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Marital Satisfaction and Depressive Symptoms in China

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Although there is substantial evidence that low marital satisfaction is a significant risk factor for depression, little research has examined this relationship in cultures outside of the U.S. and Europe. The validity of the marital discord model of depression in Chinese culture was tested by studying 391 couples living in Beijing and Hangzhou, China. Results of structural equation modeling using an actor–partner interdependence model strategy indicated that husbands’ and wives’ marital satisfaction was significantly predictive of their own depressive symptoms. In addition, wives’ marital satisfaction significantly predicted husbands’ depressive symptoms. These results provide evidence that the marital discord model of depression is useful in understanding the role of marital dissatisfaction as a risk factor for depressive symptoms in collectivistic societies, such as China.

Keywords: marital discord, depression, China, cross-cultural
riage law. The effect of these changes has been to promote individual marriage choice and to increase the equality of women in families, as well as in society (Hershatter, 2004). Subsequent laws have further strengthened the position of women in marriage and established more liberal divorce laws. Gradually, the purpose of marriage, especially in urban areas, has shifted from utility and responsibility toward mutual respect, admiration, and an expression of love between individuals (Chen & Li, 2007; Guo & Huang, 2005).

Despite these changes, China remains a strong collectivist society. With China having the largest population in the world, it is an ideal setting to test the validity of the marital discord model of depression in a collectivist society. The purpose of this study was to examine the relationship between marital satisfaction and depressive symptoms using a sample of couples living in Beijing and Hangzhou, China.

**Marital Satisfaction and Depression in China**

There is some evidence that marital quality is associated with life satisfaction and personal well-being among Chinese couples. A series of studies by D. T. L. Shek using samples in Hong Kong have found an association between marital quality and personal well-being. In 1995, he sampled 1,499 men and women to study the impact of marital quality on well-being among Chinese married adults (Shek, 1995). He found that marital quality was significantly associated with personal well-being. In another study that used longitudinal data, Shek (2000) studied 378 Chinese families and found that marital quality predicted personal well-being, life satisfaction, and health two years later. Although these studies provide evidence that marital quality is a significant predictor of personal well-being, they did not specifically measure depressive symptoms.

**Gender and Partner Effects**

Some scholars have theorized that the association between marital distress and depressive symptoms would be greater among women than men (Beach et al., 2003; Fincham, Beach, Harold, & Osborne, 1997). Although some research has found that the relationship between marital distress and depressive symptoms is stronger for women (Fincham et al., 1997), the bulk of studies have found no gender differences (Beach et al., 2003; Whisman, 2007; Whisman & Uebelacker, 2009), including the study conducted in Singapore (Sandberg et al., 2012).

Most of the research on marital distress and depression has examined the effect of marital distress on one’s own depressive symptoms (Whisman & Baucom, 2012). However, the marital discord model of depression suggests that a spouse’s marital distress creates less support and more hostility in the relationship, which puts the other spouse at increased risk to experience depressive symptoms. Thus, it is important to test the cross-spouse effect of marital distress on depressive symptoms (Whisman, Uebelacker, & Weinstock, 2004). The actor–partner interdependence model (APIM; Kenny, Kashy, & Cook, 2006) fully utilizes dyadic data by allowing an examination of spouses’ marital distress on their own depressive symptoms (actor effects), as well as on their spouses’ depressive symptoms (partner effects). APIM is designed with the assumption that the scores of two “linked” individuals are correlated, thus suggesting that one person’s score can provide information about the other person’s score. Consequently, it is appropriate to consider the scores as interdependent (Kenny et al., 2006).

Previous research on partner effects in the predictive relationship between marital distress and depressive symptoms has been mixed. Although Whisman and associates (2004) and Beach and associates (2003) found significant partner effects, Whisman and Uebelacker (2009) reported that the relationship between marital distress and partner’s subsequent depressive symptoms was not significant.

In summary, there have been no direct tests of the marital discord model of depression among Chinese couples. This study tested the hypothesis that marital satisfaction will be negatively predictive of depressive symptoms among Chinese husbands and wives.

**Method**

**Sample**

All of the parents in the study were married, and all of them were ethnic Chinese. The mothers’ and fathers’ mean ages were 32.91 (SD = 3.35) and 35.14 (SD = 3.77), respectively. The age of the mothers ranged from 25 to 47 years, and the fathers’ ages ranged from 25 to 52 years. Mothers had an average of 13.28 (SD = 2.63) years of education, while the fathers had an average of 13.75 (SD = 2.80) years of education.

**Procedure**

The data used for this study were collected in Beijing and Hangzhou, China between 1995 and 2001 (Nelson et al., 2006). The sample consisted of 467 parent couples with children enrolled in five preschools, four in Beijing and one in Hangzhou. Both are large urban centers; Beijing, located in northeastern China, is the capital city of China, and Hangzhou, located in east central China, is the capital city of Zhejiang Province. After approval from the lead author’s university institutional review board, data were collected from families who had children attending one of the preschools. School administrators arranged meetings between the researchers and the parents so that specific instructions could be explained to the parents. Parents were told that their participation was voluntary, and that they could withdraw at any time from the study. They were assured that their responses would be kept confidential. Because of the large number of questions, the overall questionnaire was divided into three packets. The parents took one packet home at a time and returned each packet on a weekly basis. Each of the packets took approximately 30–45 minutes to complete. Overall, 70% of the families in the five preschool classes participated in the study. All of the measures in the questionnaires were carefully forward- and back-translated and pilot-tested with Chinese parents (Nelson et al., 2006). When data for the variables used in these analyses were missing, maximum likelihood estimates were employed to estimate parameters using the statistical software AMOS, assuming that the missing data were missing at random (Arbuckle, 2007).
Measures

Marital satisfaction. Marital satisfaction was measured using the Kansas Marital Satisfaction Scale (KMSS), which is a widely used scale that measures partners’ ratings of their level of satisfaction with the marriage, relationship, and spouse. The items are measured on a Likert-type scale ranging from 1 (not very satisfied) to 5 (very satisfied). Previous research has found that the scale is reliable, with a Cronbach’s alpha of .96, and it can differentiate distressed and nondistressed couples (Schumm et al., 1986).

Chinese researchers have created a Chinese version of the Kansas Marital Satisfaction Scale and found adequate reliability and validity properties of the scale (Shek, Lam, Tsoi, & Lam, 1993). The scale is highly correlated with Chinese versions of the Dyadic Adjustment Scale and the Marital Comparison Level Index. The scale differentiates satisfied and dissatisfied couples and has a Cronbach’s alpha of .97, demonstrating high reliability of items. The KMSS for men and women in this sample had a Cronbach’s alpha of .92 and .91, respectively.

Depressive symptoms. Depressive symptoms were measured using the 20-item Center for Epidemiological Studies-Depression Scale (CES-D). Each question was measured on a Likert-type scale ranging from 0 (rarely or none of the time) to 3 (most or all of the time). Previous studies have found the CES-D to be a valid and reliable measure of depressive symptoms (Radloff, 1977). A Chinese version of the CES-D was found to be reliable, with Cronbach’s alpha scores of .83 for men and .82 for women (Cheung & Bagley, 1998). Tests of validity indicated that the Chinese CES-D was negatively correlated with life satisfaction and positively correlated with stressful life events. The CES-D for men and women in this sample had a Cronbach’s alpha of .76 and .74, respectively.

Control variables. Control variables included years of education and age of each parent and data collection site identification. They were measured using standard demographic questions.

Analysis

Figure 1 represents the path model that was analyzed in this study. The dyadic data were fully utilized by using an APIM strategy (Kenny et al., 2006). Structural equation modeling (SEM) was used to analyze the path model, and the statistical program, AMOS (Arbuckle, 2007), was used to conduct the analysis. The primary advantage of SEM is that it controls for measurement error, which reduces bias in the regression coefficients (Kline, 2010).

Results

Preliminary Analyses

The mean score of marital satisfaction for husbands and wives was 4.09 (SD = .95) and 3.91 (SD = .98), respectively. The mean

![Figure 1. Structural model for husbands’ and wives’ marital satisfaction and depressive symptoms, controlling for age, education, and data collection site.](image-url)
score of depressive symptoms for husbands and wives was 8.24 ($SD = 1.74$) and 8.46 ($SD = 1.95$), respectively. The results of correlational analysis (see Table 1) indicated that husbands’ marital satisfaction was significantly correlated with their own depressive symptoms ($r = -.22$, $p < .001$) and their wives’ depressive symptoms ($r = -.20$, $p < .001$). Wives’ marital satisfaction was also negatively correlated with their own depressive symptoms ($r = -.31$, $p < .001$) and their husbands’ depressive symptoms ($r = -.18$, $p < .001$).

Path Model Results

The results of the goodness-of-fit analysis indicated that the model fit the data well. The $\chi^2$ was 280.71, with 124 $df$, which is an acceptable ratio. The cumulative fit index (CFI) was .96, and the Tucker-Lewis index (TLI) was .94, which are well above the cutoff score of .90. The root mean square error of approximation (RMSEA) was .05. This model included the control variables of age, education, and data collection site. Running the model without these control variables made the model fit significantly worse ($\Delta \chi^2 = 28$, $df = 6$, $p < .01$). A separate test was conducted to determine if the inclusion of the data collection site variable was important for good model fit. This model, which included only age and education as control variables, also had a significantly poorer fit than the model with all three control variables ($\Delta \chi^2 = 24$, $df = 2$, $p < .01$). Consequently, the model that was used in the analysis included age, education, and data collection site as control variables.

As indicated in Table 2, results of the examination of actor effects indicated that the relationship was significant for husbands ($\beta = -.13$, $p < .05$) and for wives ($\beta = -.33$, $p < .01$). Results of the partner effects indicated that husbands’ marital satisfaction did not significantly predict wives’ depressive symptoms ($\beta = -.00$, $p = .97$), but wives’ marital satisfaction significantly predicted husbands’ depressive symptoms ($\beta = -.11$, $p < .05$). Among the control variables, wives’ age was significantly associated with wives’ depressive symptoms ($\beta = -.09$, $p < .05$), and data collection site was significantly associated with husbands’ depressive symptoms ($\beta = -.20$, $p < .01$) and wives’ depressive symptoms ($\beta = -.16$, $p < .01$).

Gender Differences

In structural equation modeling, equivalence of regression coefficients demonstrates that the latent variables are related in the same way across groups. To test for gender differences in the model, the $\chi^2$ difference invariance test was used, which evaluates noninvariance across parameters by comparing the $\chi^2$ values of the configural model and other models in which particular parameters are constrained to be equal. According to Byrne (2010), evidence

Table 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean (SD)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Husband age</td>
<td>35.14 (3.77)</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Husband education</td>
<td>13.75 (2.80)</td>
<td>.17*</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Wife age</td>
<td>32.91 (3.35)</td>
<td>.78*</td>
<td>.17*</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Wife education</td>
<td>13.28 (2.63)</td>
<td>.21*</td>
<td>.65*</td>
<td>.25*</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Data collection site</td>
<td>—</td>
<td>-.08</td>
<td>-.12</td>
<td>-.17</td>
<td>-.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Husband marital satisfaction</td>
<td>4.09 (.95)</td>
<td>—</td>
<td>.07</td>
<td>.01</td>
<td>.03</td>
<td>.03</td>
<td>.10</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>7. Wife marital satisfaction</td>
<td>3.91 (5.9)</td>
<td>-.07</td>
<td>.06</td>
<td>-.07</td>
<td>.01</td>
<td>.08</td>
<td>.44*</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>8. Husband depression</td>
<td>8.24 (1.74)</td>
<td>-.02</td>
<td>-.11</td>
<td>.04</td>
<td>-.01</td>
<td>-.18*</td>
<td>-.22*</td>
<td>-.18*</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>9. Wife depression</td>
<td>8.46 (1.95)</td>
<td>-.07</td>
<td>-.03</td>
<td>-.03</td>
<td>-.03</td>
<td>-.16*</td>
<td>-.20*</td>
<td>-.31*</td>
<td>.32*</td>
<td></td>
</tr>
</tbody>
</table>

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

Table 2

<table>
<thead>
<tr>
<th>Actor effects</th>
<th>Unstandardized</th>
<th>Standardized</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Husband marital satisfaction → Husband depression</td>
<td>-.45</td>
<td>-.13</td>
<td>.02</td>
</tr>
<tr>
<td>Husband age → Husband depression</td>
<td>-.41</td>
<td>-.03</td>
<td>.46</td>
</tr>
<tr>
<td>Husband education → Husband depression</td>
<td>-.03</td>
<td>-.07</td>
<td>.10</td>
</tr>
<tr>
<td>Collection site → Husband depression</td>
<td>-.61</td>
<td>-.20</td>
<td>.00</td>
</tr>
<tr>
<td>Wife marital satisfaction → Wife depression</td>
<td>-.26</td>
<td>-.33</td>
<td>.00</td>
</tr>
<tr>
<td>Wife age → Wife depression</td>
<td>-.02</td>
<td>-.09</td>
<td>.04</td>
</tr>
<tr>
<td>Wife education → Wife depression</td>
<td>.01</td>
<td>.01</td>
<td>.83</td>
</tr>
<tr>
<td>Collection site → Wife depression</td>
<td>-.28</td>
<td>-.16</td>
<td>.00</td>
</tr>
<tr>
<td>Partner effects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Husband marital satisfaction → Wife depression</td>
<td>-.01</td>
<td>-.00</td>
<td>.97</td>
</tr>
<tr>
<td>Wife marital satisfaction → Wife depression</td>
<td>-.41</td>
<td>-.11</td>
<td>.04</td>
</tr>
</tbody>
</table>

Note. Model Fit: Chi-square = 280.71 ($df = 124$); RMSEA = .05; CFI = .96; TLI = .94.
of noninvariance is established when the $\chi^2$ difference value is statistically significant.

Results of the gender analyses indicated that the effect of both spouses’ marital satisfaction on their own depressive symptoms did not differ significantly. The $\chi^2$ difference between the unconstrained model and the model where actor effects were constrained to be equal was .93 ($df = 1, p = .33$), indicating that there was no difference in the path coefficients between wives’ marital satisfaction and their own depressive symptoms and husbands’ marital satisfaction and their own depressive symptoms. Constraining the partner effects to be equal resulted in a $\chi^2$ difference between the two models that approached significance ($\Delta\chi^2 = 3.72, df = 1, p = .053$) but did not meet the standard of statistical significance at the .05 level. Thus, there were no gender differences among the partner effects based on testing the invariance of the paths between marital satisfaction and spouses’ depressive symptoms.

### Discussion

The findings of the study support the validity of the marital discord model of depression in China, which is a large, collectivistic society. Consequently, these results, when considered in the context of the studies in Brazil (Hollist et al., 2007) and Singapore (Sandberg et al., 2012), provide support for the “etic” perspective on marital satisfaction and depressive symptoms, with marital distress being a significant predictor of depressive symptoms in both individualistic and collectivistic societies.

These findings that marital distress is a risk factor for depressive symptoms are consistent with a qualitative study that examined the perceived causes of depression among Taiwanese women who had recently recovered from depression (Fu & Parahoo, 2009). The researchers found that marital distress was often perceived as a major cause of their depression. Similar results were found in studies that assessed depressed adults’ perceptions of the causes of their depression in Sweden (Hansson, Chotai, & Bodlund, 2010) and Switzerland (Lauber, Falcato, Nordt, & Rossler, 2003).

The lack of significant gender differences in the strength of the association between marital satisfaction and one’s own depressive symptoms is consistent with previous research. Although theoretical reasons have been postulated to predict a stronger association among women (Fincham et al., 1997), most studies have found no gender differences (Beach et al., 2003; Sandberg et al., 2012; Whisman & Uebelacker, 2009). Moreover, this lack of evidence for gender differences in the relationship between marital satisfaction and depression symptoms is congruent with a larger research literature that has found no gender differences between marital distress and other psychological disorders, including anxiety disorders, bipolar disorders, and alcohol disorders (Whisman, 2007), as well as physical health status (Umberger, Williams, Powers, Liu, & Needham, 2006). The results of the present study provide evidence that the lack of gender differences in the relationship between marital distress and individual well-being extends to collectivistic societies.

Results of the partner-effect analysis found that the path between wives’ marital satisfaction and husbands’ depressive symptoms was significant, but the path between husbands’ marital satisfaction and wives’ depressive symptoms was not significant. These results, according to the marital discord model of depression (Beach et al., 1990), suggest that marital dissatisfaction among wives in China is accompanied by increased hostility and decreased spousal support, which puts their husbands at greater risk for depressive symptoms. On the other hand, marital dissatisfaction among husbands in China is apparently not accompanied by behaviors that put their wives at greater risk for depressive symptoms. However, the difference in the significance of the partner-effect paths must be tempered by the fact that the formal test of invariance between the two paths only approached statistical significance.

There are two important limitations to this study. First, the data came from two large metropolitan areas of China: Beijing and Hangzhou. These two cities are highly urbanized and the resulting findings from the sample might not reflect family dynamics in rural settings. Because there are substantial cultural differences between urban and rural China (Pimentel, 2000), the generalizability of this study’s results are limited.

Second, longitudinal research is needed to better understand the predictive effect of marital satisfaction on subsequent depressive symptoms. With research demonstrating the bidirectionality of the relationship between marital satisfaction and depression (Whisman & Uebelacker, 2009), it is important to employ longitudinal research to examine the temporal effects of marital satisfaction on depressive symptoms in China.

Overall, the results of this study provide evidence that the marital discord model of depression is a valid model that enables researchers and clinicians to better understand the etiology of depression in China. Combined with the studies of marital satisfaction and depression among Brazilian women (Hollist et al., 2007) and Singaporean married adults (Sandberg et al., 2012), there is emerging evidence that marital dissatisfaction is a significant risk factor for depressive symptoms in collectivist societies.

### References


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