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PAPER

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Relation of social constraints on disclosure to adjustment among Chinese American cancer survivors: A multiprocesses approach

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Abstract

Purpose: The present study examines the association between social constraints and depressive symptoms among Chinese American breast cancer survivors, and the mechanism underling this association. A multiprocesses model is tested to examine the mediating roles of ambivalence over emotional expression (AEE), avoidance, intrusive thoughts, and social support in the association between social constraints and depressive symptoms among Chinese American breast cancer survivors.

Methods: Ninety-six Chinese American breast cancer survivors were recruited from Chinese community organizations. They were asked to complete a questionnaire package that assessed social constraints, AEE, avoidance, intrusive thoughts, social support, depressive symptoms, and demographic information. Path analysis was conducted to test the hypothesized model.

Results: The overall and specific indirect effects of social constraints on depressive symptoms through AEE, avoidance, intrusive thoughts, and social support are significant. When the mediators are controlled for, the direct effect of social constraints on depressive symptoms is no longer significant.

Conclusions: A multiprocesses model of social constraints and depressive symptoms is tested in a sample of Chinese American breast cancer survivors. The findings suggest that the existence of multiple pathways through which social constraints may associate with depressive symptoms among Chinese American breast cancer survivors.

KEYWORDS

ambivalence over emotional expression, Asian American, avoidance, cancer, cancer survivorship, depression, intrusive thought, oncology, social constraints, social support

1 | INTRODUCTION

Breast cancer is the leading cancer among Asian American women, the incidence rate is 98.5 per 100 000 women.[1] Along with this serious disease, many breast cancer survivors are also battling symptoms of depression due to the distress that is caused by the disease and the effects of treatment.[2] However, the psychological adjustment toward cancer among Asian American women is vastly understudied in the existing literature. The present study aims to examine the psychological factors that may contribute to depressive symptoms among Asian American women breast cancer survivors.

1.1 | Cognitive processing of cancer experience

Because of the perniciousness and unpredictability of cancer diagnosis and treatments, these experiences can be traumatic for breast cancer survivors. Research suggested that cognitive processing is important for individuals to recover from trauma.[3,4] Cognitive processing involves mental activities that allow for interpretation of traumatic events in personally meaningful and nonthreatening terms.[5] If trauma survivors fail to process or only partially process their traumatic experiences, the trauma may remain in their active memory, precipitating repetitive and unwelcome thoughts related to the trauma (ie, intrusive

thoughts).[3] When intrusive thoughts become prolonged or intense, psychological distress may result.[3] Incomplete cognitive processing and intrusive thoughts are common among cancer survivors,[5] and they tend to associate with more depressive symptoms.[6,7]

1.2 | Social constraints

On the basis of the social-cognitive processing model,[8] cognitive processing of cancer experience can be facilitated by talking with supportive and empathic others, who provide validation, facilitate reappraisal and meaning-making; an opposing effect would result when cancer survivors have unsatisfying interpersonal experiences during disclosure. Social constraints are social conditions in which individuals feel unsupported, misunderstood, or isolated when they attempt to discuss their stressor(s).[9] Such perception may be the result of criticism or insensitive responses from individuals' social network members.[10] Cancer survivors who report a high level of social constraints tend to experience more depressive symptoms and lower quality of life.[5,6] Such maladjustment may be attributed to incomplete cognitive processing of cancer experience, and empirical studies show that intrusive thoughts mediate the relationship between social constraints and psychological distress among cancer survivors.[6,7]

Most social constraints research has been conducted among Caucasian cancer survivors, and little is known about the manifestation and impacts of social constraints among Asian American cancer survivors. The norms of emotional disclosure in the Asian culture are different from those in the western culture[11]; emotional release is not commonly practiced among Asians because of the concern about disrupting interpersonal harmony.[12] Therefore, there is a need to examine whether the association between social constraints and depressive symptoms found among Caucasian cancer survivors may be generalized to Asian American cancer survivors, and other possible underlying mechanisms.

1.3 | Ambivalence over emotional expression and avoidance as mediators

Adequate acknowledgment and expression of one's feelings is important for psychological adjustment of cancer survivors.[13] It is generally assumed that social constraints may exacerbate intrusive thoughts because trauma survivors who expect or have experienced unsatisfying interpersonal experience during disclosure are more reluctant to express their thoughts and feelings related to trauma.[5,14] However, this assumption has rarely been examined among Asian American breast cancer survivors, who tend to have less emotional expression than their Caucasian counterparts.[15]

The effects of social constraints on emotional expression among Asian American breast cancer survivors can be 2-fold: First, on the cognitive level, cancer survivors facing social constraints may experience more ambivalence over emotional expression (AEE), an internal struggle between the urges to express and suppress emotions.[16] Trapped between the burden of cancer and the fear of negative interpersonal consequences of disclosure, cancer survivors may flounder around emotional expression. Second, on the coping level, cancer survivors facing social constraints may have a higher level of avoidance, which is characterized by ideational constriction, denial of the meaning and consequences of the event, emotional numbness, blunted sensation, and behavioral inhibition of counterphobic activity.[17] The perception of having inadequate social resources may lead cancer survivors to ignore their stressors and forsake processing their cancer experience.[18] Studies show that AEE and avoidance are associated with more intrusive thoughts and depressive symptoms among cancer survivors.[6,19] Other studies also show that avoidant coping mediated the association between social constraints and health among breast cancer survivors.[5,20]

1.4 | Social support as mediator

Social support is a related but distinct social processes as social constraints. It is defined as various forms of aid and assistance supplied by family members, friends, neighbors, and others,[21] which may include supportive communication, social companionship, and tangible support.[22] On the other hand, social constraints are specifically about disclosure-related negative social interactions.[10] The beneficial role of social support in cancer survivorship has been well-established in the literature. Past studies have shown that cancer survivors who report receiving adequate support from significant others tend to have a better quality of life[23] and slower cancer progression.[24]

Social constraints may prevent cancer survivors from the benefits of social support. Socially constrained individuals may perceive their social environment as less supportive, resulting in a higher reluctance to solicit social support, and resulting in a higher chance of experiencing depressive symptoms. Indeed, studies show that individuals who experience high levels of social constraints tend to be more sensitive to rejection (ie, experience hypervigilance when being rejected),[25] and they also tend to perceive their social network as less supportive.[26] Therefore, perceived social support may be another mediator in the association between social constraints and depressive symptoms among Asian American breast cancer survivors.

1.5 | Present study

The present study aims to explore the association between social constraints and depressive symptoms among Chinese American breast cancer survivors, and the underlying mechanisms involved in this association. Following existing social constraint literature on cancer survivors, the study tests intrusive thoughts, avoidance, AEE, and social support as potential mediators in the association between social constraints and depressive symptoms in a sample of Chinese American breast cancer survivors (see Figure 1 for the hypothesized model).

2 | METHOD

2.1 | Participants

Ninety-six Chinese American women breast cancer survivors participated in the present study. Their ages ranged from 37 to 77 years old (M = 54.54, SD = 7.91). Among them, 51.6% received a college education or above, 71.9% were married, and the mean time since their

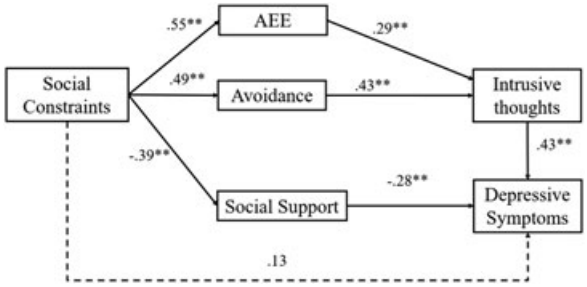

FIGURE 1 A multiprocess model of social constraints and depressive symptoms (*P < .05, **P < .01). The path between covariates (education, stage of cancer) are omitted from this figure for simplicity

cancer diagnosis was 19.24 months (*SD* = 10.93 mo). Table 1 details the participants' demographic and medical characteristics.

2.2 | Procedure

The present study analyzes the baseline data of a larger longitudinal expressive writing study,[27] which aimed to compare the effect of different expressive writing conditions (cancer-fact writing, self-regulation, benefit finding) on the quality of life among Chinese American breast cancer survivors. Potential participants were told that the aim of the present study was to understand breast cancer experience of Chinese Americans. The inclusion criteria for the research study were (1) being diagnosed with breast cancer at stage 0 to 3 within 5 years and (2) self-identified to be comfortable speaking, reading, and writing in Chinese. The study was advertised at Chinese American community organizations in California. Potential participants who indicated interest in the study were contacted by community research staff to assess their eligibility. Those who were eligible and agreed to participate in the study received consent form and baseline questionnaire packages by mail. Participants completed the baseline questionnaires at home and returned the questionnaires with their written consent by mail in prepaid envelopes (response rate = 76.8%). Upon completion of the questionnaires, participants received monetary compensation (20 USD). Institutional Review Board approval was sought and received from the University of Houston (09021-02, 16493-EX) before the study launched.

TABLE 1 Demographic and medical characteristics of participants (n = 96)

Variables	Percentage/Mean (SD)
Age	54.54 (7.91)
Education	
Below high school	14.7%
High school education	33.7%
College education	48.4%
Postgraduate education	3.2%
Marital status	
Married	71.9%
Divorced	14.6%
Never married	8.3%
Windowed	2.1%
Separated	3.1%
Annual household income	
Less than $15 000	31.0%
$15 000-$45 000	31.0%
$45 000-$75 000	21.4%
More than $75 000	16.7%
Stage of breast cancer	
0	13.7%
I	30.5%
II	42.1%
III	13.7%
Time since diagnosis (mo)	19.24 (10.93)

2.3 | Measures

2.3.1 | Social constraints

The 15-item social constraints scale[9] is used to assess the frequency with which individuals feel constrained from discussing their cancer-related thoughts with their spouse (or family/friends for those without a spouse). Sample items include "how often did your spouse avoid you" and "how often did your spouse minimize your problems." Participants rated on a 5-point scale from 1 (*almost never*) to 5 (*almost always*). In the present study, Cronbach's alpha is .92.

2.3.2 | Ambivalence over emotional expression

A modified version of the Ambivalence over Emotional Expressiveness Questionnaire[16] is used to assess individuals' levels of AEE (ie, conflict of having the desire to express emotions while fearing the consequences). A sample item is "I want to express my emotions honestly but I am afraid that it may cause me embarrassment or hurt". The original version of AEQ consists of 28 items, and it has been used among Chinese.[12] In the present study, 4 items are dropped on the basis of feedback from a prior focus group. Participants reflected that some items have little relevance to our study population—middle-aged breast cancer survivors, such as "I try to control my jealousy concerning my boyfriend/ girlfriend even though I want to let them know I'm hurting." Participants rated on a 5-point scale from 1 (never) to 5 (frequently). In the present study, Cronbach's alpha is .95.

2.3.3 | Avoidance and intrusive thoughts

The 8-item avoidance subscale and the 7-item intrusion subscale of the Impact of Event Scale[17] are used to measure individuals' degrees of cancer-related avoidance and intrusive thoughts. A sample item of avoidance is "I tried not to think about it," and a sample item of intrusive thoughts is "I thought about it when I didn't mean to." Participants rated on a 4-point frequency scale (ie, 0 = not at all, 1 = rarely, 3 = sometimes, and 5 = often). The Impact of Event Scale measure has been used among Chinese.[28] In the present study, Cronbach's alphas of avoidance and intrusive thoughts are .77 and .91, respectively.

2.3.4 | Social support

To examine individuals' perceived availability of social support, the 19-item Chinese version of the Medical Outcomes Study Social Support Survey[29,30] is used. Sample items included "someone who hugs you," "someone to have a good time with," and "someone to help with daily

chores if you were sick." A 5-point scale was used to asses if such support was available (1) none of the time to (5) all of the time. In the present study, Cronbach's alpha of the scale is .98.

2.3.5 | Depressive symptoms

The 10-item Center of Epidemiologic Studies Depression Scale[31] is used to assess individuals' level of depressive symptoms. Participants rated on a 5-point scale from 0 (not at all) to 4 (very much). It has been validated among Chinese.[32] In the present study, Cronbach's alpha is .92.

2.3.6 | Demographic information

Participants provided demographic information (age, marital status, education, and household income) and medical characteristics (cancer stage and time since diagnosis).

2.4 | Data analytic plan

Preliminary analysis was conducted using SPSS 24.0.[33] Pearson's correlation analyses were conducted among variables used in the theoretical model (ie, social constraints, AEE, avoidance, intrusive thoughts, depressive symptoms, and posttraumatic stress symptoms). Associations of the dependent variable (ie, depressive symptoms) with demographic and medical variables were also examined to identify potential covariate(s) to be controlled in later analysis. To test the hypothesized model, path analysis was conducted using MPlus 7.0.[34] To evaluate the overall model fit, indices including chi-square (χ^2) statistics, comparative fit index (CFI), Tucker-Lewis index (TLI), and the root mean square error of approximation (RMSEA)[35] were used. For CFI and TLI, values greater than .95 indicate acceptable model fit.[34] For RMSEA, a value between .05 and .08 reflects reasonable model fit.[36] Bootstrapping method was used to estimate the indirect effect[37]; absence of zero in the 95% confidence interval suggests significant indirect effect.

3 | RESULTS

3.1 | Descriptive statistics and intercorrelations

The means, standard deviations, and Pearson's correlations for all variables are shown in Table 2. All of the hypothesized associations are significantly correlated. Among the demographic and medical variables, education level (r = −.25, P < .05) and stage of cancer diagnosis (r = .25, P < .05) are significantly associated with depressive symptoms and thus being controlled in later path analysis.

3.2 | Path analysis

Results show that the proposed model yields a satisfactory fit (see Figure 2), $\chi^2(7)$ = 4.62, P = .71, CFI = 1.00, TLI = 1.05, RMSEA = .00 (90%CI: .00 to .10). The model explains 33% of the variance of intrusive thoughts and 44% of depressive symptoms. The standardized path coefficients of the model are presented in Figure 1.

The overall effect and the total indirect effect of social constraints on depressive symptoms are significant (overall effect: unstandardized effect = .45, standardized effect = .40, P < .001, 95%CI: .26 to .64; total indirect effect: unstandardized effect = .30, standardized effect = .27, P < .001, 95%CI: .19 to .44). Consistent with hypothesis, the indirect effect of social constraints through AEE and intrusive thought (unstandardized indirect effect = 0.08, standardized indirect effect = 0.07, P < .05, 95%CI: .02 to .17), the indirect effect of social constraints through avoidance and intrusive thought (unstandardized indirect effect = 0.10, standardized indirect effect = 0.09, P < .01, 95%CI: .04 to .20), and the indirect effect of social constraints through social support (unstandardized indirect effect = 0.12, standardized indirect effect = 0.11, P < .01, 95%CI: .03 to .26) were all significant. The indirect effects of AEE and avoidance on depressive symptoms through intrusive thoughts are significant (AEE: unstandardized effect = 0.10, standardized effect = 0.12, P < .001, 95%CI: .03 to .20; avoidance: unstandardized effect = 0.15, standardized effect = 0.19, P < .01, 95% CI: .07 to .26). However, the direct effect of social constraints on depressive symptoms are not significant, unstandardized effect = .15, standardized effect = .13, P = .14, 95% CI: −.05 to .35).

4 | DISCUSSION

The present study tests a multiprocess model of social constraints and depressive symptoms among Chinese American breast cancer survivors and examines the roles of AEE, avoidance, intrusive thoughts, and social support in this relationship. Findings show that the presence of more social constraints would be associated with more depressive symptoms. Consistent with Lepore's social-cognitive processing model[8] and existing social constraints literature, results indicate that incomplete processing of cancer experience (as indicated by more intrusive thoughts and more avoidance) mediate the association

TABLE 2 Descriptive statistics, and correlation matrix (n = 96)

	Range	M	SD	2	3	4	5	6
1. Social constraints	1-4	2.04	.65	.56**	.49**	−.38**	.37**	.45**
2. AEE	0-4	1.99	.93	…	.41**	−.24*	.46**	.37**
3. Avoidance	0-5	1.50	.91		…	−.17	.54**	.35**
4. Social support	1-5	3.37	.97			…	−.19	−.39**
5. Intrusive thoughts	0-5	1.65	1.13				…	.58**
6. Depressive symptoms	0-3	1.05	.73					…

*P < .05.

**P < .01.

between social constraints and depressive symptoms. This study also expands upon previous studies by testing the mediating roles of AEE and perceived social support in the association between social constraints and depressive symptoms, which had not been tested in previously existing literature.

Overall, this study supports previous research on the effects of social constraints on hindering adjustment and coping to cancer.[5,6,10] Furthermore, it supports and extends the Lepore's social-cognitive processing model.[8] Social environment (eg, social constraints) may influence the way cancer survivors respond toward their cancer experience. When cancer survivors feel socially constrained, they may avoid thinking about or discussing their cancer-related thoughts and emotions. By avoiding these topics, they cannot cognitively process their cancer experience (indicated by increased intrusive thoughts) and may, thus, experience more depressive symptoms. Furthermore, greater uncertainty about whether to express or suppress their cancer-related emotions (AEE) is experienced when survivors feel socially constrained. This struggle over expressing emotions may also result in more intrusive thoughts and ultimately more depressive symptoms.

The relationship between supportive social ties and cancer adjustment has been extensively examined, and social support is generally found beneficial for cancer survivors.[38] Social support helps cancer survivors to adjust positively to their experience and deter distress, yet social constraints may prevent cancer survivors from the benefits of social support. Therefore, social support is incorporated in the proposed model of social constraints and depressive symptoms. Results provide support that cancer survivors who were socially constrained may alter their perception of available sources of social support, leading to more depressive symptoms. Together, the findings in the present study begin to address how social constraints affect adjustment to cancer. In particular, the multiprocesses model shows that perception of the existence of social constraints may undermine individuals' perceived social support as well as their cognitive and emotional processing of cancer experience, which lead to more depressive symptoms. However, more research is warranted and alternative mediators should be explored.

Most of the research that supports Lepore's social-cognitive processing model[8] has been conducted with Caucasian samples, but limited work has been done among ethnic minorities. The present study extends previous research by providing support for the social-cognitive processing model in an understudied cultural group—Chinese American breast cancer survivors. Chinese tend to underscore interpersonal relationships[39]; thus, they may be at a greater risk if they experience social constraints. This is because they may refrain from using the social support network or perceive it to be less beneficial. With breast cancer incidence rates rapidly increasing among Asian American women,[40] more research is needed to identify factors that influence cancer adjustment to address the health disparity.

4.1 | Study limitations

There are a few limitations in the present study. Firstly, the cross-sectional nature of data prevents us from drawing causal inferences. Although the proposed model was based on previous empirical work and theory, the findings should be interpreted with caution. Future studies should therefore aim to replicate these findings with a longitudinal or experimental design. Secondly, another limitation is generalizability; the relationships found in this study may be specific to Chinese American breast cancer survivors and not applicable to other populations. Future studies with samples of greater diversity in terms of culture, gender, age, and cancer types should be conducted. Third, the limited sample size in this study did not allow further test of the moderation effect. Future studies should examine individual factors (eg, acculturation levels and geographic origins) that may influence the associations among components in the proposed model.

4.2 | Clinical implications

Despite limitations, the findings have significant implications for future development of interventions and services targeting Chinese American breast cancer survivors. Future interventions should be designed to target socially constrained Chinese American breast cancer survivors. Reducing their levels of AEE and avoidance and increasing their levels of perceived social support could be beneficial for their cancer adjustment (specifically, fewer intrusive thoughts and fewer depressive symptoms). Family interventions that help survivors' significant others to understand the possible etiology of breast cancer (which in turn, correct the myth about cancer and karma and reduce the blame on cancer survivors for their health conditions), respond or react positively to the feelings and thoughts expressed in their interactions may be helpful in reducing social constraints and the associated negative consequences among cancer survivors. Service providers should also attend to diverse cultural backgrounds and beliefs in the Chinese American population, which can be caused by different geographic origins or different levels of acculturation.

In conclusion, the present study finds that social constraints are associated with more depressive symptoms among Chinese American breast cancer survivor, an understudied cultural group. This association is mediated by intrusive thoughts, avoidance, AEE, and perceived social support, supporting the social-cognitive model.[8] Future development of interventions should target on these processes to reduce distress among cancer survivors.

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