

Descriptive Title: Predictors of maternal parental self-efficacy among primiparas in the early postnatal period

Running Head: **Predictors of self-efficacy of primiparas**

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Abstract

Maternal parental self-efficacy (MPSE) is a crucial factor for facilitating the smooth transition to motherhood, particularly for primiparas. The aim of this study was to examine the predictors and correlates of MPSE with social support, postnatal depression and socio-demographic variables of primiparas during the early postnatal period. A cross-sectional and correlational descriptive study design was adopted to investigate these relationships. The instruments, Perceived Maternal Parental Self-efficacy (PMP S-E), Perinatal Infant Care Social Support (PICSS) and Edinburgh Postnatal Depression Scale (EPDS) were used to collect data from a purposive sample of 122 primiparas on the day of discharge (1–3 days post delivery) from hospitalization. There were significant correlations between MPSE, social support and postnatal depression. The main predictors of MPSE were social support, ethnicity, maternal age and family income. MPSE, social support and postnatal depression should be routinely assessed to provide necessary support to needy mothers.

Keywords: first-time mothers, postnatal depression, self-efficacy, social support.

Introduction

Maternal parental self-efficacy (MPSE) is one of the crucial components of maternal transition to motherhood. Not only does a mother's self-efficacy about parenting affect her own psychological well-being, it also affects the child's psychosocial development (Coleman & Karraker, 1998; Sanders & Wooley, 2005). The postnatal period is a time of stressful transition especially for primiparas as the realities of newborn care set in only after childbirth (Kapp, 1998). If primiparas are not well supported during this period, not only will they experience low MPSE, but the well-being of both the mother and newborn may be adversely affected (Leahy-Warren, 2005; MacArthur et al., 2002; Ngai, Chan, & Ip, 2009). Hence, to facilitate the smooth transition to motherhood, it is important to understand the factors associated with MPSE so that adequate care can be planned and delivered to needy mothers (Ngai, Chan, & Ip, 2010).

Factors Influencing Maternal Parental Self-Efficacy

Self-efficacy is a cognitive process that is defined as a person's belief in their ability to organize and perform a particular task successfully (Bandura, 1997). As such, MPSE is a belief held by mothers of their capabilities to perform specific tasks in the care of the newborn (Coleman & Karraker, 1998). Mothers who have a high level of MPSE are more persistent when they face difficulties or challenges in newborn care (Coleman & Karraker, 1998; Teti & Gelfand, 1991) and are more likely to initiate productive courses of actions and adaptive coping (Bandura, 1997; Coleman & Karraker, 1998). In contrast, those who feel that they cannot produce desired results or are unable to complete the desired actions to achieve the outcomes would have little incentive to persevere when faced with obstacles (Bandura, 1997). Thus, the level of MPSE determines the initiation of maternal efforts and maintenance of performance in tasks involving the care of their newborn in the early postpartum period (Bandura, 1997; Coleman & Karraker, 1998).

Multiple factors such as personal resources and social, environmental contexts are associated with MPSE (Mercer, 2004). The factors that play an important part in enhancing MPSE include (a) maternal attributes such as age, socioeconomic status, prior experiences with child care, and emotional state; (b) infant attributes such as infant health status, irritability and temperament; and (c) environmental attributes such as family functioning, marital satisfaction, and social and cultural background (Leahy-Warren & McCarthy, 2010; Mercer & Ferketich, 1995; Ngai et al., 2010; Reece & Harkless, 1998; Salonen et al., 2009; Tarkka, 2003).

An integrated literature review conducted by Leahy-Warren and McCarthy (2010) involving eight quantitative studies on MPSE reported a MPSE to be positively related to multiparity, social support, parenting and marital satisfaction (Leahy-Warren & McCarthy, 2010). They also reported MPSE to be negatively related to maternal stress and PND. Another study (Leahy-Warren, McCarthy, & Corcoran, 2011) found positive social support to be one of the most important factors that enhance MPSE, and PND to be one of the most important factors that reduce MPSE. Thus it is recommended that health-care professionals assess primiparas for their MPSE, social support and psychological symptoms such as PND in the early postnatal period.

Other researchers (Reece & Harkless, 1998; Salonen et al., 2009) also reported similar results. Reece and Harkless (1998), who examined 32 mothers for their self-efficacy during pregnancy and at four months postpartum, reported social support to be associated with self-efficacy. Similarly, Salonen et al. (2009) studied self-efficacy among 1300 families and found that multiparity, type and quality of social support, and depressive symptoms influenced the self-efficacy of both mothers and fathers. The longitudinal study by Ngai et al. (2010), which examined the self-efficacy among primiparas from prenatal to six weeks

postnatal, found that depression and maternal satisfaction with newborn care were the main predictors of self-efficacy.

Mercer and Ferketich (1995), in their exploratory study on primiparas ($n = 166$) and multiparas ($n = 136$), found that 34% of variance in the self-efficacy of primiparas was explained by the mothers' sense of mastery and depression at one month postpartum. Tarkka (2003) also reported that depression (38%) and the social support received (66%) were the strongest predictors of self-efficacy among 248 Finnish first-time mothers.

Despite the obvious associations between self-efficacy, social support and postnatal depression (Leahy-Warren & McCarthy, 2010; Leahy-Warren et al., 2011; Mercer & Ferketich, 1995; Salonen et al., 2009; Tarkka, 2003) only a few studies (Leahy-Warren et al., 2011; Ngai et al., 2010; Salonen et al., 2009) have considered these interrelated factors in the early postnatal period. Among the few studies, the focus remained on Western mothers (Leahy-Warren & McCarthy, 2010; Salonen et al., 2009) or on specific ethnic groups such as Chinese mothers in Hong Kong (Ngai et al., 2010).

Purpose

Singapore is an island nation with a multicultural population. Chinese are the predominant ethnic group, with Malays and Indians forming significant minorities in the population. To our knowledge, there has been no study to date that has examined the factors influencing MPSE in the early postnatal period among primiparas of the multicultural Singaporean population. As such, this study aims to contribute to the knowledge of predictors and correlates of MPSE among primiparas in the multicultural population of Singapore. The research questions were: (a) What were the levels of MPSE and social support received by mothers? (b) What was the prevalence of PND? (c) What were the correlations among MPSE, social support and PND? and (d) what were the predictors of MPSE?

Methods

Design

A descriptive, correlational, cross-sectional study design was used. The study was conducted in a university-affiliated hospital where approximately 3000 babies are delivered per annum. Data was collected on the primiparas' day of discharge from hospitalization between July 2012 and September 2012. In the study hospital, mothers are usually discharged from the hospital on an average of 1 to 3 days postpartum, depending on the mode of delivery and the mothers' health conditions.

Participants

A purposive sample of 122 primiparas was recruited on the day of discharge from the hospital. Purposive sampling is particularly useful for detecting relationships among different phenomena (Polit & Beck, 2006). Estimation of the sample size was based on a previous study (Leahy-Warren et al., 2011) that reported MPSE to be correlated to social support and PND. The sample size in this study was sufficient to allow a significance level of 0.05, a power of 0.80, and an effect size of 0.2 for correlational analysis (Cohen, 1992). The inclusion criteria were primiparas who (a) were 21–45 years old, (b) had delivered a baby regardless of the mode of delivery in the hospital, and (3) were able to read and write in English. The exclusion criteria disqualified mothers who (a) had a cognitive impairment identified from their medical records; (b) had severe antepartum, intrapartum or postpartum maternal complications such as postnatal hemorrhage or pregnancy-induced hypertension; (c) had delivered a baby with apparent congenital anomalies or had a stillbirth; and/or (d) had a baby who was not simultaneously admitted to the postnatal ward.

Measures

Perceived Maternal Parental Self-Efficacy. Perceived Maternal Parental Self-Efficacy (PMP S-E) is a domain-specific scale developed from Bandura's self-efficacy theory (Barnes &

Adamson-Macedo, 2007). After undergoing face and content validation by a local expert panel of two midwives, two obstetricians and two postnatal mothers, the original 20-item scale was reduced to 17 items because of repetition. The three deleted items were “I am good at soothing my baby when he/she becomes upset”; “I am good at soothing my baby when he/she becomes fussy”; and “I am good at soothing my baby when he/she is continually crying.” Each item was rated on a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). The total possible score for the PMP S-E scale ranges between 17 and 68, where a higher score indicates higher self-efficacy in newborn care and vice versa. This instrument had a Cronbach’s alpha of 0.91 in a previous study (Barnes & Adamson-Macedo, 2007) and 0.89 in this study, which was considered satisfactory (Nunnally & Berstein, 1994).

Perinatal Infant Care Social Support Scale. Leahy-Warren (2005) developed the Perinatal Infant Care Social Support Scale (PICSS) based on the social exchange theory by Blau (1964) and social support as defined by House (1981). It measures both functional and structural social support. The functional support scale comprised 22 items in four subscales: informational support (7 items), instrumental support (7 items), emotional (4 items) and appraisal support (4 items). Each item is rated on a four-point Likert scale as for the PMP S-E scale. The total functional social support scores ranges between 22 and 88. The scores of the informational and instrumental subscales range from 7 to 28, and those of the emotional and appraisal subscales, from 4 to 16. To enable fair comparisons of all the subscales for this study, the scores of the four subscales were transformed to a common denominator of 100.

The structural support scale identified individuals who provided support to mothers and comprised nine items. The two subscales of the structural support scale comprised support from both formal sources (nurses/midwives, doctors and others such as confinement nannies) and informal sources (husband/partner, maternal parents, parents in-laws, siblings, friends and neighbors) on all four functional social support subscales. If participants said

'yes' to any of the four subscales of support from at least one source, they were considered to have received that particular form of structural support. The total score ranges from 0 to 36. For comparison, the scores of two subscales were transformed to the common denominator of 100. Cronbach's alpha of total PICSS was 0.80 in the previous study (Leahy-Warren, 2005) and 0.78 in this study.

Edinburgh Postnatal Depression Scale. The Edinburgh Postnatal Depression Scale (EPDS) is a 10-item instrument that is widely used to screen depressive symptoms in the perinatal period (Cox, Holden, & Sagovsky, 1987). It has a score ranging from 0 to 30. As the scores of 13 and above have 60–100% probability of meeting the diagnostic criteria of depression (Cox et al., 1987; Elliott et al., 2000), a cutoff score of 13 and above was used to screen for postnatal depression in this study. The sensitivity of the EPDS ranged from 68–80% and its specificity was 77%. The Cronbach's alpha coefficient of EPDS in this study was 0.78.

Data Collection Procedure

Ethics approval for the study was obtained from the institutional review board of the participating hospital before commencing the study. Ethical principles such as voluntary participation, maintenance of confidentiality of data and obtaining informed consent were followed. Permission to use the instruments was obtained from the respective copyright holders. Women who showed symptoms of PND as measured by EPDS or any signs of distress during data collection were referred back to their obstetrician for consultation. After obtaining ethics approval, data were collected on the day of the participants' discharge from the hospital. A total of 140 eligible mothers were approached and informed about the study. Written informed consent was obtained from 122 mothers who were willing to participate. The participating mothers were advised to complete the self-administering questionnaires and return the completed questionnaires to the researcher before going home. Socio-demographic

data such as age, highest educational level, employment status and attendance of antenatal educational program were also obtained.

Data Analyses

Data were analyzed using SPSS version 18.0. Descriptive statistics were used to report demographic characteristics and study variables. After confirming normality, the correlations were examined using Pearson's product-moment correlation coefficient among MPSE, social support and PND. Standard multiple linear regressions were used to examine the MPSE predictors, the size of overall relationship among the predictors and how much each predictor contributed to the relationship.

Results

Demographics

The mean age of the mothers was 28.5 years ($SD = 4.4$). The majority of the mothers were Chinese ($n = 39, 32\%$), married ($n = 115, 94.3\%$), had at least a university degree ($n = 101, 82.8\%$), employed ($n = 85, 69.7\%$) and had a monthly household income of more than US\$2500 (S\$3000) ($n = 84, 68.9\%$). Less than a quarter of the mothers ($n = 26, 21.3\%$) had attended antenatal classes and more than half the women had normal vaginal delivery ($n = 67, 54.9\%$).

Maternal Parental Self-Efficacy

The MPSE in this study ranged from 20 to 50 (mean = 31.6, $SD 7.0$). Low maternal self-efficacy was reported on most of the newborn care tasks such as breastfeeding, dressing the baby, bathing the baby, making the baby happy, soothing the crying baby, getting the baby's attention, knowing when the baby was tired and needed sleep, having control over the baby, knowing when the baby was sick, reading baby's cues, understanding the baby's needs, keeping the baby occupied and knowing what activities the baby did not enjoy (Table1)

Social Support

The total social support score, which is a combination of both functional and structural support, ranged from 39 to 74 (mean = 56.8, *SD* 6.7). The functional social support scores (Table 2) of the new mothers ranged from 33 to 66 (mean = 50.3, *SD* 6.2). The transformed mean informational (mean = 46.1, *SD* 10) and instrumental support (mean = 54.6, *SD* 7.1) was lower than emotional (mean = 74.4, *SD* 11.9) and appraisal support (mean = 63.1, *SD* 10.6). Specifically, for the individual items, information on comforting the crying baby (mean = 1.5, *SD* 0.7), taking care of mother's body after childbirth (mean = 1.2, *SD* 0.4) and learning from other mothers' experiences (mean = 1.4, *SD* 0.7) was lacking. Mothers also had lower instrumental support in comforting/settling the crying baby (mean = 1.3, *SD* 0.5) and bathing the baby (mean = 1.2, *SD* 0.5).

In terms of structural support, the score ranged from 4 to 13 (mean = 6.6, *SD* 2.2). Overall, the main sources of structural support on two subscales of structural support were informal (transformed mean = 25, *SD* 7.9), such as maternal mothers and husbands, rather than formal (transformed mean = 4.6, *SD* 6.7), such as health-care professionals.

Postnatal Depression

The PND scores ranged from 0 to 22 (mean = 8.2, *SD* 4.1) and the majority of the women scored less than 13, the cutoff score for being diagnosed with having PND symptoms. A PND prevalence of 13.9% was found, with a confidence interval of 95%.

Correlations among Maternal Parental Self-Efficacy, Social Support, Postnatal Depression

MPSE had a significant positive correlation with total social support ($r = 0.302$) and a significant negative correlation with PND ($r = -0.24$). However, the correlations were weak.

Predictors of Maternal Self-Efficacy

Due to the clinical importance of the demographic variables to social support and PND, all of the demographic, social support and PND variables were entered into the regression analysis. Both binary variables (such as antenatal class attendance [yes/no]) and continuous variables (such as PND) were entered into the regression model. For categorical variables with more than two levels, dummy variables were created as shown in Table 3.

Total social support, age, ethnicity and monthly household income were found to be predictors of MPSE. That is having greater social support, higher monthly household incomes (\geq US\$2500/S\$3000), being younger and belonging to ethnic groups other than Chinese were the main predictors of MPSE, which explained 56% of the variance (adjusted $R^2=0.56$).

Discussion

The correlates and predictors of MPSE were examined when mothers were about to be discharged from the hospital. MPSE was low for various newborn care tasks such as breastfeeding, comforting the crying baby and bathing the baby. These findings are congruent with Bandura's theory of self-efficacy (1997), as it can be assumed that the primiparas in this study likely lacked prior mastery experience in performing tasks related to newborn care. Similar findings have been reported in previous studies (Hudson, Elek, & Flek, 2001; Kapp 1998; Leahy-Warren, 2005; Leahy-Warren et al., 2011; Ngai et al., 2009; Ngai et al., 2011), which similarly found that primiparas had low self-efficacy in various tasks related to newborn care in the early postpartum period. However, one needs to be cautious in making comparisons between those studies and the current study, as the data for the current study were collected on the day of discharge from hospitalization while the mothers were still in the hospital, while previous studies (Hudson et al., 2001; Kapp 1998; Leahy-Warren, 2005; Leahy-Warren et al., 2011; Ngai et al., 2009; Ngai et al., 2011) collected data at various time

points in the early postpartum period, including after the mothers had been discharged from the hospital. The availability of support in the hospital could have boosted the mothers' confidence, producing the finding of higher MPSE among mothers, as reported in a study on Irish primiparas (Leahy-Warren et al., 2011). In contrast to the current study, however, the Irish primiparas (Leahy-Warren et al., 2011) overestimated their MPSE while they were in the hospital. This could be explained by the cultural differences between the study participants in the two studies, and culture has been found to play an important part in influencing mothers' experiences in the early postnatal period (Chan, Williamson, & McCutcheon, 2009). Hence, culturally-inclined care could be helpful to new mothers in the early postnatal period. In addition, assessing MPSE while mothers are in contact with health-care professionals in the hospital could be vital in the identification of mothers in need of appropriate care.

Overall, the mothers in this study had moderate social support. However, in terms of functional support, the mothers reported having lower levels of informational and instrumental support than emotional and appraisal support. These results are in agreement with previous studies (Leahy-Warren, 2005; Phang & Koh, 2010). A local study (Phang & Koh, 2010) highlighted that mothers lacked informational support from health-care professionals. Other authors (Tarkka, Paunonen, & Laippala, 1999, 2000; Ngai et al., 2011) have also highlighted that both informational and emotional support from health-care professionals was important for primiparas. The reasons for the lower levels of informational and instrumental support could also be explained by the practice of discharging women early from the hospital after delivery in Singapore. On average, women in Singapore are discharged from the hospital within the first 48 to 72 hours after delivery, depending on their health condition and mode of delivery (Phang, 2009). Due to the early postnatal discharge

from the hospital, there could be a lack of opportunity and time to provide adequate education and support to new mothers (Kapp, 1998; Tarkka et al., 1999).

Congruent with previous studies (Gao, Chan, & Mao, 2008; Häggman-Laitila 2003; Leahy-Warren et al., 2011; Ngai et al., 2011), informal sources of support such as husbands and maternal mothers were the main sources of structural social support in this study. This could be due to the family-oriented hospital policies in Singapore where family members such as husbands are allowed to overnight with their wives ward during the wife's hospitalization for delivery.

To our knowledge, this is the first empirical study that has examined the prevalence of PND symptoms as early as the day of discharge from the hospital in Singapore. In our study, the prevalence of PND was 13.9%, which was similar to the rate reported in local (Chee et al., 2005) and international studies (Gao et al., 2008; Leahy-Warren & McCarthy, 2007; Leahy-Warren et al., 2011; O'Hara & Swain, 1996). However, care should be taken in making these comparisons, as the studies collected data at different time intervals such as antenatal period and two weeks postpartum (Chee et al., 2005), six weeks postpartum (Gao et al., 2008; Leahy-Warren et al., 2011) and nine weeks postpartum (O'Hara & Swain, 1996). Although the day of discharge (day 1–3 post delivery) could be too early a period to diagnose depression, our study has contributed to understanding the emotional well-being of mothers at such an early stage in the postpartum period. This could enable the identification of at-risk mothers so that adequate individualized support can be provided. In addition, new mothers—especially Asian mothers—are often reluctant to report their depressive symptoms due to the stigma attached to mental illness (Beck & Gable, 2000; Chan & Levy, 2004; Chan et al., 2009). Hence, understanding the prevalence of PND among Singaporean women would provide health-care providers with a baseline for planning educational programs and support services for these mothers.

Consistent with Bandura's self-efficacy theory (1997) and previous studies (Haslam, Pakenham, & Smith, 2006; Leahy-Warren et al. 2011; Ngai et al., 2010), this study has found that self-efficacy is significantly and positively related to social support and negatively related to PND. This implies that the greater the social support available to the mothers, the higher their self-efficacy and the lower their depressive symptoms and vice versa. In other words, if mothers are depressed, they will have lower self-efficacy in caring for their newborn and will not seek social support (Ngai, Wai-Chi Chan, & Holroyd, 2007; Tarkka, 2003). This is an important finding as health-care providers can assess these inter-related components in the postnatal period and plan appropriate interventions based on the assessment of primiparas' self-efficacy, social support and mental well-being, such as educational programs and interventions to rally support from primiparas' informal and formal social network to enhance MPSE and decrease PND symptoms.

Social support and demographics such as ethnicity, maternal age and higher family income (\geq US\$2500/S\$3000) were found to be predictors of MPSE. Finding social support to be a predictor of MPSE is congruent with previous studies (Ngai et al., 2010; Salonen et al. 2009). This is also consistent with Bandura's (1997) notion that informational and instrumental support in terms of vicarious experience and appraisal support from significant others improve MPSE. Unique to this study was the finding that ethnicity was a predictor of maternal self-efficacy. This finding, however, should not be surprising because culture, which defines its own confinement rituals and practices (Chee et al., 2005), plays an important role in the transition to motherhood (Miller, 2003). Members of all ethnicities are aware of the vulnerability of mothers and their babies in the early postnatal period and believe in providing adequate social support. This could then explain why ethnicity is one of the predictors of maternal self-efficacy.

This study found that Chinese mothers had lower MPSE as compared with their Malay, Indian and other ethnic counterparts in the country. This is comparable to previous studies (Chan, Levy, Chung, & Lee, 2002; Ngai & Chan, 2010), which found that Chinese mothers in Hong Kong had lower MPSE in the early postpartum period than mothers of other ethnicities. However, the different timing of data collection [at six weeks in the study by Ngai et al. (2010) and on the day of discharge in this study] and different demographic profiles of the sample populations (Singapore and Hong Kong) make comparisons between the current study and the aforementioned studies difficult. As Singapore has a multicultural population, future studies done with various ethnic groups would allow researchers to confirm the findings of the relationship between ethnicity and MPSE.

Age was a predictor of MPSE in this study, which means that younger mothers had higher self-efficacy than older mothers. The finding is consistent with the results of some studies (Bryanton, Gagnon, Hatem, & Johnston, 2008; Tarkka, 2003) but contradictory to the findings reported by Ngai et al. (2010). The comparisons, however, should be viewed with caution as different time periods and instruments were used to measure MPSE in the previous studies.

Concurring with previous studies (Conrad, Gross, Fogg, & Ruchala, 1992; Bryanton et al., 2008), higher family income was also a predictor of MPSE. Mothers with higher family incomes are more likely to be able to afford a domestic helper, which is a common practice in Singapore. The additional support of a domestic helper in the postpartum period could thus have a positive effect on mothers' MPSE.

Contradictory to previous findings (Ngai et al., 2010; Salonen et al., 2009), PND was not a predictor of self-efficacy in our study. This could have been due to the different periods of data collection: the study by Ngai et al. (2010) collected data at six weeks postpartum while this study collected data on the day of discharge from the hospitalization for delivery. It

has been found that the chances of developing PND symptoms are higher from the first two weeks to a year after delivery (Cox et al., 1987) and hence the difference in the time points of data collection between the two studies might explain why this study did not find any relationship between PND and MPSE. This warrants further investigation with a longitudinal study to measure the relationship between MPSE and PND at multiple time periods.

This study highlights the MPSE and social support needs of primiparas in the early postpartum period. It has been found that MPSE, social support and PND were inter-related and MPSE was predicted by social support, ethnicity, maternal age and family income. These findings have direct clinical implications for the care of mothers in multicultural Singapore. Midwives could assess MPSE, social support and PND as early as during mothers' hospitalization just prior to delivery. This would provide midwives with ample opportunities to understand the unique needs of mothers and hence plan supportive educational programs for the latter. Significant others including husbands and maternal mothers could also be encouraged to be more actively involved in supporting new mothers in caring of the newborn.

This study is the first of its kind to examine the correlates and predictors of MPSE in a multicultural population of primiparas on the day of their discharge from hospitalization using reliable and valid instruments. Generalization of the results is limited to primiparas who are English-speaking, married, well educated, employed and belonging to the higher family income group because of the use of a purposive sample from a single public hospital. Random sampling may generate a sample of primiparas with different attributes and needs to those of the primiparas this study has obtained through convenience sampling. In addition, because MPSE and PND evolve over time, it is recommended that future studies on the relationship between MPSE and PND examine the relationship longitudinally (up to three to six months post delivery) on account that MPSE and its predictors and correlations may change over time.

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Table 1

Mother's perceived self-efficacy in newborn care as measured by the perceived maternal parental self-efficacy scale (n = 122)

Item no.	Maternal self-efficacy in newborn care	M (SD)
1	I am good at feeding my baby	1.7 (0.7)
2	I am good at changing my baby	1.6 (0.9)
3	I am good at bathing my baby	1.2 (0.5)
4	I can make my baby happy	2.1 (0.9)
5	I can make my baby calm when he/she cries	2.1 (0.8)
6	I am good at soothing my baby when he/she becomes more restless	1.5 (0.6)
7	I am good at getting my baby's attention	1.9 (0.8)
8	I believe I can tell when my baby is tired and needs to sleep	1.8 (0.8)
9	I believe I have control over my baby	1.6 (0.7)
10	I can tell when my baby is sick	1.5 (0.7)
11	I can read my baby's cues	1.6 (0.7)
12	I am good at understanding what my baby wants	1.5 (0.7)
13	I am good at keeping my baby occupied	1.4 (0.6)
14	I am good at knowing what activities my baby does not enjoy	1.3 (0.6)
15	I believe my baby responds well to me	2.4 (0.7)
16	I believe that my baby and I have a good interaction with each other	2.8 (0.6)
17	I can show affection to my baby	3.5 (0.6)
Total PMP S-E score [M (SD)]		31.6 (7.0)
Range [#]		20–50

Note. PMP S-E = Perceived Maternal Parental Self-Efficacy Scale. [#]Normal range = 17–68.

Table 2

Functional social support received by mothers (n = 122)

Functional support subscales	No. of items	Support received by mothers	Item M (SD)	Subscale M (SD)	Transformed Subscale M (SD)
Informational support	7	I get information on:		13.0 (2.8)	46.1 (10)
		a. feeding	3.0 (0.6)		
		b. changing/dressing	1.7 (0.8)		
		c. comfort/settling	1.5 (0.7)		
		d. bathing	1.5 (0.8)		
		I get information on taking care of my body after childbirth.	1.2 (0.4)		
		I learn from other mother's experiences.	1.4 (0.7)		
I get consistent information regarding infant care.	2.6 (0.8)				

Instrumental support	7	I get hands on help with infant:		15.3 (2.0)	54.6 (7.1)
		a. feeding	3.1 (0.6)		
		b. changing/dressing	1.4 (0.6)		
		c. comfort/settling	1.3 (0.5)		
		d. bathing	1.2 (0.5)		
		I have someone to help me with routine housework.	3.1 (0.5)		
		I am not on my own in taking care of the baby.	3.1 (0.5)		
		I have time for myself.	2.0 (0.5)		
Emotional support	4	I have people to count on when things go wrong.	3.0 (0.5)	11.9 (1.9)	74.4 (11.9)
		I have someone to care and comfort me.	3.0 (0.5)		
		I have someone to talk to about the way I am feeling.	3.0 (0.5)		
		If I need advise there is someone who will assist me to work out a plan for dealing with the situation.	2.9 (0.7)		

Appraisal support	4	I have people to talk to and share my experiences with.	3.0 (0.5)	10.1 (1.7)	63.1 (10.6)
		I am shown appreciation for the care I give my baby.	2.5 (0.8)		
		People close to me understand that it is okay for me to need help.	3.0 (0.5)		
		I get positive feedback from professionals about the care I give to my baby.	1.6 (0.5)		
Total functional social support score [M (SD)]				50.3 (6.2)	

Table 3

Predictors of maternal self-efficacy (n = 122)

Predictors	B (95% CI)		t-value	P value
Total social support	0.26	(0.08 – 0.44)	2.86	<0.001**
PND	-0.26	(-0.55 – 0.03)	-1.81	0.073
Age	-0.36	(-0.71 – -0.02)	-2.10	0.037**
Ethnicity ^a				
Malay	4.1	(0.34 – 7.84)	2.16	0.033**
Indian	4.7	(1.74 – 7.7)	3.14	0.002**
Others	6.0	(2.64 – 9.19)	3.59	<0.001**
Highest education level ^b				
Primary or secondary	3.9	(-3.89 – 11.6)	1.00	0.310
ITE/Polytechnic/Junior college	-0.10	(-4.53 – 0.25)	-1.76	0.066
Employment ^c	0.77	(-1.8 – 3.36)	0.59	0.556
Monthly household income ^d	3.38	(0.34 – 6.43)	2.20	0.030**
Antenatal class attendance ^e	-1.16	(-4.10 – 1.78)	-0.78	0.435
<i>Adjusted R² = 0.56</i>				

Note. PND = Postnatal depression. ^aReference group: Chinese mothers; ^bReference group: university; ^cEmployment: 1 = Yes, 0 = No; ^d1 = Less than S\$3,000; 0 = S\$3,000 and above; ^e1 = attended, 0 = not attended.

* $p < 0.05$ level; ** $p < 0.01$.