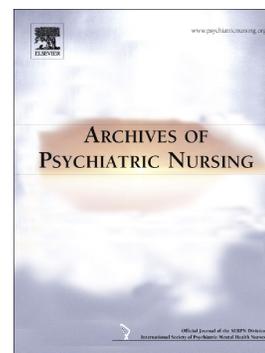# Journal Pre-proof

Psychological distress among immigrant women who divorced: Resilience as a mediator

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Psychological distress among immigrant women who divorced: resilience as a mediator

- **Running head** : Psychological distress and resilience

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- **Conflict of interest statement**

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Psychological distress among immigrant women who divorced: resilience as a mediator

Abstract

Purpose: The purpose of this study was to investigate relationships among the demands of immigration, resilience, and psychological distress in divorced immigrant women, and determine the mediating effects of resilience on the relationship between demands of immigration and psychological distress.

Design: The cross-sectional study included 117 women who had immigrated and married Taiwanese men but later got divorced.

Methods: The Chinese health questionnaire-12 scale, the resilience scale-Chinese version, and the demands of immigration (DI) scale were used to measure in this study. A multiple regression and Sobel test were used to examine whether resilience mediated the relationship between demands of immigration and psychological distress.

Findings: In this study, 47% of the divorced immigrant women were experiencing psychological distress, and 25.6% exhibited high levels of demands of immigration. Women with psychological distress had higher demand scores (t=2.592, p=0.011) and lower resilience scores (t=-3.965, p<0.001) compared to women without psychological distress. The demands of immigration negatively predicted resilience (t=-3.050, p=0.003). Finally, resilience mediated the association of demands of immigration with psychological distress (z=2.497, p=0.0125).

Conclusions: Relationships among the demands of immigration, resilience, and psychological distress in divorced immigrant women were demonstrated in this study. Resilience played an important role in the relationship between demands of immigration and psychological distress.

Clinical Relevance: Tailored programs that foster resilience to reduce risks of demands of immigration and psychological distress in this vulnerable population should be developed.

Introduction

Globally, there were 272 million international migrants in 2018 (World Migration Report, 2019). Studies have consistently shown that immigrants confront more changes in lifestyle and suffer from greater psychological distress than natives in many countries (Aroian, Norris, Tran, & Schappler-Morris, 1998; Dedamia & Gonzales, 2019). Psychological distress means that people are at greater risk of suffering from mental health issues, and these may initiate psychiatric disorders, such as mood disorders, anxiety, or depression (El-Metwally et al., 2018; Honkaniemi, Juarez, Katikireddi, & Rostila, 2020; Mclean, Strongman, & Neha, 2007). A previous study found that approximately 18.1% of immigrant adults in the US had moderate to severe psychological distress; compared to US-born adults, immigrant adults were much likely to have higher emergency room visits, mental health care utilization, and prescription medications consumed (Dedamia & Gonzales, 2019). Additionally, a past study showed that 31.7% of immigrant women had psychological distress in Asia (Xu et al., 2013). Accordingly, there are important concerns about immigrants' mental health, especially with psychological distress among divorced immigrant women.

Previous studies found that demands of immigration are major stressors which contribute to high levels of psychological distress among immigrant women (Aroian et al., 1998; Ding et al., 2011). Perhaps the demands of immigration impede their access to formal mental health services (Ahmad et al., 2004). The core contents of demands of immigration include loss, novelty, occupational adjustment, language accommodation, discrimination, and the absence of feeling at home (Tummala-Narra et al., 2013). Past research revealed that loss, novelty, and language accommodation were the top three highest scores of demands of immigration, and that 6.4% of immigrant women in transnational marriages were found to have a high level of demands of immigration (Yang et al., 2010). The feeling of loss comes from poor social contacts that originate in the nature of transnational marriages, and it is often exacerbated by the parents-in-law by, for example constraints and feelings of culpability. Novel experiences increase worrisome feelings when exposed to unfamiliar cultural environments of the host country and need to

build a new life. Subsequently, the language barrier hinders occupational adjustment among immigrant women in transnational marriages, because of having few chances to receive host language learning in the marital period (Tsai, 2002; Yang & Shin, 2008). In this context, divorced immigrant women may experience the above-described stressors.

A growing area of interest in research on immigrants' stress adaption is resilience. Resilience means "a process that involves ongoing cycles of disruption and reintegration; thus, disruption is vital for providing the challenges required for growth and reintegration is related to stressors experience by a negative coping mechanism; growth and stressors increased resilient qualities as well as individual's social, biological and spiritual resources" (Richardson, 2002). In view of this, internal psychological and coping resources, external social support, and systemic factors, including government policies, are vital to migrant women's resilience (Gagnon & Stewart, 2014). Furthermore, evidence demonstrated that resilience for post-divorce immigrant women includes personal competence, family identity, and social connections (Kuo et al., 2019). Personal competence is viewed as encompassing divorced immigrant women's contextual and sociocultural resources. Usually, child rearing remains the central focus of the affection relationship of divorced immigrant women who want to stay in the host country. Family identity means support sources of divorced immigrant women from the ex-spouse's family based on trust and acceptance during legal child visitations (Chen, 2012). In addition, divorced immigrant women have some emergent needs when experiencing legal protection, returning to their original country, or having no money to use (Chung, 2017). Social connections refer to receiving additional support from close friends, and especially non-governmental organizations (NGOs) and government workers. Evidence shows that resilience contributes to decreasing psychological distress (Ye et al., 2017). Moreover, resilience has been treated as a mediating process that leads to outcomes (Van Breda, 2018). For instance, resilience mediates associations of the marital status with the level of education, and with psychological distress, anxiety, and depression among immigrants living in Australia (Hosseini, 2016).

There has likely been an increase in divorced immigrant women who suffer from higher levels of psychological distress over the past decade, and yet there is scant literature specific to psychological distress among divorced immigrant women. Accordingly, resilience can be an underlying mechanism explaining the effect of demands of immigration on psychological distress among divorced immigrant women. This study aimed to describe relationships among the demands of immigration, resilience, and psychological distress among divorced immigrant women in Taiwan, and determine the mediating effects of resilience on the relationship between demands of immigration, and psychological distress. A mediation model is proposed (Figure 1).

Methods

Study Sample

A cross-sectional, questionnaire survey was conducted in Taiwan. We recruited divorced immigrant women using convenience sampling from seven immigrant service institutions in September 2014 to August 2015, including three Foreign Spouse Family Service Centers, Woman and New Immigrant Affairs Section, Department of Social Affairs each in Keelung City, and Miaoli, Chiayi, and Pingtung Counties. Eligible women included those who: (1) were divorced and separated from their ex-spouse, (2) could understand Chinese or Taiwanese, and could fill out the questionnaires, and (3) provided consent to participate in the study. Exclusion criteria were women who were currently undergoing government resettlement. A power analysis conducted using G*Power with alpha set to 0.05, a medium effect size of 0.15, a power of 0.80, and three variables for a regression analysis showed a required sample size of 77 participants, suggesting sufficient power to detect a mediating effect. Considering an estimated non-response rate of 50%, 152 questionnaires were distributed, among which 117 valid questionnaires were returned, yielding a valid response rate of 76.9%.

Measures

The Chinese Health Questionnaire (CHQ)-12 scale was used to measure psychological distress and is a psychiatric screening instrument in Chinese-speaking communities and primary care settings (Cheng & Williams, 1986). Items are scored on a 4-point Likert scale. The scoring method we used converted each category of "much less than usual" or "less than usual" to 0 points and "as usual" or "more than usual" to 1 point. The total score ranges 0~12, and a cutoff value of ≥3 indicates psychological distress (Honkaniemi et al., 2020). In this study, the CHQ-12 scale had a Cronbach's α of 0.87 and was treated as a categorical variable.

The Demands of Immigration (DI) scale, originally developed by Aroian et al. (1998), identifies immigrant stressors (Aroian et al., 1998; Tsai, 2002; Yang, Wang, & Anderson, 2010). There are six dimensions: loss, novelty, occupational adjustment, language accommodation, discrimination, and not feeling at home. The 23-item DI scale was translated into Chinese (C-DI) and adapted to the social and cultural characteristics of ethnic Chinese by Tsai (2002). Items are scored on a 4-point Likert scale, with each item scored from 0 for "not at all" to 3 for "very much" stressed. The total score of the C-DI scale of 69 was classified into three levels: mild (1~23 points), moderate (24~46 points), and high levels (47~69 points). High scores indicate higher levels of demands of immigration (Tsai, 2002). The C-DI scale had a Cronbach's α of 0.90 in this study.

The 16-item Resilience Scale-Chinese version (RS-C) includes three dimensions: personal competence, family identity, and social connections (Kuo et al., 2019). Responses are rated on a 5-point Likert scale ranging from 1 "strongly disagree" to 5 "strongly agree." The total score ranges 16~80, with a higher score indicating greater resilience. The intra-class correlation coefficient of the RS-C was 0.87 for 2-week test-retest reliability (Kuo et al., 2019). The RS-C had a Cronbach's α coefficient of 0.85 in this study.

Demographic data included nationality, age, length of residency, education received in their home country, education received in Taiwan, employment status, and monthly income.

Data collection

A trained social worker in each institution distributed the sealed survey packets to participants who consented to be in the study. Any questions regarding the questionnaire from participants were handled by the researchers. All participations completed the questionnaire within 15~20 minutes. When a participant returned a completed questionnaire, each participant received a grocery gift certificate (New Taiwan $100≈US$3.30) to thank them for their time and participation.

Ethical consideration

Ethical approval for this study was obtained from the authors' University Institutional Review Board (No. 201302035). Participants were given an oral explanation about the purpose of the study, procedures of the study, confidentiality of data, and a guarantee of voluntary participation. Participants, who signed the informed consent to participate in this study, were asked to fill in the questionnaire. In addition, participants were informed that they could withdraw from this study at any time.

Data analysis

First, a descriptive analysis was performed on the demographic characteristics and study variables (demands of immigration, resilience and psychological distress), using the mean, standard deviation (SD), percentage, and range of scores. Second, to assess relationships among study variables, Pearson's correlation was used for continuous variables, and an independent two-sample *t*-test was used for categorical variables. Third, resilience was examined as a mediator of the relationship between demands of immigration and psychological distress. We conducted a multiple regression analysis based on Baron

and Kenny's (1986) method for mediation. According to this method, four paths were tested through a series of three regression analyses. Please refer to Figure 1 for an explanation of each path tested in this multiple regression. Steps were comprised of regression tests: path A which determined if the independent variable of demands of immigration had a significant effect on resilience; path B which determined if the mediating variable of resilience had a significant effect on psychological distress; path C which determined if demands of immigration had a significant influence on psychological distress; and path C' which indirectly affected changes in demands of immigration on psychological distress through the mediating variable of resilience. Then, the effect of the mediating variable was tested by the Sobel test (Baron & Kenny, 1986). Significance was set at 0.05 for all statistical tests. All statistical analyses were conducted using SPSS (vers. 19.0 for Windows).

Results

Demands of Immigration and Resilience

Participants' mean age was 40.28 (SD=8.15) years, and the length of stay in Taiwan was 13.63 (SD=6.25) years. As shown in Table 1, mean scores for the C-DI and RS-C scales were 41.45 (SD=12.08) and 51.35 (SD=8.04), respectively. Thirty of the 117 participants had a high level of demands of immigration, 80 had a moderate level, and only seven had a mild level of demands of immigration. In table 2, most correlations between each scale and subscale were significant, meaning that individuals with high demands of immigration tended to have low scores on resilience. The demands of immigration (r=-0.274, p<0.01; r=-0.287, p<0.01), loss (r=-0.267, p<0.01; r=-0.229, p<0.05), novelty (r=-0.217, p<0.05; r=-0.272, p<0.01), language accommodation (r=-0.202, p<0.05; r=-0.258, p<0.01), occupational adjustment (r=-0.248, p<0.01; r=-0.232, p<0.05), and alienation (r=-0.183, p<0.05; r=-0.228, p<0.05) were significantly negatively related to resilience and personal competence. Loss was significantly negatively related to family identity (r=-0.190, p<0.05), and occupational adjustment was significantly negatively related to

social connections (r=-0.215, p<0.05). As shown in Table 3, demands of immigration were a significant predictor of resilience (B=-0.182, standard error (SE)=0.060, p=0.003).

Demands of Immigration and Psychological Distress

There were 47% of participants who were experiencing psychological distress. Results in Table 1 show that women with psychological distress had higher scores of demands of immigration (t=2.592, p<0.05) compared to women without psychological distress. Loss, language accommodation, and occupational adjustment significantly differed between women with and those without psychological distress (t=3.609, p<0.001; t=2.394, p<0.05; and t=2.924, p<0.01, respectively). As shown in Table 3, results indicated that demands of immigration significantly predicted psychological distress (B=0.010, SE=0.004, p=0.011).

Resilience and Psychological Distress

Results in Table 1 show that women with psychological distress had lower resilience (t=-3.965, p<0.001) compared to women without psychological distress. Personal competence and social connections significantly differed between women with and those without psychological distress (t=-4.833, p<0.001 and t=-2.564, p=0.012, respectively). As shown in Table 3, resilience was a significant predictor of psychological distress (B=-0.019, SE=0.006, p=0.001).

Mediating Effects of Resilience

We examined the mediating effects of resilience on the relationship between demands of immigration and psychological distress. As shown in Figure 1, adding resilience to the model changed the effect of demands of immigration on psychological distress, resulting in the beta weight of demands of immigration on psychological distress becoming non-significant (B=0.006, SE=0.004, p=0.096). The Sobel

test showed that this drop in the beta weight in the relationship between demands of immigration and psychological distress was statistically significant (z=2.497, p=0.0125), so resilience mediated the effect of demands of immigration on psychological distress (see Table 3). In other words, the direct effect of demands of immigration on psychological distress decreased due to mediation by resilience.

Discussion

Our findings show that demands of immigration and resilience were significantly associated with psychological distress, and demands of immigration were significantly negatively related to resilience. Another major finding of this study is that resilience mediated the association between demands of immigration and psychological distress. In this study, 47% of divorced immigrant women were experiencing psychological distress. The high percentage of divorced immigrant women with psychological distress indicates a risk for developing mental problems. Therefore, more attention needs to be paid to psychological distress among divorced immigrant women.

In this study, 25.6% of divorced immigrant women had a high level of demands of immigration which is more than the 6.4% of all immigrant women in Taiwan (Yang et al., 2010). Further, demands of immigration were positively associated with psychological distress among divorced immigrant women; in particular, loss, language accommodation, and occupational adjustment had great contributions to psychological distress. Divorced immigrant women feel a sense of loss upon being separated from their families which is similar to being separated from their country of origin (Chung, 2017; Yang et al., 2010). In addition, divorced immigrant women had a lower rate of attending school in this study, resulting in a less than adequate command of Chinese as it is spoken in Taiwan, such as the ability to be understood,

particularly when encountering legal consultations (Aroian et al., 1998; Chen, 2012). Moreover, immigrant women are frequently housekeepers who take care of children or their spouse's family members, and have less work experience otherwise; subsequently, they receive no economic support from their husband, and become homeless after getting divorced (Chen, 2012). Hence, it is not surprising that this study showed that occupational adjustment among divorced immigrant women is the most stressful. These factors could be contents of educational programs of life adaptation that target

divorced immigrant women to prevent psychological distress.

Our results support the relationship between the demands of immigration and resilience. If women want to live in the host country after getting divorced, most of them accept coordination between NGOs and courts when faced with a divorce lawsuit. Then, divorced women cooperate with schools and work institutes, so they can build a single-parent family and feel at home in the host country (Chen, 2012). Gradually, these divorced immigrant women can build their own new social networks, including with workplace colleagues and personal friendships. In this study, loss was negatively related to personal competence and family identity. The loss of original cultural abilities is an ambivalent event among immigrants living in a host society, because of being separated from their original family, friends, and cultural context (Tummala-Narra et al., 2013). In addition, divorced immigrant women have a perception of the loss of their children and husband compared to general immigrant women. The development of personal competence and a positive family identity can balance those above-mentioned senses of loss. In addition, language accommodation and occupational adjustment were individually negatively related to personal competence and social connections. Usually, divorced immigrant women have lower language abilities, because of lower academic achievement levels in the host country (Chen, 2012). Even so, language accommodation is the basis for maintaining relationships with others in the host country and also contributes to successful occupational adjustment (Yang et al., 2010).

In this study, resilience was regarded as a protective predictor of psychological distress among immigrant women who got divorced. Similar to another study, resilience was negatively associated with psychological distress among Turkish women living in Germany; also, resilient people use the neural circuitry of the reward system to function and decrease the level of psychological distress when experiencing stressful events (Bromand et al., 2012).

While demands of immigration contribute to high psychological distress, psychological distress can be reduced via resilience. Components of resilience can serve as contexts of interventions for divorced immigrant women. In the future, the mental health of divorced immigrant women should be better promoted by developing interventions that focus on building resilience which influences an individual's experience of demands of immigration that affect psychological distress. Nurses can work with a multidisciplinary team and consider providing resilience training in stress management to this vulnerable population, especially for appraising the meaning of divorce in terms of loss, language accommodation, occupational adjustment, personal competence, family identity, and social connection experience where the risk of psychological distress is augmented or where resilience plays an important role (Leipold & Greve, 2009). For instance, language classes, based on an understanding of cross-cultural values, can be established and led by bilingual teachers (Helmreich et al., 2017; Jeon et al., 2019). Next, empowerment classes of self-adjustment and coping strategies for stress are offered by nurses, which contain mental health symptoms identification and positive techniques drawing on compassionate version by cognitive behavioral therapy for this population (Salamanca-Sanabria et al., 2018).

There are several limitations in this study. First, the cross-sectional nature of our study did not allow us to reflect on causal relationships and explain the potential mechanisms affecting psychological distress. Further studies would benefit from longitudinal data to confirm causal relationships of related factors and prevent psychological distress. Second, convenience sampling was used, which could have resulted in an inability to generalize the results of this study to the divorced immigrant population as a

whole. Third, researchers can cooperate with immigration departments which have complete data on immigrants for accurate inferences.

Conclusions

This study was to explore the relationships among the demands of immigration, resilience, and psychological distress in divorced immigrant women, and to determine the mediating effects of resilience on the relationship between demands of immigration and psychological distress. The results demonstrated that the demands of immigration and resilience separately predicted psychological distress, and resilience was a mediator of demands of immigration on psychological distress. Hence, nurses can develop programs to promote resilience in stress management in this vulnerable population.

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Conflict of interest statement

No competing financial interests exist.

Clinical Resources

• Ministry of the Interior National Immigration Agency. https://www.immigration.gov.tw/

• Taiwan Immigrant Family Service Association. http://www.immfa.org.tw/

• Ontario Council of Agencies Serving Immigrants. http://ocasi.org/

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Table 1. Descriptive analysis (*N*=117)

Variable	*n* (%) / Mean (SD)	Psychological distress		*t*-test
		Yes Mean (SD)	No Mean (SD)	
Nationality				
Thailand	39 (33.3)			
Vietnam	49 (41.9)			
Indonesia	29 (24. 8)			
Age (years)	40.28 (8.15)			
Length of residency (years)	13.63 (6.25)			
DI scale	41.45(12.08)	44.45 (12.56)	38.79 (11.07)	2.592*
Level				
Mild (≤23)	7 (5.98)			

Moderate	80 (68.37)			
High (≥47)	30 (25.64)			
Subscales				
Loss	7.74 (2.53)	8.60 (2.55)	6.98 (2.28)	3.609**
Novelty	7.28 (2.54)	7.63 (2.78)	6.96 (2.29)	1.424
Language accommodation	5.20 (2.18)	5.70 (2.16)	4.75 (2.12)	2.394*
Occupational adjustment	9.29 (3.30)	10.21 (2.97)	8.48 (3.39)	2.924**
Alienation	5.03 (2.26)	5.21 (2.43)	4.87 (2.10)	0.826
Discrimination	6.88 (2.79)	7.07 (2.84)	6.72 (2.76)	0.669
Resilience	51.35 (8.04)	48.4 (7.70)	53.96 (7.41)	-3.965***
Personal competence	29.83 (4.89)	27.67 (5.23)	31.75 (3.65)	-4.833***
Family identity	8.11 (2.53)	8.00 (2.28)	8.10 (2.75)	-0.303
Social connections	10.18 (2.09)	9.67 (2.02)	10.64 (2.06)	-2.564*
Psychological stress				
No	62 (52.9)			
Yes	55 (47.0)			

Notes: SD, standard deviation; DI, Demands of Immigration.

* *p*<0.05, ** *p*<0.01, *** *p*<0.001

Table 2 Spearman's correlation among study scales and subscales (n = 117)

	Resilience subscales			
	Resilience (total score)	Personal competence	Family identity	Social connections
DI scale (total score)	-0.274**	-0.287**	-0.126	-0.126
Subscales				
Loss	-0.267**	-0.229*	-0.190*	-0.116
Novelty	-0.217*	-0.272**	-0.077	-0.054
Language accommodation	-0.202*	-0.258**	-0.071	-0.003
Occupational adjustment	-0.248**	-0.232*	-0.140	-0.215*
Alienation	-0.183*	-0.228*	-0.001	-0.103
Discrimination	-0.142	-0.125	-0.083	-0.049

Note: DI, Demands of Immigration.

* $p<0.05$, ** $p<0.01$.

Table 3. Mediating effect of resilience on the relationship between demands of immigration and

psychological distress (*N*=117)

Effect	β (SE)	*t*/Z	*p*
Path C			
Demands of immigration ---> psychological distress	0.010 (0.004)	2.592	0.011
Path A			
Demands of immigration ---> resilience	-0.182 (0.060)	-3.050	0.003
Path B			
Resilience ---> psychological distress	-0.019 (0.006)	-3.965	<0.001
Path C' [a]			
Demands of immigration ---> psychological distress	0.006 (0.004)	1.678	0.096
A×B$_s$		2.497	0.0125

Note: β, non-standardized coefficient; SE, standard error. A×B$_s$, Sobel test for an indirect effect.
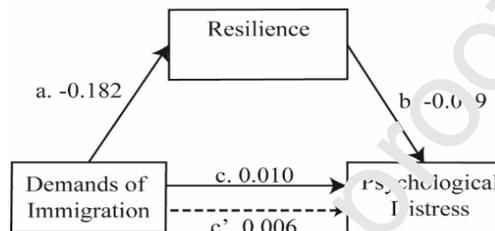
[a] *F*=9.392, *p*<0.001, R^2=0.376.

FIGURE 1 Mediating effect of resilience between demands of immigration and psychological distress.

Unstandardized path coefficients are presented.