The interrelationships among acculturation, social support and postpartum depression among marriage-based immigrant women in Taiwan: A cohort study

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Background

- Marriage-based immigrant women who immigrate to countries other than their birth country is increasing around the world.

- In Taiwan, the majority (96%) of these married women are from Southeast Asian Countries. (China: 67%; Vietnam: 19%) (National Immigration Agency, 2011).

- The features of marriage-based immigrant women in Taiwan:
  - Immigrant women in Taiwan usually immigrate by themselves
    - Away from family and friends of birth country
  - Many marriages were arranged, and therefore generally lacked affection as the fundamental basis for marriage.
  - Immigrant mothers often face cultural adaptation and child delivery soon after moving to Taiwan.
  - Immigrant mothers accounted for one-eleventh of all births in Taiwan in 2010 (Department of Household Registration, 2011).

Background

- Acculturation refers to the level of adjusting to a new society and culture, which are different from the person's original social and cultural background (Redfield, Linton, & Herskovitz, 1936).

- Acculturation is an important indicator of immigrant health (Lara, Gamboa, Kahramanian, Morales, & Bautista, 2005; Shen & Takeuchi, 2001).

- Lack of social support and lower levels of acculturation were predictors of postpartum depression among immigrant women (Dennis, Janssen, & Singer, 2004; Martinez-Schallmoser, Telleen, & MacMullen, 2003).

- Acculturation, social support, and postpartum depression are important factors that affect immigrant women.

- The mechanism linking these three variables remains unclear.

Research objective

This study aimed to assess the structural relationships among social support, acculturation, and postpartum depressive symptoms among marriage-based immigrant mothers in Taiwan.

- Step 1:
  - Examined the interrelationship between social support and postpartum depressive symptomatology at 1 month and 6 months postpartum.
- Step 2:
  - Examined the effects of acculturation, including main effect, moderating effect and mediating effect on the relationship between social support and postpartum depression.

Methods- Study design

- Prospective cohort study
- Using a structured questionnaire to collect data
  - The initial data collection: at 1 month postpartum
    - 2008.9~2009.7
  - The follow-up data collection: at 6 month postpartum
    - 2009.2~2009.12

Methods- Sample

- Inclusion criteria
  - From China and Vietnam
  - ≥ 18 y/o
  - Had no depression diagnosis before delivery
  - Just gave birth to a child (within 1 month postpartum)
  - Lived in the 5 districts of Taipei City (Beitou, Shihlin, Neihu, Nankang, Wanhua)

- Sample size considerations
  - To obtain parameter estimates with standard errors small enough for a SEM model, a sample size of 150 or more is suggested (Anderson & Gerbing, 1988).

Methods- Data collection

- Face- to-face or telephone interview

- 203 marriage immigrant mothers in this study
  - Met the inclusion criteria: 338 women
  - Successfully contacted: 317 women
  - Completed the 1st interview: 226 women (China: 155; Vietnam: 71)
  - Completed the 1st and 2nd interview: 203 women (China: 137; Vietnam: 66)

Methods- Measurements

- Background variables
  - Mother country, age, educational level, work status, family socio-economic status, and parity
- Postpartum depression
  - Edinburgh Postnatal Depression Scale (EPDS)
  - Higher score indicating higher postpartum depression
- Social support
  - 3 dimensions: (1) emotional (2) household activity (3) informational
  - Higher score indicating higher social support
- Acculturation factors
  - (1) Duration of living in Taiwan
  - (2) Local language ability: Mandarin Chinese
  - (3) Social assimilation
  - (4) Social attitude

Methods- Data analysis

- Descriptive statistics
  - Mean, standard deviation (SD)

- Inferential statistics
  - Bivariate correlation among acculturation, social support and depression at 1 month and 6 months postpartum
    - Pearson's correlation coefficients
  - The interrelationships among social support, depression, and acculturation
    - Structural equation modeling (SEM)
    - Good model fit
      - The goodness of fit index (GFI), the comparative fit index (CFI): ≥ 0.9
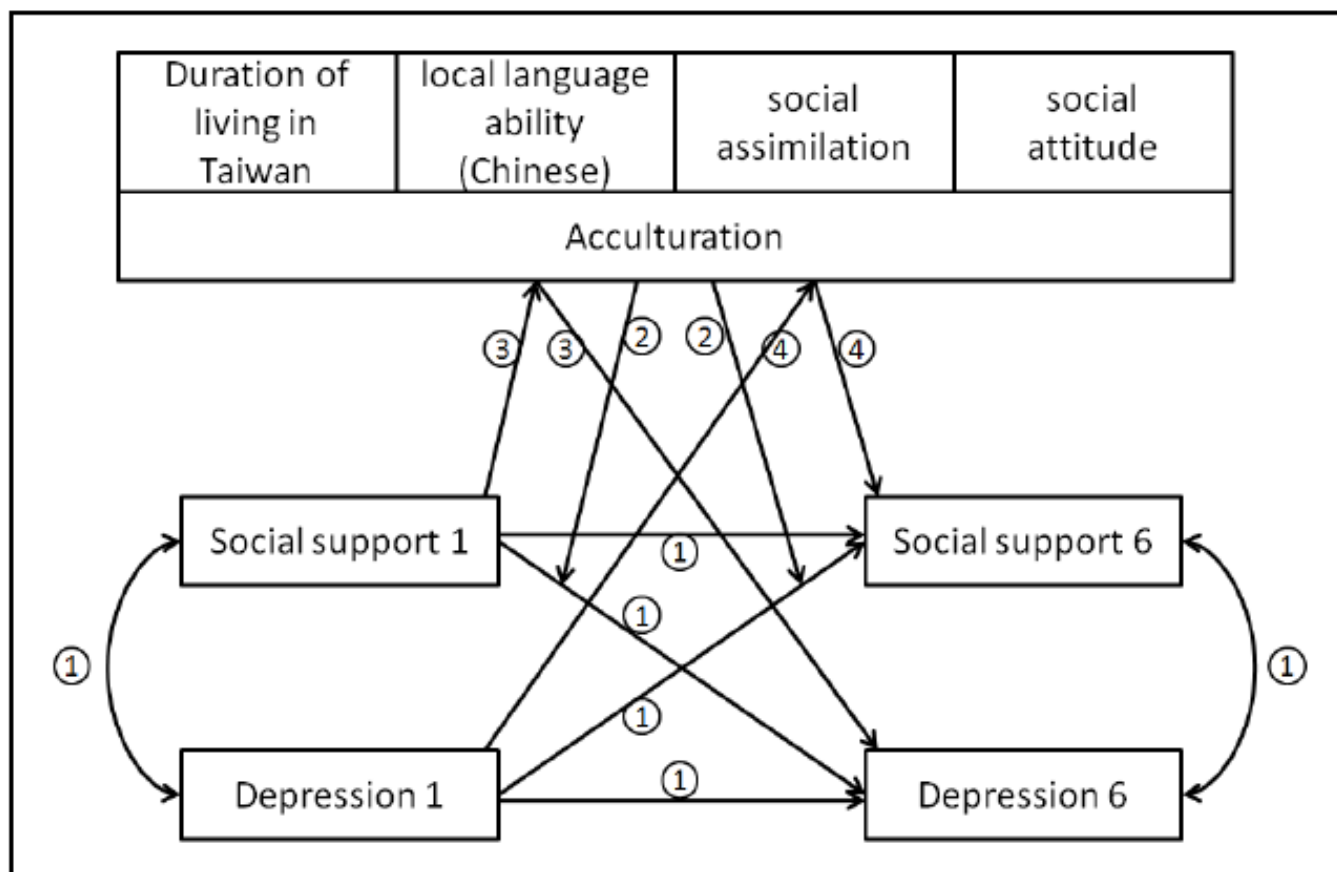   - The root-mean-square error approximation (RMSEA): ≤ 0.08

Figure 1. The hypothesized structural equation model for the effects of acculturation, social support at 1 month and 6 months postpartum, and depression at 1 month and 6 months postpartum. *Note:* Social support 1 and social support 6 are social support scores at 1 month and 6 months postpartum, respectively. Depression 1 and Depression 6 are depression scores at 1 month and 6 months postpartum, respectively. ① indicates by the path between social support and depression at 1 month and 6 months postpartum; ② indicates by the path of moderating; ③ and ④ indicates by the path of mediating.

Results

Table I.

Characteristics of the study participants (n = 203)

Characteristic	n	Percentage (%)
Mother country		
China	137	67.5
Vietnam	66	32.5
Educational level		
Elementary school or lower	26	12.8
Junior high school	48	23.7
Senior high school	78	38.4
University or higher	51	25.1
Work status		
Not employed	187	92.1
employed	16	7.9
Family socio-economic status*		
Low	37	18.5
Middle	64	32.0
High	99	49.5
Parity		
1	126	62.1
>1	77	37.9

*Data missing for three subjects and were excluded (n = 200)

Table II.

Correlation coefficients among social support, depression, and acculturation in the postpartum period

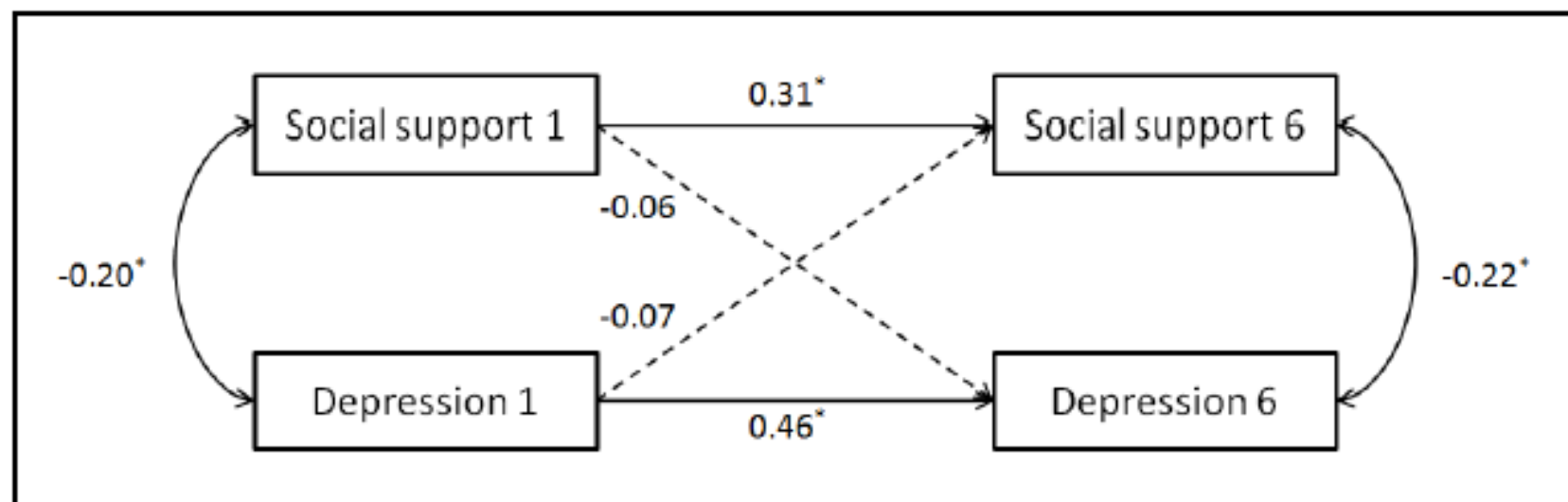|	Social support at 1 month postpartum	Social support at 6 months postpartum	Depression at 1 month postpartum	Depression at 6 months postpartum	Acculturation			
					Duration of living in Taiwan (month)	Local language ability (Chinese)	Social assimilation	Social attitude
Social support at 1 month postpartum	1	0.32**	-0.20**	-0.15*	-0.06	-0.08	0.16*	0.22**
Social support at 6 months postpartum		1	-0.13	-0.30**	-0.05	-0.10	0.05	0.13
Depression at 1 month postpartum			1	0.47**	-0.12	-0.14*	0.05	-0.22**
Depression at 6 months postpartum				1	0.00	-0.10	-0.04	-0.19**
Duration of living in Taiwan (month)					1	-0.06	0.07	0.13
Local language ability (Chinese)						1	0.16*	0.19**
Social assimilation							1	0.36**
Social attitude								1
Mean	29.76	28.91	6.67	4.02	33.80	11.63	2.39	10.10
Standard deviation	9.61	9.90	5.80	4.64	30.32	3.86	2.12	3.70

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

Figure 2. The structural equation model for social support at 1 month and 6 months postpartum, and depression at 1 month and 6 months postpartum. *Note:* Social support 1 and social support 6 are social support scores at 1 month and 6 months postpartum, respectively. Depression 1 and Depression 6 are depression scores at 1 month and 6 months postpartum, respectively. Data presented were path coefficients. A dashed line shows that the indicated path is not statistically significant. * $p < 0.05$.
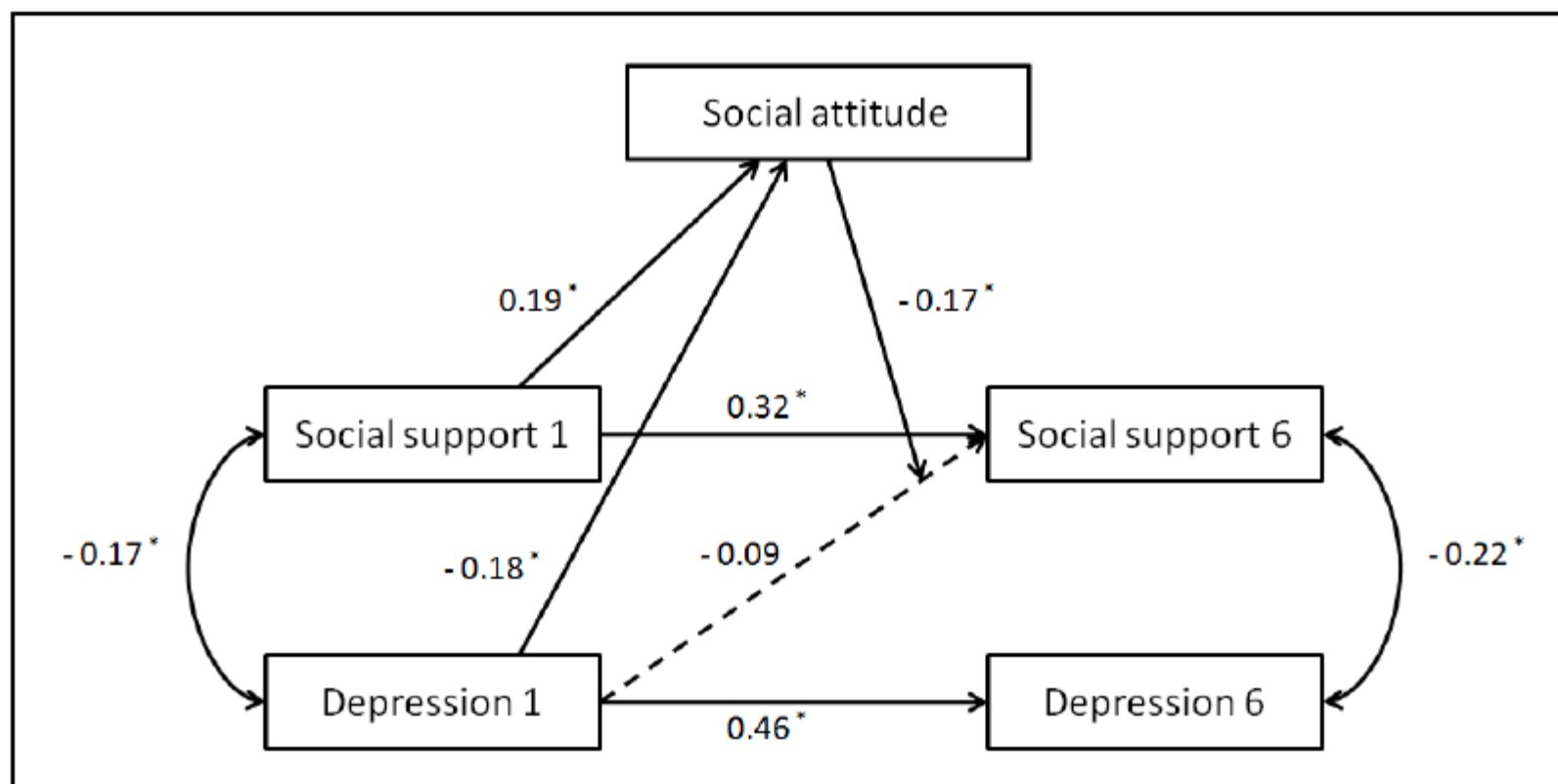
Figure 3. The final structural equation model for acculturation (social attitude only), social support at 1 month and 6 months postpartum, and depression at 1 month and 6 months postpartum after controlling for immigrant women's age, educational level, work status, family socio-economic status, and parity. *Note:* Social support 1 and social support 6 are social support scores at 1 month and 6 months postpartum, respectively. Depression 1 and Depression 6 are depression scores at 1 month and 6 months postpartum, respectively. Model fit: GFI = 0.99, CFI = 0.99, RMSEA = 0.074. Data presented were path coefficients. A dashed line shows that the indicated path is not statistically significant. * $p < 0.05$.

Discussion

- This study indicated a negative and significant relationship between social support and postpartum depression among immigrant women.

- Social support at 1 month postpartum exerted its indirect effect on depression at 6 months postpartum.

- Social attitude moderated the relationship between depression at 1 month and social support at 6 months postpartum.
  - A positive, accepting attitude towards mainstream society decreased the negative effect of depression on social support among immigrant women.

Discussion

- Since marriage-based immigrant women in Taiwan usually immigrate alone, have low social support, and give birth shortly after immigration, we believe that this sub-group population should be aided in two ways mentioned herein:
  - Enhanced social support in the early postpartum period
  - Increased immigrant women's positive attitudes towards the mainstream society
- We cannot rule out that an alternative model could possibly exist.
- Limitation
  - Generalization (203/338=60%)
  - We used both face-to-face and telephone interviews to collect data for practical reasons.
    - there were no significant differences in the mean social support and depression scores.

Conclusions

- Social support and social attitude were negatively related to postpartum depression symptoms among marriage-based immigrant women.

- Social support in the early postpartum period not only directly decreased postpartum depression, but also indirectly decreased postpartum depression through improving social attitudes.

- To decrease postpartum depression, we suggest that an <u>enhanced social support</u> in the early postpartum period is needed to <u>improve social attitudes and decrease postpartum depression</u> among marriage-based immigrant mothers.
  - Ex: policies that <u>treat immigrant women equally with native people in legal and social aspects as well as social support programs in the early postpartum period</u> can be beneficial to the immigrant mothers.

Thank You.