical relationship among important components of contemporary Chinese masculinities.

The findings of the current studies indicate that contemporary Chinese masculinities share very little in common with hegemonic masculinities (e.g., Levant et al., 2013 Mahalik et al., 2003) in the United States. Four important components of hegemonic masculinities (i.e., risk-taking, distain for homosexuality, emotional control, and muscularity) are absent in contemporary Chinese masculinities in this sample. In Song and Liang (in press)'s qualitative study, these four components did not emerge at all, which suggest that they may not be core constructs of Chinese masculinity ideology. It is important to note that homophobia and discrimination targeting sexual minorities still persist in China, and the authorities there are taking a "no approval; no disapproval; no promotion" stance on LGBT related rights and have banned several LGBT events in recent years (Chen, 2018). However, it did not emerge as a construct of contemporary Chinese masculinities in either Song and Liang (in press)'s qualitative study or the current studies. Furthermore, most of the subscales of CCMI were not significantly related with three of the four components measures by hegemonic masculinities measure (e.g., Mahalik et al., 2003; Wester et al., 2012). Specifically, none of the subscales of CCMI were significantly related to risk-taking measured by CMNI or restrictive affectionate behaviors

between men. The Leadership subscale of CCMI is the only subscale that was significantly related to homosexuality. The Big-hearted subscale of CCMI was the only subscale that was significantly related to emotional control. Although the current studies did not study the relationships between CCMI and muscularity, responses on muscularity were absent in Song and Liang's (in press) study, which is consistent with Chinese culture's lack of body/mind dichotomy (Song, 2004).

Contemporary Chinese masculinities also endorse ideologies that are opposite of the values depicted in hegemonic masculinities. First, as the Playboy subscale of the CMNI reflect dishonesty in romantic relationships, it makes sense that it was significantly negatively correlated with three of the CCMI subscales (i.e., Responsible and Upright, Egalitarian, and Leadership). The remaining two subscales (e.g., Big-Hearted, and Successful and Powerful) were not significantly related to the Playboy subscale. It is important to note that although the item "perform well in sex" emerged under the Successful and Powerful factor, it is different from what hegemonic masculinities define as "having an active sex life". In the context of contemporary Chinese masculinities, "perform well in sex" means that men need to be attentive to their partners' needs in sex as suggested by another item emerged in the Egalitarian factor. Second, other than the Successful and Powerful subscale, the CCMI subscales and the total scale score were significantly and negatively correlated with aggression and violence. The Successful and Powerful subscale was not significantly related to violence or aggression either. This finding is consistent with traditional Chinese masculinities, which actively disapprove the use of violence. Both *wen* and *wu* masculinities regard resolving conflicts peacefully as a highly desired quality for men. Third, as it was discussed above, contrary to hegemonic masculinities'

avoidance of femininity, contemporary Chinese masculinities embrace an androgynous gender role schema which emphasizes the complementary relationship between masculinities and femininities. Lastly, the total scale score as well as all subscales other than the Successful and Powerful subscale were significantly and negatively correlated with self-reliance. The Successful and Powerful subscale was not significantly related to self-reliance. This finding can be explained by the emphasis on interdependence in Chinese culture e.g., Kuo, 2011; Wong, Kim, Tran, 2010), which is opposite from independence and self-reliance emphasized in individualistic cultures. In collectivist cultures, for example, Chinese culture, the welfare of the society and family is prioritized over that of individuals (Kuo, 2014). This explains why men in Chinese cultures are expected to take care of their family and contribute to society (Song & Liang, in press). In addition, both traditional and contemporary Chinese masculinities actively disapprove violence and aggression and expect men to resolve conflicts peacefully to maintain harmony in society. This also shows that the emphasis on interdependence in Chinese culture is reflected in Chinese masculinities.

The unique meaning of the Successful and Powerful factor is also worth discussing. First, it is a construct that reflects male dominance according to Confucianism. Second, it highlights the domains that men need to succeed in the context of contemporary Chinese culture, namely: education, career, wealth, and sex. Third, in the context of contemporary Chinese masculinities, being successful and powerful does not predict aggression or self-reliance, which is different from the relationship between success and power, aggression, and self-reliance in the context of hegemonic masculinities (Levant et al., 2013; Mahalik et al., 2003). Lastly, it is a construct of

contemporary Chinese masculinities that is currently under the process of reconstruction due to the social cultural changes taken place in contemporary China.

Contemporary Chinese masculinities also have components (i.e., responsible, upright, and big-hearted) that are unique in the Chinese culture but missing in hegemonic masculinities. The significant distinction between Chinese masculinities and hegemonic masculinities indicates the important role that race and ethnicity play in constructing masculinities. The findings of the current studies are much more consistent with that of Liu et al. (2011) and Qian et al. (2000)'s studies, which utilized a gender role expectation measure developed in China. This points to the importance of developing culturally sensitive masculinity instruments.

In addition, the current studies reveal that the relationships between contemporary Chinese masculinities, depression, and help-seeking attitudes are different from that between hegemonic masculinities, depression, and help-seeking attitudes. Specifically, the current studies reveal that contemporary Chinese masculinities were significantly and negatively correlated with depression and significantly and positively correlated with positive help-seeking attitudes. Because important elements of hegemonic masculinities that predict negative mental health outcomes and help-seeking attitudes do not exist (e.g., risk-taking, disdain for homosexuality, and emotional control) in contemporary Chinese masculinities, the absence of these constructs may have reversed the relationships between contemporary Chinese masculinities and depression and help-seeking attitudes. Furthermore, several constructs (e.g., aggression, power over women, and self-reliance) are endorsed reversely in contemporary Chinese masculinities compared to hegemonic masculinities, which may have influenced the direction of the relationships between contemporary Chinese masculinities, depression, and help-seeking attitudes. This interpretation

is tempered with the acknowledgement that additional research is required to determine the associations between masculinity ideology and mental health in China.

### **Limitations**

The current study has several limitations. First, all participants were between 18 to 40 years old. This sample represents the only-child generation and therefore does not reflect masculinity ideologies that are endorsed by the generations that were born in 1970s or earlier. The generations born between 1950s and 1970s were socialized during the Cultural Revolution and the generations born before 19050s have experienced both the Cultural Revolution and the Chinese Civil War, when the Patriarchal system started to be challenged. It would be interesting to know how these three generations differ or converge on Chinese masculinities. On the other hand, by focusing on the only-child generation, this study developed a measure that is specific tailored to and valid with the only-child generation, which provides an important tool for researcher to further study Chinese masculinities with the only-child generation.

Second, most of the participants were highly educated and currently resided in metropolitan areas. Since only 8.9% of the mainland China population have received post-secondary education (National Bureau of Statistics of the People's Republic of China, 2010), the samples in the current studies do not represent the education attainment of the general population in China. Research has shown that higher education liberalizes individuals from traditional masculinity norms (e.g., Courtenay, 2000; Psaki, Ayivi-Guedehousson, & Halperin, 2013). Participants' relative lack of endorsement of power over women can be a result of their education. In rural areas of China, gender norms seem to still favor male dominance (e.g., Xie, 2013). It is interesting to note that more than 60% of the participants did not grow up in large



cities. These individuals may have experienced shifts in their masculine gender role expectations as they acculturated to life in urban centers and receive higher education. The fact that the majority of the participants of this study migrated from rural areas or small towns to metropolitan areas and were exposed to both Confucian ideologies that highlight male dominance and contemporary male gender roles that emphasize an egalitarian relationship between men and women, suggest they have likely been influenced by both ideologies and may favor one over another. When interpreting the results of the current studies, it is important to keep in mind that the majority of the participants have been exposed to both masculinity ideologies in China. More studies on Chinese masculine gender role expectations among the rural and less educated population are needed.

Third, only approximately 11% of participants of the current studies identify as sexual minorities. Thus, perspectives of sexual minority individuals of contemporary Chinese masculinities are underrepresented in the current studies. Although homosexuality was removed from Chinese Classification of Mental Disorders -3 (CCMD-3; Chinese Society of Psychiatry, 2001) in 2001, homophobia and discrimination targeting sexual minorities in China still persist. It is possible that sexual minorities may construct different masculinities compared to their heterosexual and cisgender counterparts as a result of their experiences of discrimination and marginalization. Future studies should explore masculine gender roles among sexual minorities in contemporary China.

Fourth, the current studies do not measure the role of social desirability in examining contemporary Chinese masculinities. Because Chinese masculinity norms aim to promote harmony in society and are mostly prosocial, it is likely that participants engaged in certain level

of impression management when completing the self-reported surveys. On the other hand, because a wide gender gap still persists in China (World Economic Forum, 2018), male dominance likely is more socially desirable than egalitarian between men and women. The fact that the Egalitarian factor emerged in EFA may indicate that participants were willing to endorse items that deviate from the norms. It is recommended that future studies examine the relationship between Chinese men's endorsement of contemporary Chinese masculinities and social desirability.

Another limitation of the current studies is that due to miscommunication between the author and the wenjuanxing platform, participants were not able to participate in the re-test until a month later, which was much longer than the planned two-week time interval. The unexpected longer time interval between test and retest likely contributed to the underpowered sample in study three and increased the inconsistency in participants' responses between the two times. Also, since this author did not insert a validity question in study three due to its short length, the validity of the responses is in question. A problematic response pattern was observed such that 11 out of 34 participants in study three provided inconsistent responses regarding their age. Follow-up studies on the test retest reliability of the CCMI is recommended.

### **Future Directions**

Regardless of these limitations, the current studies recruited participants that represent most of the provinces in mainland China whose careers also represent a wide range of middle-class careers. More importantly, the current studies complement Song and Liang (in press)'s qualitative study on contemporary Chinese masculinities by utilizing a quantitative approach. The current studies also advanced Liu et al. (2011) and Qian et al. (2000)'s studies on Chinese

masculinity ideology by developing a measure that reflects specific expectations for men in China. The current studies indicate the importance of studying Chinese masculinities under the framework of Chinese culture. The significant differences between Chinese masculinities and hegemonic masculinities highlight the risk of conceptualizing and measuring Chinese masculinities through the cultural framework of White, cisgender, middle-class men. The current studies contribute to the existing literature of masculinities by developing a culturally sensitive masculinity measure that emphasize interdependence and the dialectical relationship between the *yin* and *yang*. Follow-up studies further confirming the five-factor model of CCMI as well as re-examining the test and retest reliability are recommended.

The CCMI can served as a tool to further explore how Chinese people from different socioeconomic background and generations endorse contemporary Chinese masculinity ideologies. The CCMI can also be administered to explore regional differences in contemporary Chinese masculinities. Also, it is worthy to continue to test the validity of the CCMI with both Chinese in China as well as Chinese Americans. In addition, more studies are needed to examine the relationship between contemporary Chinese masculinities and health-related outcomes and interpersonal patterns. For example, it is worth exploring contemporary Chinese masculinities' association with substance use, psychological distress, depression, anxiety, Alexithymia, and romantic relationship satisfaction as negative associations have been identified between hegemonic masculinities and these outcome variables (e.g., Iwamoto et al., 2011; McGraw, 2001; O'Neil, 2013; )

With this information, intervention can be developed to help male Chinese clients to understand and change aspects of their gendered self in which the costs associated with

conformity or nonconformity outweigh the benefits the client experiences. Specifically, clinicians may use CCMI in session to help clients understand to what extent they conform to contemporary Chinese masculinities. Clinicians and clients can work together to identify the costs and benefits of clients' conformity or nonconformity to contemporary Chinese masculinities (Mahalik et al., 2005). Then, their clinical work can focus on increasing flexibility in areas that the costs outweigh benefits and/or strengthen resilience in areas that benefits outweigh costs (Mahalik et al., 2005).

In conclusion, the current studies developed the CCMI under the context of Chinese culture. The results of the current studies offered initial evidence supporting the validity and reliability of CCMI. Although the current studies demonstrate several limitations that require future exploration and clarification, results of the current studies highlight the importance of understanding masculinities from a specific culture. In the current studies, important constructs of contemporary Chinese masculinities have very little in common with that of hegemonic masculinities, which indicate the risk of conceptualizing and measuring alternative masculinities using instruments developed based on White, middle class, heterosexual, cisgender men. The newly developed CCMI advances psychology research on masculinity ideologies and adds valuable data to the limited existing studies on Chinese masculinities.

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Figure 1. Scree- plot of Eigenvalues of Factor Solutions in Study 1

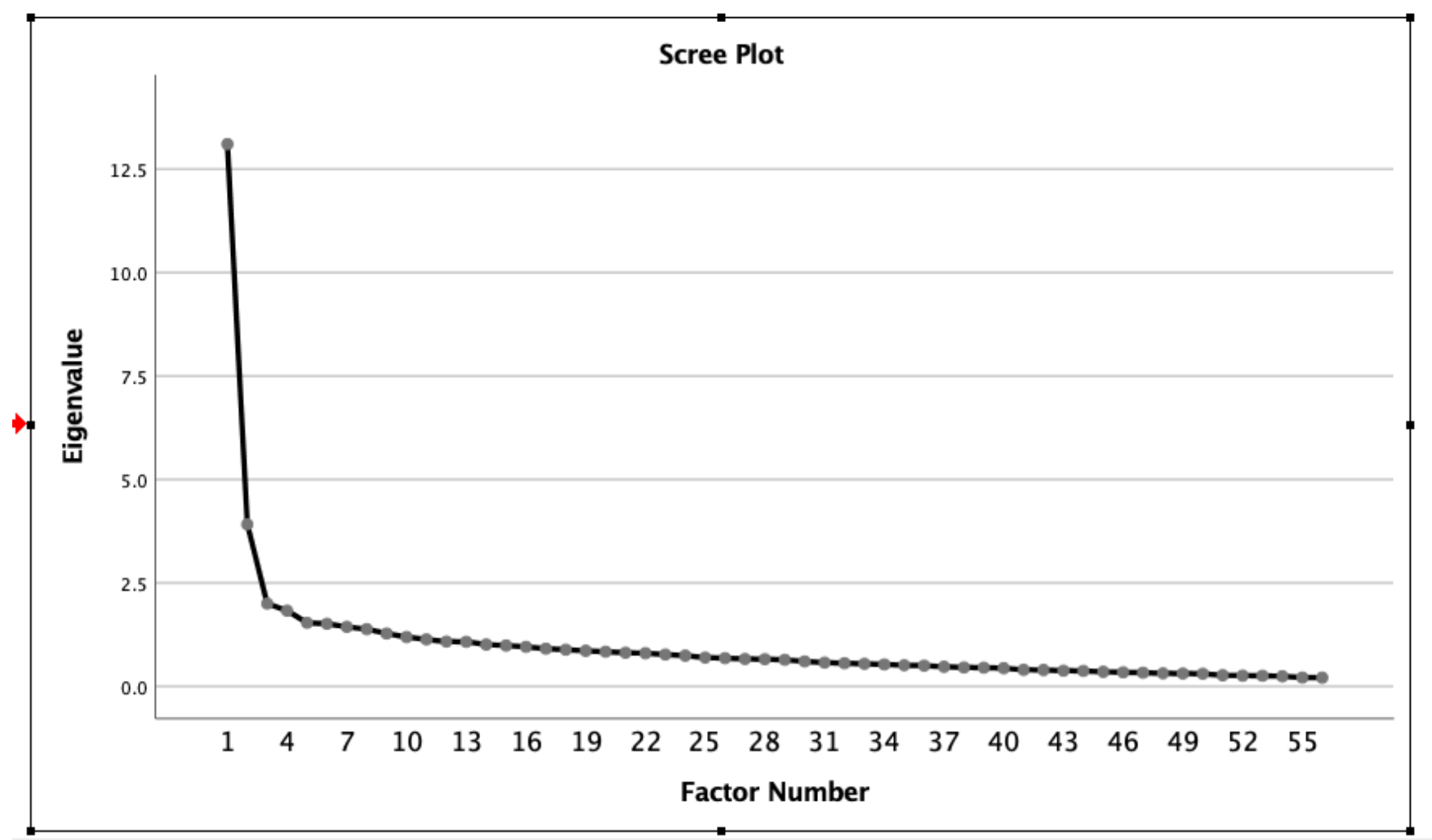


Table 1

*Exploratory Factor Analysis for the 5-factor solution for CCMI Based on Pattern Matrixed Coefficients*

Item	F1	F2	F3	F4	F5
27.Men should stay loyal to his romantic partner.	.74				
42.Men should be gentle and patient with his romantic partner.	.74				
31.Men need to follow laws and regulations.	.71				
28.Men should be honest with his friends.	.70				
43.Men should be attentive to his romantic partners' needs and emotions.	.57				
44.Men should provide comfort and support to his romantic partner.	.57				
51.Men should respect women's opinions and choices	.56				
18.A man should spend time with his children.	.52				
20.Men should take care of the older generation.	.48				
47.Men should help the less privileged.		.78			
48.Men should help others.		.72			
38.When encountering conflict with colleagues, men should try to resolve conflict rather than holding grudge toward his colleagues.		.56			
40.Men cannot be frugal.		.44			
24. Men should contribute to the society.		.43			
35.Men should criticize others when they make small mistakes. (R)			.62		
45.In sex, men do not need to meet his partners' sexual needs or wants. (R)			.59		
41.Family members' opinions and feelings are not important to men. (R)			.57		

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19.Men do not need to engage in housework. (R)	.45	
8.When a man has conflicts with others, he does not need to reflect on himself. (R)	.42	
52.Men should endorse male chauvinism. (R)	.36	
7.A man should withstanding a high level of pressure.	.68	
6.When encountering challenges at work, a man should respond calmly.	.62	
9.A man should be a role model for his children.	.55	
1.When facing big decisions, a man should stay calm and make decisions rationally.	.54	
13.At work, a man should resolve problems independently.	.41	
10.Men should be rich.		.73
15.Men should have a successful career.		.61
16.Men should perform well in sex.		.59
14.Men should have higher degrees than women.		.37

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*Note.* F1= Responsible and Upright; F2 = Big-Hearted; F3 = Egalitarian; F4 = Leadership; F5 = Successful and Powerful. The criterion for a salient factor loading was .32 (Tabachnick & Fidell, 2001).

Table 2

*Descriptive Statistics, Bivariate Correlations, and Internal Consistencies for Men's Scores on the Total Score and the 5 CCMI Subscales for Study 1*

Subscale	No. of items	1	2	3	4	5	<i>M</i>	<i>SD</i>	$\alpha$
1. Responsible and Upright	9						6.08	.63	.87
2. Big-Hearted	6	.48*					5.48	.71	.79
3. Egalitarian	6	.54**	.31**				5.67	.71	.69
4. Leadership	5	.47**	.41**	.31**			5.96	.71	.73
5. Successful and Powerful	4	.16**	.32**	.03	.36**		4.87	.86	.68
Total CCMI	30	.83**	.74**	.66**	.71**	.48**	5.70	.49	.77

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

*Note.* The mean of the Egalitarian is the mean of the reversely coded items



Table 3

*Correlations of CCMI Scores to Total Scores for CES-D and ATSPPH-SF*

CCMI Subscales	CES-D	ATSPPH-SF
CCMI Total	-.29***	.23***
Responsible and Upright	-.22***	.21***
Big-Hearted	-.22***	.23***
Egalitarian	-.25***	.23***
Leadership	-.17**	.07
Successful and Powerful	-.11	.01

\*\* p < .01. \*\*\* p < .001.

Table 4

*Confirmatory Factor Analysis of the 5-factor solution for CCMI*

Item	Loading	Uniqueness
<b>Responsible and Upright</b>		
18.A man should spend time with his children.	.53	.54
20.Men should take care of the older generation.	.37	.43
27.Men should stay loyal to his romantic partner.	.52	.55
28.Men should be honest with his friends.	.43	.48
31.Men need to follow laws and regulations.	.47	.62
42.Men should be gentle and patient with his romantic partner.	.65	.40
43.Men should be attentive to his romantic partners' needs and emotions.	.70	.46
44.Men should provide comfort and support to his romantic partner.	.58	.47
51.Men should respect women's opinions and choices	.57	.68
<b>Altruistic and Generous</b>		
24. Men should contribute to the society.	.67	.53
38.When encountering conflict with colleagues, men should try to resolve conflict rather than holding grudge toward his colleagues.	.70	.67
40.Men cannot be frugal.	.51	1.12
46.Men should offer help to people who need help.	.75	.36
47.Men should help the less privileged.	.79	.45
48.Men should help others.	.77	.47

### **Egalitarian**

8. When a man has conflicts with others, he does not need to reflect on himself. (R)	.43	1.52
19. Men do not need to engage in housework. (R)	.63	.84
35. Men should criticize others when they make small mistakes. (R)	.53	.95
41. Family members' opinions and feelings are not important to men. (R)	.56	.56
45. In sex, men do not need to meet his partners' sexual needs or wants. (R)	.69	.57
52. Men should endorse male chauvinism.	.56	.98

### **Leadership**

1. When facing big decisions, a man should stay calm and make decisions rationally.	.53	.67
6. When encountering challenges at work, a man should respond calmly.	.46	.63
7. A man should withstanding a high level of pressure.	.57	1.11
9. A man should be a role model for his children.	.50	.46
13. At work, a man should resolve problems independently.	.46	.63

### **Successful and Powerful**

10. Men should be rich.	.70	1.13
14. Men should have higher degrees than women.	.43	1.47
15. Men should have a successful career.	.78	.61
16. Men should perform well in sex.	.95	.82

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Table 5

*Descriptive Statistics, Bivariate Correlations, and Internal Consistencies for Men's Scores on the Total Score and the 5 CCMI Subscales for Study 2*

Subscale	No. of items	1	2	3	4	5	<i>M</i>	<i>SD</i>	<i>α</i>
1. Responsible and Upright	9						6.05	.59	.83
2. Big-Hearted	6	.50*					5.44	.77	.83
3. Egalitarian	6	.62**	.27**				5.73	.68	.67
4. Leadership	5	.54**	.44**	.31**			6.00	.62	.64
5. Successful and Powerful	4	.08	.22**	-.13	.40**		4.80	.88	.67
Total CCMI	30	.85**	.74**	.64**	.75**	.40**	5.68	.47	.73

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

*Note.* The *mean* of the Egalitarian is the *mean* of the reversely coded items

Table 6  
*Correlations of CCMI Scores to Total and Subscale Scores for GRCS-SF*

CCMI Subscales	GRCS-SF				
	GRCS	RABBM	RE	CBWFR	SPC
CCMI	-.04	.01	-.21**	-.12	.25***
Responsible and Upright	-.10	-.02	-.12	-.16	.07
Big-Hearted	.06	.12	-.17	-.06	.26***
Egalitarian	-.22***	-.15	-.18**	-.17	.02
Leadership	.03	.02	-.11	-.05	.24***
Successful and Powerful	.13	.06	-.13	.09	.31***

\*\*  $p < .001$ ., \*\*\*  $p < .001$ .

*Note:* GRCS = Gender Role Conflict Scale; RABBM = Restrictive Affectionate Behavior Between Men; RE = Restrictive Emotionality; CBWFR = Conflicts Between Work and Family Relations; SPC = Success, Power, and Competition.

Table 7

*Correlations of CCMI Scores to Total and Subscale Scores for CMNI*

CCMI Subscales	CMNI									
	CMNI	W	P	SR	V	DH	RT	PW	EC	POW
CCMI	-.18**	.24***	-.37***	-.28***	-.26***	.22***	-.10	.16	-.17**	-.13
Responsible and Upright	-.28***	.08	-.44***	-.22***	-.22***	.16	-.14	-.01	-.11	-.25***
Big-Hearted	-.18**	.09	-.16	-.28***	-.31***	.07	.03	.21***	-.20**	-.02
Egalitarian	-.30***	.15	-.40***	-.24***	-.21**	.14	-.13	-.04	-.11	-.38***
Leadership	.03	.27***	-.24***	-.18**	-.14	.28***	-.09	.22***	-.11	.06
Successful and Powerful	.26***	.30***	.04	-.006	.05	.16	.006	.24***	-.05	.27***

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

*Note:* CMNI = Conformity to Masculine Norm Inventory; W = Winning; P = Playboy; SR = Self-reliance; V = Violence; RT = Risk Taking  
PW = Primacy of Work; EC = Emotional Control; POW = Power over Women.

Table 8

*Correlations of CCMI Scores to Total and Subscale Scores for CCSSRI*

CCMI Subscales	CCSSRI									
	CCSSRI	M	M_L	M_B	M_R	M_G	F	F_C	F_F	F_D
CCMI	.59***	.47***	.31***	.30***	.47***	.37***	.43***	.56***	.18**	.31***
Responsible and Upright	.48***	.28***	.14	.14	.36***	.25***	.43***	.51***	.22***	.31***
Big-Hearted	.54***	.45***	.30***	.32***	.35***	.41***	.37***	.48***	.16	.28***
Egalitarian	.33***	.18**	.06	.11	.23***	.19**	.30***	.40***	.13	.20**
Leadership	.48***	.43***	.30***	.29***	.46***	.27***	.24***	.39***	.03	.15
Successful and Powerful	.20**	.28***	.28***	.21**	.22***	.12	.03	.04	.003	.05

\*\*\*  $p < .001$ .

Note: CCSSRI = The Chinese College Student Sex Role Inventory; M = Masculinity subscale; M\_L = Leadership subscale of the Masculinity subscale; M\_B = Braveness subscale of the Masculinity subscale; M\_R = Rationality subscale of the Masculinity subscale; M\_G = Generosity subscale of the Masculinity subscale; F = Femininity subscale; F\_C Compassion subscale of the Femininity subscale; F\_F = Femininity subscale of the Femininity subscale; F\_D = Diligent subscale of the Femininity subscale.

Table 9

*Correlations of CCMI Scores to Total Scores for HFS and AQS-C*

CCMI Subscales	HFS	AQS-C
CCMI	.41***	-.19**
Responsible and Upright	.32***	-.20**
Big-Hearted	.38***	-.16
Egalitarian	.34***	-.29***
Leadership	.26***	-.11
Successful and Powerful	.04	.15

\*\*\* p &lt; .001.

Table 10

*Test-retest reliability of CCMI*

CCMI Subscales	r
CCNI Total	.84***
Responsible and Upright	.65***
Big-Hearted	.85***
Egalitarian	.57***
Leadership	.55**
Successful and Powerful	.63***

\*\* p &lt; .01. \*\*\* p &lt; .001.



## Appendix A.

## Chinese Contemporary Masculinities Inventory (CCMI) – Initial Draft

下面一系列陈述是一些想法、感受或行为。请选择你在多大程度上认同或不认同以下陈述 Below are a series of statements about how people might think, feel or behave. Please indicated how much you agree or disagree with each statement.

1 = strongly disagree 完全不同意 to 4 = neutral 中立 7 = strongly agree 完全同意

CCMI_1	当家庭面对重大决策时，男人应该冷静分析理智做决定RC When facing big decisions, a man should stay calm and make decisions rationally.	1	2	3	4	5	6	7
CCMI_2	男人可以把工作中的负面情绪带回家（R）RC If a man encounters obstacles at work, he should not let his mood impact his family.	1	2	3	4	5	6	7
CCMI_3	工作中，男人不应该让自己的负面情绪影响整个团队 RC At work, a man should not let his negative mood impact the whole team	1	2	3	4	5	6	7
CCMI_4	男人可以对家人发脾气（R）RC A man can throw temper tantrums to his family members.	1	2	3	4	5	6	7
CCMI_5	男人在接受赞美和批评时不应该太情绪化 RC When receiving compliments or criticisms, a man should not be too emotional.	1	2	3	4	5	6	7
CCMI_6	工作中遇到困难时，男人要善于思考，从容面对 RC When encountering challenges at work, a man should respond calmly.	1	2	3	4	5	6	7
CCMI_7	面对压力，男人应该能顶得住。RC A man should withstanding a high level of pressure.	1	2	3	4	5	6	7
CCMI_8	当与人发生冲突时，男人不需要自我反省（R）RC When a man has conflicts with others, he does not need to reflect on himself.	1	2	3	4	5	6	7
CCMI_9	男人要成为子女的榜样 DB A man should be a role model for his children.	1	2	3	4	5	6	7
CCMI_10	男人要有钱 DB Men should be rich.	1	2	3	4	5	6	7

CCMI_11	男人应该主动寻求有挑战的工作任务 DB Men should take on challenging tasks at work.	1	2	3	4	5	6	7
CCMI_12	男人需要保持上进心，不断提高自己的工作能力 DB Men should continuously improve their performances at work.	1	2	3	4	5	6	7
CCMI_13	男人要有主见，能独立解决工作中的困难 DB At work, a man should resolve problems independently.	1	2	3	4	5	6	7
CCMI_14	男人的学历应该比女人高 DB Men should have higher degrees than women.	1	2	3	4	5	6	7
CCMI_15	男人事业要成功 DB Men should have a successful career.	1	2	3	4	5	6	7
CCMI_16	男人性能力要强 DB Men should perform well in sex.	1	2	3	4	5	6	7
CCMI_17	男人可以吃软饭 (R) Resp It is ok for men to not work and live on their spouse's income.	1	2	3	4	5	6	7
CCMI_18	男人需要花时间教育、陪伴子女 Resp A man should spend time with his children.	1	2	3	4	5	6	7
CCMI_19	男人不用分担家务 (R) Resp Men do not need to engage in housework.	1	2	3	4	5	6	7
CCMI_20	男人应该孝敬长辈 Resp Men should take care of the older generation.	1	2	3	4	5	6	7
CCMI_21	男人应该高质量地完成工作 Resp Men should complete tasks at work with high quality.	1	2	3	4	5	6	7
CCMI_22	工作出错时，男人要回避责任 (R) Resp Men should not own their mistakes at work.	1	2	3	4	5	6	7
CCMI_23	男人要有社会责任意识 Resp Men should take responsibilities for the society.	1	2	3	4	5	6	7
CCMI_24	男人应该为社会做出贡献 Resp Men should contribute to the society.	1	2	3	4	5	6	7
CCMI_25	男人可以坑骗朋友 (R) H	1	2	3	4	5	6	7

	It is ok for men to cheat on their friends.							
CCMI_26	吹牛是不男人的行为 H Men should not brag about themselves.	1	2	3	4	5	6	7
CCMI_27	男人应该对伴侣忠诚 H Men should stay loyal to his romantic partner.	1	2	3	4	5	6	7
CCMI_28	男人对待朋友应该真诚 H Men should be honest with his friends.	1	2	3	4	5	6	7
CCMI_29	男人要以诚信的态度对待合作伙伴 H Men should be honest with his business partners.	1	2	3	4	5	6	7
CCMI_30	答应了别人的事情，男人要说到做到 H Men should keep his promises.	1	2	3	4	5	6	7
CCMI_31	男人要遵守法规 H Men need to follow laws and regulations.	1	2	3	4	5	6	7
CCMI_32	男人可以毒赌嫖 (R) H It is ok for men to use illicit drugs, gable, and consume commercial sex.	1	2	3	4	5	6	7
CCMI_33	对于朋友的小过错，男人应该包容 TF Man should forgive his friends' mistakes.	1	2	3	4	5	6	7
CCMI_34	男人应该容忍家人的负面情绪 TF Men should tolerate family members' bad tempers.	1	2	3	4	5	6	7
CCMI_35	男人可以因小事苛责他人 (R) TF Men should criticize others when they make small mistakes.	1	2	3	4	5	6	7
CCMI_36	与人交往中的小摩擦，男人要记仇 (R) TF	1	2	3	4	5	6	7

	Men should hold grudge toward people whom they were in conflict with.							
CCMI_37	工作中，男人应该允许别人有不同的意见 TF Men should allow different opinions at work.	1	2	3	4	5	6	7
CCMI_38	当和同事出现矛盾时，男人要包容对方，化解矛盾 TF When encountering conflict with colleagues, men should try to resolve conflict rather than holding grudge toward his colleagues.	1	2	3	4	5	6	7
CCMI_39	男人应该心胸宽广 TF A man should have a big heart.	1	2	3	4	5	6	7
CCMI_40	男人不能在钱上斤斤计较 TF Men cannot be frugal.	1	2	3	4	5	6	7
CCMI_41	家人的生活、想法对男人来说不重要 (R) C Family members' opinions and feelings are not important to men.	1	2	3	4	5	6	7
CCMI_42	对待伴侣，男人要温柔耐心 C Men should be gentle and patient with his romantic partner.	1	2	3	4	5	6	7
CCMI_43	男人应该关心伴侣的需求、情绪 C Men should be attentive to his romantic partners' needs and emotions.	1	2	3	4	5	6	7
CCMI_44	男人应该给予伴侣支持和安慰C Men should provide comfort and support to his romantic partner.	1	2	3	4	5	6	7
CCMI_45	在性生活中，男人不需要照顾伴侣的性需求 (R) C In sex, men do not need to meet his partners' sexual needs or wants.	1	2	3	4	5	6	7
CCMI_46	当他人有困难时，男人要伸出援助之手 C Men should offer help to people who need help.	1	2	3	4	5	6	7
CCMI_47	男人应该关心帮助弱势群体 C	1	2	3	4	5	6	7

	Men should help the less privileged.							
CCMI_48	男人应该乐于助人 C Men should help others.	1	2	3	4	5	6	7
CCMI_49	男人可以打伴侣 (R) NVR Men can beat up his spouse.	1	2	3	4	5	6	7
CCMI_50	男人不应该强迫女性与其发生性关系 NVR Men cannot force his spouse to have sex with him.	1	2	3	4	5	6	7
CCMI_51	男人要尊重女性的意见和选择 NVR Men should respect women's opinions and choices	1	2	3	4	5	6	7
CCMI_52	大男人主义是受欢迎的 (R) NVR Men should endorse male chauvinism.	1	2	3	4	5	6	7
CCMI_53	男人可以歧视弱势群体 (R) NVR Men should discriminate against the less privileged.	1	2	3	4	5	6	7
CCMI_54	男人不应支持性别平等 (R) NVR Men should not support gender equality.	1	2	3	4	5	6	7
CCMI_55	男人不应歧视同性恋群体 NVR Men should not hold disdain for the LGBT community.	1	2	3	4	5	6	7
CCMI_56	不到万不得已，男人不能用暴力解决问题 NVR Men should not rely on violence to solve problems.	1	2	3	4	5	6	7

## Chinese Contemporary Masculinities Inventory (CCMI) 30-Item Final Version

Below are a series of statements about how people might think, feel or behave. Please indicated how much you agree or disagree with each statement.

1 = strongly disagree      to      4 = neutral      7 = strongly agree

<b>Responsible and Upright</b>
18.A man should spend time with his children.
20.Men should take care of the older generation.
27.Men should stay loyal to his romantic partner.
28.Men should be honest with his friends.
31.Men need to follow laws and regulations.
42.Men should be gentle and patient with his romantic partner.
43.Men should be attentive to his romantic partners' needs and emotions.
44.Men should provide comfort and support to his romantic partner.
51.Men should respect women's opinions and choices
<b>Altruistic and Generous</b>
24. Men should contribute to the society.
38.When encountering conflict with colleagues, men should try to resolve conflict rather than holding grudge toward his colleagues.
40.Men cannot be frugal.
46.Men should offer help to people who need help.
47.Men should help the less privileged.
48.Men should help others.
<b>Egalitarian</b>
8.When a man has conflicts with others, he does not need to reflect on himself. (R)
19.Men do not need to engage in housework. (R)
35.Men should criticize others when they make small mistakes. (R)
41.Family members' opinions and feelings are not important to men. (R)
45.In sex, men do not need to meet his partners' sexual needs or wants. (R)
52.Men should endorse male chauvinism.

<b>Leadership</b>
1. When facing big decisions, a man should stay calm and make decisions rationally.
6. When encountering challenges at work, a man should respond calmly.
7. A man should withstanding a high level of pressure.
9. A man should be a role model for his children.
13. At work, a man should resolve problems independently.
<b>Successful and Powerful</b>
10. Men should be rich.
14. Men should have higher degrees than women.
15. Men should have a successful career.
16. Men should perform well in sex.

## Appendix B.

Gender Role Conflict Scale – Short Form  
Form (GRCS-SF; Wester, Vogel, O’Neil, & Danforth, 2012; Zhang et al.,2015)  
Chinese version used with permission

## Instruction

下面一系列陈述是一些想法、感受或行为。请选择你在多大程度上认同或不认同以下陈述 Below are a series of statements about how people might think, feel or behave. Please indicated how much you agree or disagree with each statement.

1 = strongly disagree 完全不同意 to 6 = strongly agree 完全同意

1	Affection with other men makes me tense (RABBM) 跟其他男性亲密会让我紧张	1	2	3	4	5	6
2	Talking (about my feelings) during sexual relation is difficult for me (RE)在性爱中表达自己的感受对我来说很难	1	2	3	4	5	6
3	I have difficulty expressing my emotional needs to my partner (RE) 我很难向伴侣表达自己的情感需求	1	2	3	4	5	6
4	Men who touch other men make me uncomfortable (RABBM) 看到男人间发生肢体接触，我会感到不适	1	2	3	4	5	6
5	Finding time to relax is difficult for me (CBWFR) 我很难找到休息的时间	1	2	3	4	5	6
6	I have difficulty expressing my tender feelings (RE) 我很难表达自己细腻的情感	1	2	3	4	5	6
7	Hugging other men is difficult for me (RABBM) 我不太接受和其他男性拥抱	1	2	3	4	5	6
8	Winning is a measure of my value and personal worth (SPC) 取胜是我衡量自己价值的标准之一	1	2	3	4	5	6
9	My need to work or study keep me from my family or leisure more than I would like (CBWFR)工作学习的需要，让我无法像期望的那样陪伴家人或进行娱乐	1	2	3	4	5	6
10	I strive to be more successful than others (SPC) 我努力比多数人更成功	1	2	3	4	5	6



11	I do not like to show my emotions to other people (RE) 我不愿向他人展现我的情绪	1	2	3	4	5	6
12	My work or school often disrupts other parts of my life (home, health, leisure, etc.) (CBWFR) 我的工作学习经常打扰到我生活的其它方面（家庭，健康，娱乐等）	1	2	3	4	5	6
13	Being very personal with other men makes me feel uncomfortable (RABBM) 跟其他男性建立很亲近的关系会让我感到不舒服	1	2	3	4	5	6
14	Being smarter or physically stronger than other men is important to me (SPC) 比其他男性更智慧、身体更强壮对我来说很重要	1	2	3	4	5	6
15	Overwork and stress, caused by a need to achieve on the job or in school, affects/hurts my life (CBWFR) 过大的工作学习任务 and 压力，影响了我的生活	1	2	3	4	5	6
16	I like to feel superior to other people (SPC) 我享受跟他人对比下产生的优越感	1	2	3	4	5	6

## Appendix C.

The Conformity to Masculine Norms Inventory - 46 (CMNI-46)  
 (Mahalik et al., 2003; Parent & Moradi, 2009; Rochelle & Yim, 2015)  
 Chinese version used with Permission.

Below are a series of statements about how people might think, feel or behave. Thinking about your own actions, feelings and beliefs please indicate how much you personally agree or disagree with each statement. There are no right or wrong responses to the statements. You should give the responses that most accurately describe your personal actions, feelings and beliefs. 以下一系列的陳述是一些個人的想法，感受或行為。試回想自己的想法，感受或行為，你有多認同或不認同以下的陳述。答案絕無對與錯之分，不過你應選擇一個和自己想法，感受或行為最貼近的答案。

1 = strongly disagree 非常不同意 to 4 = strongly agree 非常同意

CMNI_1	In general, I will do anything to win 一般来说，我会用尽方法来争取胜利	1	2	3	4
CMNI_2	If I could, I would frequently change sexual partners 如果可以的话，我会经常转换性伴侣	1	2	3	4
CMNI_3	I hate asking for help 我讨厌求助	1	2	3	4
CMNI_4	I believe that violence is never justified 我相信暴力是不可合理化的	1	2	3	4
CMNI_5	Being thought of as gay is not a bad thing 我认为被认定是同性恋不是一件坏事	1	2	3	4
CMNI_6	In general, I do not like risky situations. 一般来说，我不喜欢置身于危机中	1	2	3	4
CMNI_7	Winning is not my first priority 对我来说，胜利不是我优先考虑的事	1	2	3	4
CMNI_8	I enjoy taking risks 我享受冒险	1	2	3	4
CMNI_9	I am disgusted by any kind of violence 我讨论任何形式的暴力	1	2	3	4

CMNI_10	I ask for help when I need it 当我有需要的时候，我会主动求助	1	2	3	4
CMNI_11	My work is the most important part of my life 工作是我生活上最重要的一部分	1	2	3	4
CMNI_12	I would only have sex if I was in a committed relationship 我只会在一段忠诚及有承诺的关系中和我的伴侣发生性行为	1	2	3	4
CMNI_13	I bring up my feelings when talking to others 当我和别人交谈的时候，我会带着个人情绪	1	2	3	4
CCMI_14	I would be furious if someone though I was gay 当我被指是同性恋的时候，我会大发雷霆	1	2	3	4
CMNI_15	I don't mind losing 我不介意失败	1	2	3	4
CMNI_16	I take risks 我会冒险	1	2	3	4
CMNI_17	It would not bother me at all if someone though I was gay 当我被某人认为是同性恋的时候，我不会感到困扰	1	2	3	4
CMNI_18	I never share my feelings 我从不向其他人分享自己的感受	1	2	3	4
CMNI_19	Sometimes violent action is necessary 我认为有时候使用暴力是必须的	w	2	3	4
CMNI_20	In general, I control the women in my life 一般来说，我会控制我的女人	I	2	3	4
CMNI_21	I would feel good if I had many sexual partners 拥有很多性伴侣令我感觉良好	1	2	3	4
CMNI_22	It is important for me to win 胜利对我来说是重要的	1	2	3	4
CMNI_23	I don't like giving all my attention to work 我不喜欢将所有注意力集中在工作上	1	2	3	4
CMNI_24	It would be awful if people thought I was gay 当被其他人认为我是同性恋的时候，我认为会是一件糟糕的事	1	2	3	4

CMNI_25	I like to talk about my feelings 我喜欢谈及自己的感受	1	2	3	4
CMNI_26	I never ask for help 我从不求助于人	1	2	3	4
CMNI_27	More often than not, losing does not bother me 在大多数的时候，我不回被失败所困扰	1	2	3	4
CMNI_28	I frequently put myself in risky situations 我经常令自己陷入危机	1	2	3	4
CMNI_29	Women should be subservient to men 我认为女人应服侍男人	1	2	3	4
CMNI_30	I am willing to get into physical fight if necessary 当有需要的时候，我愿意介入打斗	1	2	3	4
CMNI_31	I feel good when work is my first priority 当我将工作放在优先考虑的时候，我会感觉良好	1	2	3	4
CMNI_32	I tend to keep my feelings to myself 我倾向收藏自己的感受	1	2	3	4
CMNI_33	Winning is not important to me 胜利对我来说并不重要	1	2	3	4
CMNI_34	Violence is almost never justified 我认为暴力是几乎永远不合理化的	1	2	3	4
CMNI_35	I am happiest when I'm risking danger 我感到最开心的时候就是要冒风险的时候	1	2	3	4
CMNI_36	It would be enjoyable to date more than one person at a time 我享受在同一时期和多于一个人约会	1	2	3	4
CMNI_37	I would feel uncomfortable if someone thought I was gay 当我被其他人认为是同性恋的时候，我会感到不自在	1	2	3	4
CMNI_38	I am not ashamed to ask for help 当我有求于他人的时候，我不感到羞愧	1	2	3	4

CMNI_39	Work comes first 工作永远是首要	1	2	3	4
CMNI_40	I tend to share my feelings 我倾向分享自己的感受	1	2	3	4
CMNI_41	No matter what the situation I would never act violently 我认为在任何环境下自己都不会使用暴力	1	2	3	4
CMNI_42	Things tend to be better when men are in charge 我认为事情在男人控制之下会较好	1	2	3	4
CMNI_43	It bothers me when I have to ask for help 当求助的时候，我会感到忧虑	1	2	3	4
CMNI_44	I love it when men are in charge of women 我喜爱男人支配女人的时候	1	2	3	4
CMNI_45	I hate it when people ask me to talk about my feelings 我讨厌被问及自己的感受	1	2	3	4
CMNI_46	I try to avoid being perceived as gay 我会避免被他人误认自己是同性恋	1	2	3	4

## Appendix D.

Chinese College Student Sex Role Inventory (CCSSRI)  
 (Qian et al., 2000; Liu et al., 2011)  
 Used with Permission.

请给下面的形容词打分，表明它们在多大程度上能代表你  
 Please rate to which extent the descriptions describe you

1 = totally not me 完全不是我 to 6 = totally me 完全是我

1	有支配力的 (M1) Influential	1	2	3	4	5	6
2	富有同情心的 (F1) Compassionate						
3	男子气的 (M2) Masculine	1	2	3	4	5	6
4	善解人意的 (F1) Understanding						
5	有判断力的 (M3) Make good decisions						
6	有爱心的 (F1) Kind						
7	有领导风范的 (M1) A leader	1	2	3	4	5	6
8	能体谅人的 (F1) Think in others' shoes						
9	乐于冒险的 (M2) Adventurous	1	2	3	4	5	6
10	乐于安慰人的 (F1) Know how to comfort others						
11	沉稳的 (M3) Steady	1	2	3	4	5	6

12	善于倾听的 (F1) A good listener						
13	慷慨的 (M4) Generous	1	2	3	4	5	6
14	有亲和力的 (F1) Easy-going						
15	有领导能力的 (M1) Have leadership skills	1	2	3	4	5	6
16	勤俭的 (F3) Work hard						
17	豪放的 (M2) Unconstrained	1	2	3	4	5	6
18	语调柔和的 (F2) Speak softly						
19	理性的 (M3) Rational	1	2	3	4	5	6
20	文静的 (F2) Graceful and quiet						
21	心胸开阔的 (M4) Have a big heart	1	2	3	4	5	6
22	温柔的 (F2) Tender						
23	有组织能力的 (M1) Have good organizational skills	1	2	3	4	5	6
24	温顺的 (F2) Docile						
25	胆大的 (M2) Courageous	1	2	3	4	5	6
26	女子气的 (F2) Feminine	1	2	3	4	5	6

27	冷静的 (M3) Calm	1	2	3	4	5	6
28	节俭的 (F3) Do not waste money						
29	大度的 (M4) Forgiving	1	2	3	4	5	6
30	心细的 (F3) Careful						
31	勇敢的 (M2) Brave	1	2	3	4	5	6
32	文雅的 (F2) Good mannered	1	2	3	4	5	6



## Appendix E.

The Center for Epidemiological Studies Depression Scale (CES-DC)  
(Radloff, 1977; Zhang et al., 2011)  
Chinese Version used with permission.

## Instructions

下面是人们常有的一些感受，请选择能代表你最近一周情况的选项。

Below is a list of the ways some people might have felt or acted. Please check how much you have acted or felt this way during the past week.

		没有 Not At All (0)	少有 A Little (1)	时不 时 Some (2)	经常 A Lot (3)
	在过去的一周里： During the past week:				
1	我最近烦一些原来不烦心的事。 I was bothered by things that usually don't bother me.				
2	我不想吃东西，胃口不好。 I did not feel like eating, I wasn't very hungry.				
3	我觉得沮丧，就算有家人和朋友帮助也不管用。 I wasn't able to feel happy, even when my family or friends tried to help me feel better.				
4	我觉得自己不比别人差。(R) I feel like I was just as good as others.				
	在过去的一周里： During the past week:				
5	我不能集中精力做事。 I feel like I couldn't pay attention to what I was doing.				
6	我感到消沉。 I was down and unhappy				
7	我觉得做每件事都费力。 I was too tired to do things.				
8	我感到未来有希望。(R)				

	I feel like something good was going happen.				
	在过去的一周里： During the past week:				
9	我觉得自己一直以来都很失败。 I felt like things I did before didn't work out right.				
10	我感到害怕。 I felt scared.				
11	我睡得不如以前安稳。 I didn't sleep as well as I usually sleep.				
12	我感到快乐。(R) I was happy.				
	在过去的一周里： During the past week:				
13	我讲话比平时少。 I was more quiet than usual.				
14	我觉得孤独。 I felt lonely.				
15	我觉得人们对我不友好。 I feel others were not friendly or that they didn't want to be with me.				
16	我生活愉快。(R) I had a good time.				
17	我哭过或想哭。 I felt like crying.				
18	我感到悲伤难过。 I felt sad.				
19	我觉得别人不喜欢我。 I felt people didn't like me.				
20	我提不起劲儿来做事。 It was hard to get started doing things.				

## Appendix F

The Attitudes Toward Seeking Professional Psychological Help Scale-Short Form (ATSPPH-SF)  
 (Fisher & Farina, 1995; Fang, Pieterse, Friedlander, & Cao, 2011)  
 Chinese Version used with permission.

## Instructions

请告诉我们你在多大程度上同意以下的说法

Please indicate to what extent you agree with the following statements

1 = strongly disagree 完全不同意 to 4 = 中立 to 7 = strongly agree 完全同意

(Reverse items: 2, 4, 5, 7, 10)

1	如果我觉得自己出现了心理问题，第一反应就是去求助心理咨询师 If I believed I was having a mental breakdown, my first inclination would be to get professional attention.	1	2	3	4	5	6	7
2	与心理咨询师交谈不是解决心理问题的办法 The idea of talking about problems with a counselor strikes me as a poor way to get rid of emotional conflicts.	1	2	3	4	5	6	7
3	如果有了严重的心理危机，我肯定咨询师能够帮助我 If I were experiencing a serious emotional crisis at this point in my life. I would be confident that I could find relief in counseling.	1	2	3	4	5	6	7
4	我敬佩那些不通过心理咨询师而自己解决问题的人 There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears <i>without</i> resorting to professional help.	1	2	3	4	5	6	7
5	人应该由自己或通过家人、朋友的帮助来解决心理问题，心理咨询师只是最后不得已的选择 A person should work out his or her own problems; getting psychological counseling would be a last resort.	1	2	3	4	5	6	7
6	人有了心理问题不太可能自己解决，最好是获得咨询师的帮助 A person with an emotional problem is not likely to solve it alone; he or she <i>is</i> likely to solve it with professional help.	1	2	3	4	5	6	7
7	个人或情绪上的问题，像其他问题一样，自己就会好了	1	2	3	4	5	6	7

	Personal and emotional troubles, like many things, tend to work out by themselves.							
8	如果我焦虑或抑郁了很长时间，就会求助咨询师 I would want to get psychological help if I were worried or upset for a long period of time.	1	2	3	4	5	6	7
9	我将来可能会寻求心理咨询 I might want to have psychological counseling in the future.	1	2	3	4	5	6	7
10	考虑到心理咨询所花的时间和费用，我不会找咨询师 Considering the time and expense involved in counseling, it would have doubtful value for a person like me.	1	2	3	4	5	6	7

## Appendix G

Aggression Questionnaire-Short (TAS)  
(Buss & Perry, 1992; Bryant & Smith, 2001)  
Chinese Version used with permission.

## Instructions

请给下面的形容词打分，表明它们在多大程度上能代表你。

Please rate to which extent the description describe you

1 = Totally not accurate 完全不准确 to 5 = Totally accurate 非常准确

1	Given enough provocation, I may hit another person (PA) 受到足够多的挑衅时，我可能会动手	1	2	3	4	5
2	If I have to resort to violence or protect my rights, I will (PA) 如果只有武力才能捍卫我的权力，我会动武	1	2	3	4	5
3	There are people who pushed me so far that we came to blows (PA) 当他人欺人太甚时，我会和他们干一架	1	2	3	4	5
4	I tell my friends openly when I disagree with them (VA) 当我和朋友意见不合时，我会直言不讳	1	2	3	4	5
5	When people annoy me, I may tell them what I think of them (VA) 当他人让我不爽时，我会告知我对他们的真实想法	1	2	3	4	5
6	My friends say that I'm somewhat argumentative (VA) 朋友们会说我是好争辩的	1	2	3	4	5
7	I am an even-tempered person (A) (R) 我是一个脾气很好的人	1	2	3	4	5
8	Sometimes I fly off the handle for no good reason (A) 我有时会莫名其妙得发火	1	2	3	4	5
9	I have trouble controlling my temper (A) 我很难控制自己的脾气	1	2	3	4	5

10	Other people always seem to get the breaks (H) 其他人好像总是能占到便宜	1	2	3	4	5
11	I sometimes feel that people are laughing at me behind my back (H) 有时我会觉得人们在背地里嘲笑我	1	2	3	4	5
12	When people are especially nice, I wonder what they want (H) 当他人态度特别好时，我会怀疑他们动机不纯	1	2	3	4	5

## Appendix H.

The Heartland Forgiveness Scale (HFS)  
 (Thompson et al., 2005; Wu 2016)  
 Chinese Version used with permission.

## Instructions

下面一系列陈述是一些想法、感受或行为。请选择你在多大程度上认同或不认同以下陈述 In the course of our lives negative things may occur because of our own actions, the actions of others, or circumstances beyond our control. For some time after these events, we may have negative thoughts or feelings about ourselves, others, or the situation. Think about how you typically respond to such negative events.

1 = Almost Always False of Me 完全不同意 to 3 = More Often False of Me 中立  
 5 = More Often True of Me 7 = Almost Always True of Me 完全同意

1	Although I feel badly at first when I mess up, over time I can give myself some slack	1	2	3	4	5	6	7
2	I hold grudges against myself for negative things I've done	1	2	3	4	5	6	7
3	Learning from bad things that I've done helps me get over them	1	2	3	4	5	6	7
4	With time I am understanding of myself for mistakes I've made	1	2	3	4	5	6	7
5	With time I am understanding of myself for mistakes I've made	1	2	3	4	5	6	7
6	I don't stop criticizing myself for negative things I've felt, though said, or done	1	2	3	4	5	6	7
7	I continue to punish a person who has done something that I think is wrong	1	2	3	4	5	6	7
8	With time I am understand of others for the mistakes they've made	1	2	3	4	5	6	7
9	I continue to be hard on others who have hurt me	1	2	3	4	5	6	7
10	Although others have hurt me in the past, I have eventually been able to see them as good people	1	2	3	4	5	6	7
11	If others mistreat me, I continue to think badly of them	1	2	3	4	5	6	7
12	When someone disappoints me, I can eventually move past it.	1	2	3	4	5	6	7

13	When things go wrong for reasons that can't be controlled, I get stuck in negative thoughts about it.	1	2	3	4	5	6	7
14	With time I can be understanding of bad circumstances in my life	1	2	3	4	5	6	7
15	If I am disappointed by uncontrollable circumstances in my life, I continue to think negatively about them	1	2	3	4	5	6	7
16	I eventually make peace with bad situations in my life	1	2	3	4	5	6	7
17	It's really hard for me to accept negative situations that aren't anybody's fault	1	2	3	4	5	6	7
18	Eventually I let go of negative thoughts about bad circumstances that are beyond everyone's control	1	2	3	4	5	6	7



## Appendix I.

## Demographic Survey

Age: \_\_\_\_\_ Ethnicity \_\_\_\_\_ Occupation: \_\_\_\_\_

Gender:

A Male; B Female; C Transgender; D Other

Sexual Orientation:

A Strictly heterosexual; B mostly heterosexual; C Bisexual; D Mostly homosexual;

E Strictly homosexual

Level of education:

A Elementary school

B Some middle school or middle school degree

C Some high school or high school degree

D Some college or college degree

E Graduate Degree

Current place of residence:

A Rural area B Small city; C Big city

Grew up in: A Rural area B Small city; C Big city

Marital status:

A Single; B in a committed relationship; C Married; D Divorced

Exposure to gender equity materials (e.g., gender role stereotypes, gender socialization, and feminism)

A Not at all; B Very few; C Some; D a lot

## Appendix J.

## Informed Consent Study One

Dear Participant,

You are invited to participate in an on-line survey study. With this study, we hope to examine the validity and reliability of the Contemporary Chinese Masculinity Inventory. Because you are a registered survey taker on Wenjuanxing and meet the requirements to participate in this study, you are randomly chosen by Wenjuanxing to receive this invitation. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

Your participation is entirely voluntary. Your decision whether or not to participate will not affect your current or future relations with the Lehigh University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships. The responses will be confidential. Only the primary researcher can access your responses with a correct Wenjuanxing username and password. If you choose to leave your email address at the end of your response, this information will not appear in any publications, presentations, or reports resulting from this research study. Please do not provide any identifiable information (e.g., name, birthdate, home address) other than your email address. This study is being conducted by Song Ge, under the supervision of Dr. Christopher Liang, Department of Education and Human Services, Lehigh University.

In order to participate you must:

- Be a male
- Be at least 18 years old
- Be a citizen of People's Republic of China and currently live in Mainland China.

The purpose of this research is to examine the reliability and validity of the Contemporary Chinese Masculinity Inventory. Participation in this study will involve completing 98 multiple choice questions. These questions will ask about your demographic information, your expectations for men, your mental health, and your help-seeking attitude. The following are few examples of the questions that will be asked: "At work, a man should not let his negative mood impact the whole team", "I was too tired to do things", "I might want to psychological counseling in the future". It will take approximately 15 to 20 minutes

You may experience slightly psychological discomfort while responding to the questions. However, this discomfort is anticipated to be minimal with no serious risk. Also, there may be a small chance that unauthorized individuals could gain access to your responses because you are filling out the survey package online. However, this risk is not different with that associated with everyday internet use. There is no direct benefits associated with your participation in this study. However, your responses will help us improve the inventory, which in turn, will improve the validity of studies on Chinese masculinities. You may also learn more about yourself through participating in this study.

Your response will be valid even if you skip questions that you do not feel comfortable responding. With a valid response (i.e., you complete the survey package within a reasonable amount of time and respond to the validity questions), you will receive 4RM. Wenjuanxing platform will credit the 4RM into your Wenjuanxing account within 48 hours of the submission of your response.

Your responses will be stored in the Wenjuanxing platform. Only the primary researcher can access it with a correct username and password. We will ensure confidentiality to the degree permitted by technology. There may be a small chance that unauthorized individuals could gain access to your responses because you are filling out the survey package online. However, this risk is not different with everyday internet use.

It is unlikely, but possible, that others (Lehigh University, or state or federal officials) may require us to share the information you give us from the study to ensure that the research was conducted safely and appropriately. We will only share your information if law or policy requires us to do so.

Thank you very much in advance for your time! If you have any questions about this study, please feel free to contact Song Ge at [16661498@qq.com](mailto:16661498@qq.com) or Dr. Christopher Liang at [ct1212@lehigh.edu](mailto:ct1212@lehigh.edu). If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), please contact the IRB at +16107582871 or [inirb@lehigh.edu](mailto:inirb@lehigh.edu). All reports or correspondence will be kept confidential.

Thank you,  
Song Ge, Doctoral Candidate  
Counseling Psychology  
Lehigh University

This research has been approved by the Lehigh University Institutional Review Board (#TK). I have read the procedure described above and by clicking the "Next" button below, I am voluntarily agreeing to participate in this survey study.

## Appendix K.

### Informed Consent Study Two

Dear Participant,

You are invited to participate in an on-line survey study. With this study, we hope to examine the validity and reliability of the Contemporary Chinese Masculinity Inventory. Because you are a registered survey taker on Wenjuangxing and meet the requirements to participate in this study, you are randomly chosen by Wenjuangxing to receive this invitation. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

Your participation is entirely voluntary. Your decision whether or not to participate will not affect your current or future relations with the Lehigh University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships. The responses will be confidential. Only the primary researcher can access your responses with a correct Wenjuangxing username and password. If you choose to leave your email address at the end of your response, this information will not appear in any publications, presentations, or reports resulting from this research study. Please do not provide any identifiable information (e.g., name, birthdate, home address) other than your email address. This study is being conducted by Song Ge, under the supervision of Dr. Christopher Liang, Department of Education and Human Services, Lehigh University.

In order to participate you must:

- Be a male
- Be at least 18 years old
- Be a citizen of People's Republic of China and currently live in Mainland China.

The purpose of this research is to examine the reliability and validity of the Contemporary Chinese Masculinity Inventory. Participation in this study will involve completing 182 multiple choice questions. These questions will ask about your demographic information, your expectations for men, and your forgiveness level, and your beliefs and behaviors regarding aggression. The following are few examples of the questions that will be asked: "At work, a man should not let his negative mood impact the whole team", "Learning from bad things that I've done helps me get over them", "Sometimes I fly off the handle for no good reasons". It will take approximately 30 to 40 minutes.

You may experience slightly psychological discomfort while responding to the questions. However, this discomfort is anticipated to be minimal with no serious risk. Also, there may be a small chance that unauthorized individuals could gain access to your responses because you are filling out the survey package online. However, this risk is not different with that associated with everyday internet use. There is no direct benefit associated with your participation in this study. However, your responses will help us improve the inventory, which in turn, will improve the validity of studies on Chinese masculinities. You may also learn more about yourself through participating in this study.

Your response will be valid even if you skip questions that you do not feel comfortable responding. With a valid response (i.e., you complete the survey package within a reasonable amount of time and respond to the validity questions), you will receive 6.6RM. Wenjuanxing platform will credit the 6.6 RM into your Wenjuanxing account within 48 hours of the submission of your response.

Your responses will be stored in the Wenjuanxing platform. Only the primary researcher can access it with a correct username and password. We will ensure confidentiality to the degree permitted by technology. There may be a small chance that unauthorized individuals could gain access to your responses because you are filling out the survey package online. However, this risk is not different with everyday internet use.

It is unlikely, but possible, that others (Lehigh University, or state or federal officials) may require us to share the information you give us from the study to ensure that the research was conducted safely and appropriately. We will only share your information if law or policy requires us to do so.

Thank you very much in advance for your time! If you have any questions about this study, please feel free to contact Song Ge at [16661498@qq.com](mailto:16661498@qq.com) or Dr. Christopher Liang at [ct1212@lehigh.edu](mailto:ct1212@lehigh.edu) .If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), please contact the IRB at +16107582871 or [inirb@lehigh.edu](mailto:inirb@lehigh.edu). All reports or correspondence will be kept confidential.

Thank you,  
Song Ge, Doctoral Candidate  
Counseling Psychology  
Lehigh University

This research has been approved by the Lehigh University Institutional Review Board (#TK). I have read the procedure described above and by clicking the "Next" button below, I am voluntarily agreeing to participate in this survey study.

## Appendix L.

## Informed Consent Study Three

Dear Participant,

You are invited to participate in an on-line survey study. With this study, we hope to examine the validity and reliability of the Contemporary Chinese Masculinity Inventory (CCMI). Two weeks ago, you took our survey package and indicated that you would like to re-take the CCMI. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

Your participation is entirely voluntary. Your decision whether or not to participate will not affect your current or future relations with the Lehigh University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships. The responses will be confidential. Only the primary researcher can access your responses with a correct Wenjuanxing username and password. If you choose to leave your email address at the end of your response, this information will not appear in any publications, presentations, or reports resulting from this research study. Please do not provide any identifiable information (e.g., name, birthdate, home address) other than your email address. This study is being conducted by Song Ge, under the supervision of Dr. Christopher Liang, Department of Education and Human Services, Lehigh University.

In order to participate you must:

- Be a male
- Be at least 18 years old
- Be a citizen of People's Republic of China and currently live in Mainland China.

The purpose of this research is to examine the reliability and validity of the Contemporary Chinese Masculinity Inventory. Participation in this study will involve completing 66 multiple choice questions. These questions will ask about your demographic information and your expectations for men. The following are few examples of the questions that will be asked: "At work, a man should not let his negative mood impact the whole team", "Men should have higher degrees than women". It will take approximately 5 to 10 minutes.

You may experience slightly psychological discomfort while responding to the questions. However, this discomfort is anticipated to be minimal with no serious risk. Also, there may be a small chance that unauthorized individuals could gain access to your responses because you are filling out the survey package online. However, this risk is not different with that associated with everyday internet use. There is no direct benefits associated with your participation in this study. However, your responses will help us improve the inventory, which in turn, will improve the validity of studies on Chinese masculinities. You may also learn more about yourself through participating in this study.

Your response will be valid even if you skip questions that you do not feel comfortable responding. With a valid response (i.e., you complete the survey package within a reasonable amount of time and respond to the validity questions), you will receive 3RM. Wenjuanxing

platform will credit the 3RM into your Wenjuanxing account within 48 hours of the submission of your response.

Your responses will be stored in the Wenjuanxing platform. Only the primary researcher can access it with a correct username and password. We will ensure confidentiality to the degree permitted by technology. There may be a small chance that unauthorized individuals could gain access to your responses because you are filling out the survey package online. However, this risk is not different with everyday internet use.

It is unlikely, but possible, that others (Lehigh University, or state or federal officials) may require us to share the information you give us from the study to ensure that the research was conducted safely and appropriately. We will only share your information if law or policy requires us to do so.

Thank you very much in advance for your time! If you have any questions about this study, please feel free to contact Song Ge at [16661498@qq.com](mailto:16661498@qq.com) or Dr. Christopher Liang at [ctl212@lehigh.edu](mailto:ctl212@lehigh.edu). If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), please contact the IRB at +16107582871 or [inirb@lehigh.edu](mailto:inirb@lehigh.edu). All reports or correspondence will be kept confidential.

Thank you,  
Song Ge, Doctoral Candidate  
Counseling Psychology  
Lehigh University

This research has been approved by the Lehigh University Institutional Review Board (#TK). I have read the procedure described above and by clicking the "Next" button below, I am voluntarily agreeing to participate in this survey study.