Abstract

The current study examined the relationship between traditional masculine traits and attitudes towards vibrator use, actual vibrator use and frequency of vibrator use in China. In all 235 Chinese females aged between 16 to 58 years completed a questionnaire regarding attitudes to, and personal use of, vibrators. The results showed a positive association between masculine traits and attitudes towards women’s vibrator use; attitudes towards vibrator use and actual vibrator use, as well as frequency of vibrator use. The findings revealed an indirect path in which masculinity influences actual and frequency of vibrator use through attitudes towards women’s vibrator use. Limitations and implications of the study are discussed.

Keywords: Vibrators, China, Sex-roles, Masculinity, Attitudes, Sex Toys, Behaviours

Word Length: 4279
Introduction

Globally there has been an observable trend of women’s increasing use of pornography and sex toys (Attwood, 2005). According to Maines (1989), vibrators have been in existence for more than a century. Kinsey, Pomeroy, Martin, and Gebhard (1953) and Hite (1976) reported that women’s use of vibrators was rare. However, as vibrators have become more widely available through adult bookstores, in-home sex toy parties, the internet, and retail stores, vibrator use has become increasingly common and socially acceptable (Curtis, 2004; Leiblum, 2001; Loe, 1999; Reece, Herbenick, & Sherwood-Puzzello, 2004).

Recent studies regarding vibrator use have been predominantly done in the US. For instance, Herbenick et al. (2009) looked at vibrator use among women in the US, discovering that more than half of women (52.5%) of 18-60 years have had experience of using a vibrator in their sexual activities. However, to date, no study has attempted to look at vibrator use among women in China. The growth of consumption in China has also been observed in the sex toy industry (McMillan, 2006), further necessitate the investigation of vibrator use in China.

The last decade saw the Chinese sex toy industry boom (McMillan, 2006). The current Chinese government does not operate strictly to repress sex; it also is implicated in the creation of new spaces for sexual entrepreneurship, expertise, and consumption (Zheng, 2007). A study on China’s emerging sex shop industry highlights the links between China’s central authorities and the creation of new opportunities for sexual entrepreneurship and consumption, by charting the expansion of the China’s sex shop industry (McMillan, 2006). Hence, the ambiguous legal boundaries and tensions between the regulators and industry otherwise supported the emerging of sex toy shops in the country, which may have direct effect on women’s vibrator use in China.

Attitudes towards sex

There has been an increasing openness towards sexuality in the sexology research in China, which has evolved from the passive to the active empowerment of women (Yuxin et al., 2007).
A similar evolution in terms of openness is also apparent within the Chinese society, in people’s attitudes towards social norms. Chinese society places high value on female chastity, restricting female engagement in sexual relations (Pan, 2003). Moreover, Chinese sexuality, traditionally based on Confucian and Taoist philosophies, viewed sex for pleasure as detrimental to social order and personal health (Ruan, 1991). Some of these tendencies were intensified when China’s post-1949 socialist government strictly regulated sexual behavior (e.g., tight control over prostitution, promotion of monogamous marriage, and restraints on divorce) (Evans, 1997; Hershatter, 1997; Pan, 1993; Ruan, 1991). In view of this, the maintenance of norms in Chinese society would have a direct effect on shaping people’s attitudes towards women’s pursuit of sexual pleasure and independency.

However, since the early 1980s, increased Western influence via the mass media and a growing market economy changed the social norms and values associated with love, marriage, and sex (Farquhar, 2002; Farrer, 2002; Herold & Byers, 1994; Higgins, Zheng, Liu, & Sun, 2002; Pan, 1993). Today western attitudes toward sexuality are particularly influential on the younger generation. Several scholars agree that China is undergoing a sexual revolution (Bullough & Ruan 1994; Pan 1993; Parish et al. 2007a). This shift has been manifested primarily in the expression of sex as a pleasure-seeking behavior rather than as an act undertaken solely for the purpose of childbearing. As such, tolerance toward the expression of sexuality, increased gender equality in the form of the acceptance of female sexuality, and the importance of sexual satisfaction within marriage have become much more commonplace in modern China (Higgins et al. 2002; Pan 1993). Moreover, the development of a sexual vocabulary has also led to greater acceptance and communication about sexual matters (e.g., Pan 1993). In later years (2002 and beyond), increased coverage of sex-related topics appeared and emphasized healthy attitudes toward sexual development (Ruan et al. 2004). In addition, sex survey research has flourished, and the belief that masturbation and too much sex are harmful to one’s health is no longer formally communicated (Pan, 1993).

**Attitudes towards women’s vibrator use**

People’s attitudes towards sex are closely related to their attitudes towards vibrator use. In Western societies, female masturbation has typically been perceived as more taboo than male masturbation (Leitenberg, Detzer, & Srebnik, 1993). In China, it may be even more so, evidenced by a survey in 2000 showing that 96% of females aged 40–64 reported they had
never masturbated in comparison with 89 % of females aged 30–39, and 82 % of females aged 20–29. Although it appears that masturbation has become somewhat more accepted among the youngest generation and especially so among males in the youngest cohort it suggests that female masturbation is largely seen as a taboo, similar to the phenomenon in Western societies. These gendered ideas may influence beliefs about women’s vibrator use—for example, that women should not masturbate with or without a vibrator or that women who masturbate or use vibrators are single or lonely.

This has important implications, as the literature suggests that although vibrators are the most effective means for achieving orgasm, they have been seen as less acceptable and desirable than other means of achieving orgasm. A scale has been devised to measure people’s attitudes towards women’s vibrator use (Herbenick et al., 2011) which measured women who reported purchasing a vibrator, using a vibrator or telling their partner about their vibrator use. A similar pattern may be observable in the Chinese population. It was therefore predicted that among users, positive beliefs about women’s vibrator use will predict frequency of vibrator use, the number of vibrators owned and orgasm frequency during masturbation with vibrator and sexual intercourse with vibrator.

**Gender roles**

Gender roles may have an impact on women’s vibrator use. According to gender schema theory (Bem, 1983), gender-role beliefs and gender-role self-concept are both manifestations of one’s gender schema. The former describes how people view others’ behaviors in terms of gender role while the latter relates to how people evaluate themselves on gender-stereotypic personality traits. Further, endorsements of feminine and masculine self-description may translate into an individual’s attitudes towards sex and sexual behavior. For example, Pleck, Sonenstein and Ku (1993) found that masculine ideology is associated with adventure sexual behaviors in adolescent males (Pleck, Sonenstein & Ku, 1993).

The findings were, however, mixed for women. Women with a higher level of masculine personality traits and egalitarian gender roles were more likely to engage in risky sexual behaviors (Lucke, 1998). More recently, Leech (2010) found the relationship between traditional/egalitarian gender attitudes and risky sexual behaviour to be in an inverted U-shape, showing that individuals with moderate gender attitudes are the least likely to be involved in
risky sexual behavior, while those holding high traditional and high egalitarian gender attitudes tend to engage in risky sexual behavior.

Vibrator use diverges from most risky sexual behaviours in terms of a lack of self-harming element (e.g., sexually transmitted disease associated with having multiple partners or the non-usage of condoms), but converges with regard to the adventurousness, as it is a more novel kind of sexual practice. Vibrator use may also be risky in a conservative society because vibrators have to be purchased which may become known to authorities or friends. Thus, we predict that identification with higher levels of masculine personality traits will be associated with more positive attitudes towards vibrator use, which may also translate into actual vibrator use and frequency of vibrator use. In Chinese society, where men express more liberated sexual attitudes, women who identify more with masculine ideology may also exhibit behaviors, which reflects sexual liberation, in the specific context of the current study, in forms of attitudes towards vibrator use, actual vibrator use and frequency of vibrator use. Therefore, it could be inferred that women’s masculinity may be reflected in their unconventional sexual behaviors (such as dominance) and nonconformity of sexual identity (passive recipient) through their more positive attitudes towards women’s vibrator use, increased vibrator use and higher frequency of vibrator use.

**This study**

Vibrators may be recommended as adjunct therapy for the treatment of anorgasmia, hypoactive desire disorder, and persistent sexual arousal syndrome, as well as for sexual enhancement and pleasure (Leiblum & Nathan, 2002; LoPiccolo & Lobitz, 1972; Phillips, 2000). From a medical perspective, it is therefore beneficial for women to have positive attitudes towards vibrator use. To date, however, there is no evidence on links connecting masculinity and attitudes towards women’s vibrator use, actual vibrator use and frequency of vibrator use. Hence, the current study looks to examine the predictors of vibrator use and frequency of use among Chinese women. We propose four hypotheses:

H1 Masculinity positively predicts positive beliefs about women’s vibrator use.

H2 Beliefs about women’s vibrator use predicts actual vibrator use.

H3 Masculinity predicts users’ frequency of vibrator use.
H4 Beliefs about women’s vibrator use predicts users’ frequency of vibrator use.

Method

Sample and procedure

In all the sample consisted of 235 Chinese female respondents. Their mean age was 27.51 years ($SD = 5.70$), ranging between 16 and 58 years. Respondents were recruited in two ways: 115 respondents were recruited from an online sex toy shop while 120 were recruited via a snowballing sampling. All participants voluntarily answered the questionnaires powered by Qualtrics. This study was approved by the University’s committee of ethics.

Measures

All respondents completed items related to socio-demographics, beliefs about women’s vibrator use and sex roles, while only users completed items related to frequency of vibrator use.

Socio-demographic measures. Respondents were asked to answer questions regarding their age, highest education level obtained, relationship status and sexual orientation.

Attitudes towards women’s vibrator use was assessed by a 10-item Beliefs About Women’s Vibrator Use Scale (Herbenick, 2011) which was translated (and back translated) into Chinese. The scale consisted of six positive statements (e.g., helps women to become more sexually independent) and four negative statements (e.g., is something that only women who are lonely do). The items were responded on a 4-point Likert scale anchored at 1 (strongly disagree) and 4 (strongly agree).

Gender Roles were assessed with a validated Chinese version of the 16-item short form of the Bem’s Sex Roles Inventory (BSRI; Bem, 1979; Zhang, Norvilitis & Jin, 2001). The scale assessed the extent to which the culture’s definition of desirable female and male attributes are reflected in an individual’s self-description. The scale has been demonstrated to have high reliabilities in Chinese population. The two subscales, masculinity and femininity each
consisted of 8 items that are positive and socially desirable personality characteristics. Each item was answered on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

**Vibrator use** was assessed by an item, asking whether the respondent has or has not used a vibrator. This identified two categories: users and non-users.

**Frequency of vibrator use.** Users were asked how frequently they have used a vibrator in the past 30 days. The options include ‘multiple times daily’, ‘once daily’, ‘multiple times weekly’, ‘once weekly’, ‘once in multiple weeks’ and ‘never’.

**Results**

**Descriptive statistics**

There were 68.5% of users (N = 160) and 31.5% of non-users in the sample (N = 75). In terms of education level, 1.7% did not complete high school; 1.7% completed high school; 14.5% achieved college equivalent level; 60.4% graduated with a Bachelor’s degree, 21.7% has obtained a master’s degree or above. 34.5% of the sample were single; 26.4% were married; 36.6% were in a relationship with one partner; 1.3% were in a relationship with multiple partners and 1.3% did not disclose their relationship status. In all 68.5% were heterosexual; 11.9% were bisexual; 4.3% were homosexual and 15.3% were unwilling to disclose their sexuality. When users were asked about their frequency of vibrator use in the last 30 days, 18.0% indicated that they have not used their vibrators in the last 30 days; 34.2% indicated once in multiple weeks; 15.5% once weekly; 29.2% multiple times per week; 2.5% once daily and 0.6% multiple times per day.

**Preliminary analyses**

Analyses of variance showed that, in this sample, there was no significant difference in vibrator use between educational groups, $F(4, 230) = 1.98, p = .10, \eta_p^2 = .03$; relationship status, $F(4, 230) = 1.55, p = .19, \eta_p^2 = .03$; and sexual orientation, $F(4, 230) = 1.80, p = .15, \eta_p^2 = .02$. A Pearson’s correlation revealed a non-significant effect of age on vibrator use, $r = -.12, p = .08$. For these reasons, we have omitted the inclusion of demographic variables as controls in the subsequent analyses. The correlations between variables are shown in table 1.
ANOVA analysis

We explored the interaction between masculinity and femininity in attitudes towards vibrator use, actual vibrator use and frequency of vibrator use. Following the procedures recommended by Bem and Lipsitz (1981), we first used the median to split the sample into four clusters: high masculinity / high femininity (“Androgynous”), high masculinity / low femininity (“Masculine”), low masculinity / high femininity (“Feminine”) and low masculinity / low femininity (“Undifferentiated”). A series of ANOVAs was run on attitudes towards vibrator use, actual vibrator use and frequency of vibrator use (see Table 2). Differences were only significant among groups for attitudes towards vibrator use ($p = .02$), but not actual vibrator use ($p = .30$) and frequency of vibrator use ($p = .23$). Games-Howell post-hoc test was conducted for attitudes towards vibrator use, showing that none of the comparisons between groups was significant ($p > .10$).

Hypotheses testing

H1. A linear regression was run using masculinity as the criterion variable. The model was significant, $F(1, 233) = 12.46$, $p = .001$, adj $R^2 = .05$. Masculinity was a significant predictor of positive attitude towards vibrator use, $\beta = .23$, $t = 3.53$, $p = .001$.

H2. A linear regression was run using belief about women’s vibrator use as criterion variables. This model was significant, $F(1, 233) = 48.76$, $p < .001$, adj $R^2 = .17$. Belief of women’s vibrator use was a significant predictor of vibrator use, $\beta = .42$, $t = 6.98$, $p < .001$. 

Insert Table 1 here

Insert Table 2 here

Insert Figure 1 here
Although the relationship between masculinity and actual vibrator use was non-significant ($F(1, 233) = 2.19, p = .14, \text{adj} R^2 = .01$), most contemporary analysts contended that this step is not essential to establish mediation (Hayes, 2013). The non-significance between masculinity and actual vibrator use could be a result of low power, as indicated by a post-hoc power analysis (Power = .019). Figure 1 illustrates the indirect route masculinity can take through attitudes towards women’s vibrator use to influence actual vibrator use.

**H3. Masculinity.** The model was marginally significant, $F(1,159) = 3.49, p = .06, \text{adj} R^2 = .02$. Masculinity was a non-significant predictor of frequency of use, $\beta = .15, t = 1.87, p = .06$.

**H4. Beliefs about women’s vibrator use.** The model was significant, $F(1,159) = 16.18, p < .001, \text{adj} R^2 = .09$. Belief about women’s vibrator use was significantly and positively associated with users’ frequency of vibrator use, $\beta = .30, t = 4.02, p < .001$.

The marginal significance between masculinity and frequency of vibrator use could be a result of low power. Figure 2 illustrates the indirect route masculinity can take through attitudes towards women’s vibrator use to influence frequency of vibrator use.

**Discussion**

This study aimed to examine the relationship between gender roles, attitudes towards vibrator use, actual vibrator use and frequency of vibrator use. We tested all four hypotheses proposed. H1 was supported, masculinity predicts positive attitudes towards women’s vibrator use. H2 was also supported, attitudes towards women’s vibrator use predicts actual vibrator use. The following hypotheses concern frequency of use, of which only two of the hypotheses were confirmed. H3 was not supported, as masculinity only marginally predicts frequency of use. H4 was supported, attitudes towards vibrator use predicted frequency of use. In other words, women who identify more with masculine gender roles and hold more positive attitudes towards vibrator use are more likely to use vibrator. Among the users, women who hold more positive attitudes towards vibrator use tend to use vibrator more frequently compared to those with less positive attitudes towards vibrator use.
As predicted, the more a woman identifies with the opposite sex, the more likely she is to hold more positive attitudes towards women’s vibrator use. This makes sense because this reflects gender nonconformity, in relation to social norms. Moreover, it is consistent with previous findings (Leech, 2010; Lucke, 2008). Specifically, women who hold more masculine values are more likely to deviate from social norms where gender roles are deeply embedded. In this case, Chinese women who are more masculine are less likely to see masturbation and vibrator use as a taboo, an attitude aberrant of the social norm.

Positive attitude towards women’s vibrator use predicts actual vibrator use, consistent with Herbenick et al. (2011). Our findings extend from previous literature by showing that positive attitude towards women’s vibrator use also predicts more frequent vibrator use among the users.

In this study, we have established the links between masculinity and attitudes towards women’s vibrator use, as well as the associations between attitudes towards vibrator use and actual vibrator use, and frequency of vibrator use. It is then possible to see the indirect path masculinity takes to influence actual vibrator use and frequency of vibrator use, through attitudes towards women’s vibrator use. Even though the associations between masculinity and actual vibrator use and frequency of vibrator use were non-significant, they were in the positive direction.

Perhaps the most important implication of the current study is the benefits of vibrator use as a sexual medical practice. As our findings show, women with more masculine are more likely to use vibrator as a sexual medicine, while those who adhere strongly to feminine gender roles are less likely to do so.

This study is not without limitations. The relatively small sample size restricted the power of the study to find a significant difference between masculinity and actual vibrator use and frequency of vibrator use. This calls for a replication in a larger, more representative sample to ascertain the reliability of our findings. The findings are also limited in terms of its generalizability due to our use of a Chinese sample. Further, positive attitudes towards vibrator use only accounted for 17.0% of the variance for actual vibrator use. It is apparent that other factors are affecting women’s vibrator use. This necessitates further research to look into the other factors that can better explain vibrator use among women. Positive attitudes may not necessarily translate into actual vibrator use; future research could also look into the potential
moderators of the relationship between positive attitudes towards vibrator use and actual vibrator use (e.g., partner factors, psychological barriers).

References


sexual behavior and sexual adjustment in young adulthood. *Archives of Sexual Behavior*, 22(2), 87-98.


**Table 1. Correlations between variables.**

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Masculinity</td>
<td>3.47</td>
<td>.73</td>
<td>-</td>
<td>.25***</td>
<td>.23***</td>
<td>.10</td>
<td>.15*</td>
</tr>
<tr>
<td>(2) Femininity</td>
<td>3.82</td>
<td>.62</td>
<td>-</td>
<td>.00</td>
<td>.05</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>(3) Attitudes</td>
<td>1.26</td>
<td>.89</td>
<td>-</td>
<td>.42***</td>
<td>.42***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4) Actual vibrator use</td>
<td>1.31</td>
<td>.47</td>
<td>-</td>
<td>.62***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(5) Frequency of use</td>
<td>2.14</td>
<td>1.25</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**Table 2. ANOVAs**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
<th>Attitudes</th>
<th>User</th>
<th>Frequency (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Androgynous</td>
<td>54</td>
<td>23.0</td>
<td>1.45</td>
<td>1.33</td>
<td>2.83 (36)</td>
</tr>
<tr>
<td>Masculine</td>
<td>60</td>
<td>25.5</td>
<td>1.43</td>
<td>1.25</td>
<td>2.73 (45)</td>
</tr>
<tr>
<td>Feminine</td>
<td>46</td>
<td>19.6</td>
<td>1.04</td>
<td>1.26</td>
<td>2.29 (34)</td>
</tr>
<tr>
<td>Undifferentiated</td>
<td>75</td>
<td>31.9</td>
<td>1.12</td>
<td>1.39</td>
<td>2.72 (46)</td>
</tr>
<tr>
<td>Total</td>
<td>235</td>
<td>100.0</td>
<td>1.26</td>
<td>1.31</td>
<td>2.66 (160)</td>
</tr>
</tbody>
</table>

\[ F(4, 231) = 3.26^* \]

14
Figure 1. The relationship between masculinity, beliefs about women’s vibrator use and actual vibrator use.

Figure 2. The relationship between masculinity, beliefs about women’s vibrator use and frequency of vibrator use.