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Psychometric Properties of a Chinese Version of the Medical Outcomes Study Family and Marital Functioning Measures in Hong Kong Chinese Childbearing Families

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Abstract The aim of the study was to evaluate the psychometric properties of the Chinese version of Medical Outcomes Study Family and Marital Functioning Measures (C–MOS–FMFM) in Hong Kong Chinese childbearing families. A cross-sectional survey was conducted using a convenience sample of 128 childbearing couples recruited from antenatal clinics. The C–MOS–FMFM demonstrated good internal consistency (Cronbach's alpha = 0.79) and test-retest reliability (intraclass correlation coefficient = 0.74). Significant correlations with Medical Outcomes Study-Social Support Survey ($r = 0.38$, $P < 0.01$) and Trait Anxiety Inventory ($r = -0.48$, $P < 0.01$) supported construct validity. Factor analysis identified one factor corresponding to family functioning and two factors corresponding to marital functioning. The C–MOS–FMFM has satisfactory psychometric properties. It has the potential to be used as a clinical and research instrument for measuring family and marital functioning in the Chinese population.

Keywords Childbearing family · Chinese · Family functioning · Marital functioning · Validation

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Introduction

For most parents, transition to parenthood is a time for celebration of the arrival of a new member in the family. It is also a time of psychological stress that poses critical adaptation challenges for new parents (Gao et al. 2009). In a recent survey of 130 Chinese couples, Gao et al. (2009) found similar prevalence of postpartum depression in mothers (13.8%) and fathers (10.8%), suggesting that the developmental transition of parenthood is a stressor for both parents. A cohesive and adaptable family system contributes to the success of a family's ability to cope with the developmental stressors of parenthood (Sherbourne and Kamberg 1992). Family and marital functioning refer to the quality of interactions among family members, which are considered critical for the development of a cohesive and adaptable family system (Sherbourne and Kamberg 1992). Family and marital functioning has become an important public health issue because it is associated with a range of child health and well-being issues (Favez et al. 2006). Favez et al. (2006) conducted a longitudinal study of 39 couples from pregnancy to toddlerhood in Switzerland and found that the quality of family and marital functioning significantly predict the child's psychosocial development. Poor family and marital functioning has also been found to be associated with perinatal anxiety and depression (Lee et al. 2004, 2007), which have serious consequences on the child development (Deave et al. 2008). In a survey of 357 Chinese pregnant women, Lee et al. (2007) found that marital satisfaction protects against anxiety and depression during pregnancy. Thumboo et al. (2000) also found that satisfaction with family life and marital functioning was significantly associated with mental health among Chinese-speaking patients in Singapore. Research on the quality of the transition experience relies on well-validated measures

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of family and marital functioning, which would contribute to the development of culturally appropriate interventions to help promote positive family adaptation and the well-being of the whole family.

Various measures have been developed to assess family and marital functioning, such as the family environment scale (Moos and Moos 1986), the family assessment measure (Skinner et al. 1983), the family assessment device (Epstein et al. 1983), the self-report family inventory (Beavers and Hampson 1990), the dyadic adjustment scale (Spanier 1976) and the marital satisfaction scale (Roach et al. 1981). However, most of them were used in families with children (Pritchett et al. 2011) and often have a large number of items, such as 90 in the family environment scale (Moos and Moos 1986) and 92 in the family assessment measure (Skinner et al. 1983), which may not be practical for use in the clinical settings. Furthermore, most of the measures that are specific to marital functioning do not measure family functioning, such as the dyadic adjustment scale (Spanier 1976) and the marital satisfaction scale (Roach et al. 1981). Thus, there is a need for a valid but briefer measure to assess both family and marital functioning.

The Medical Outcomes Study Family and Marital Functioning Measures (MOS–FMFM) was developed by Sherbourne and Kamberg (1992) to assess the hypothesised constructs of satisfaction with family life (Family Functioning Measure, FFM), overall happiness with family life, and marital functioning (Marital Functioning Measure, MFM). Items were constructed to assess six aspects of general family functioning and marital functioning: togetherness/cohesiveness, conflict, expressiveness, support/understanding, communication, and affection/emotional. The scale measures family and marital functioning in general which are applicable to all types of family configurations, including families with and without children (Sherbourne and Kamberg 1992). Thus, it has the potential to be used for evaluating satisfaction with family and marital functioning in childbearing families. Furthermore, the 10-item MOS–FMFM is comparatively short which is ease of administration and more cost-efficient.

The MOS–FMFM has demonstrated sound psychometric properties in American (Sherbourne and Kamberg 1992) and Singaporean populations (Thumboo et al. 1999). Reported internal consistencies ranged from 0.93 to 0.95 for the FFM and 0.70–0.83 for the MFM. The test–retest differences for the FFM and MFM were clinically insignificant. Construct validity was supported by significant correlations between the MOS–FMFM and the mental health subscale of the health-related quality of life measure (SF-36), and between the FFM, MFM and overall happiness with family life (Sherbourne and Kamberg 1992; Thumboo et al. 1999). Factor analysis supported the hypothesized three-factor structure corresponding to the FFM (one factor) and the MFM (two factors) (Thumboo et al. 1999).

The MOS–FMFM has been translated into Chinese (C–MOS–FMFM) and validated in a sample of Chinese-speaking patients with systemic lupus erythematosus in Singapore (Thumboo et al. 2000). The C–MOS–FMFM has satisfactory reliability and validity. Reported internal consistencies were 0.92 and 0.62, respectively, for the FFM and the MFM. The test–retest differences for the FFM and the MFM were clinically insignificant. Significant correlations of the C-MOS–FMFM with the mental health SF-36 subscale and the FFM with overall happiness with family life demonstrated the construct validity. Factor analysis identified one factor corresponding to the FFM and two factors corresponding to the MFM (Thumboo et al. 2000). Given that the C–MOS–FMFM has not been validated in childbearing families and the socio-cultural context of Hong Kong is different from that of Singapore, a rigorous validation process is essential before the adaptation of the C–MOS–FMFM for measuring family and marital functioning in Hong Kong Chinese childbearing family. Thus, the aims of this study were to examine the internal consistency and test–retest reliability of the C–MOS–FMFM, and to evaluate the construct validity of the C–MOS–FMFM in Hong Kong Chinese childbearing families.

Methods

The study consisted of two phases. The purpose of the first phase was to evaluate the cultural equivalence of the C–MOS–FMFM. The second phase aimed to establish the psychometric properties of the C–MOS–FMFM in Chinese childbearing families.

Phase 1: Evaluation of Cultural Equivalence

The C–MOS–FMFM was reviewed by an expert panel to evaluate the cultural equivalence of the C–MOS–FMFM in the Hong Kong Chinese cultural context. The panel was composed of 10 bilingual expert health professionals (including academics in midwifery nursing, an obstetrician and midwives) and two Chinese childbearing couples. The members of the panel were asked to rate independently the relevance of the content of the C–MOS–FMFM items to Chinese culture in Hong Kong by using a content validity index (CVI) with a 4-point scale: 1 = not relevant, 2 = somewhat relevant, 3 = quite relevant and 4 = very relevant. The CVI is calculated by the percentage of total items rated by the experts as either 3 or 4, a CVI rating above 0.8 being considered valid (Norwood 2000). The experts also rated the semantic equivalence of the MOS–FMFM items in the Western and Hong Kong Chinese cultures using a 4-point Likert scale of appropriateness, with 1 = not appropriate, 2 = somewhat appropriate,

3 = quite appropriate and 4 = very appropriate. All items in the C–MOS–FMFM were found to have an acceptable CVI above 0.9 and semantic equivalence above 80% appropriateness. The C–MOS–FMFM was piloted on a convenience sample of 10 childbearing couples recruited at the antenatal clinic of a teaching hospital. The sample inclusion criteria for the pilot test were childbearing couples who were 18 years of age or above, were able to read Chinese, and had no psychiatric illness. Participants were invited to comment on the clarity of the items and the overall presentation of the scale, which took <5 min to complete.

Phase 2: Psychometric Testing

In Phase 2, a prospective descriptive study was conducted in the antenatal clinics of a teaching hospital to test the reliability and validity of the C–MOS–FMFM. The reliability was assessed by internal consistency and test–retest reliability. A 4-week interval was used in the test–retest reliability to assess the stability of the scale. The construct validity was examined by testing the correlations between the FFM, MFM and overall happiness with family life, and the correlations of the C–MOS–FMFM with the Medical Outcomes Study Social Support Survey (MOS–SSS) and the Trait Anxiety Inventory (STAI-T). Positive correlations were expected between the scores of FFM, MFM and overall happiness with family life. Given that support/understanding was one of the aspects of family functioning assessed by the MOS–FMFM, positive correlation was also expected between the C–MOS–FMFM and the MOS–SSS. Given that affection/emotional was another aspect of family functioning assessed by the MOS–FMFM, anxiety assessed by the STAI-T was expected to correlate negatively with the C–MOS–FMFM score. Validity was also evaluated by testing the correlation of C–MOS–FMFM scores between the childbearing women and their partners, where a positive result was expected. Factor analysis was conducted to explore the factor structure of the C–MOS–FMFM.

Participants

This study was conducted in a teaching hospital in Hong Kong. A convenience sample of 128 childbearing couples attending the antenatal clinics was recruited between October 2010 and December 2010. The sample size was determined according to the requirement for ten participants per item for factor analysis (Burns & Grove 2005). The sample inclusion criteria were childbearing couples who were 18 or above, Hong Kong residents, able to speak and read Chinese, and without a past or familial psychiatric illness.

Instruments

Medical Outcomes Study Family and Marital Functioning Measures

The Medical Outcomes Study Family and Marital Functioning Measures (MOS–FMFM) is a 10-item scale assessing the hypothesised constructs of satisfaction with family life (three items), overall happiness with family life (one item) and marital functioning (six items) (Sherbourne and Kamberg 1992). The FFM and MFM are scored on 5-point Likert scales, and overall happiness with family life on a 6-point Likert scale. Total scale scores range from 10 to 51, higher scores indicating greater satisfaction with family life and marital functioning.

Medical Outcomes Study Social Support Survey

The Medical Outcomes Study Social Support Survey (MOS-SSS) is a 20-item instrument with one item assessing the number of support persons, and 19 items measuring the availability of social support (Sherbourne and Stewart 1991). Each item is rated on a 5-point Likert scale, with total scores ranging from 0 to 100. The Chinese version of the MOS-SSS has demonstrated high internal consistency of 0.98 and a 2-week test–retest reliability of 0.84. Validity has been supported by significant correlations with measures from the Multidimentional Perceived Social Support Survey and the Hospital Anxiety and Depression Scale (Yu et al. 2004). The internal consistency for this study was 0.89.

State-Trait Anxiety Inventory

The State-Trait Anxiety Inventory (STAI) is used to assess both state and trait anxiety (Spielberger et al. 1970). It consists of two separate components, with the trait component measuring anxiety as a personality characteristic (STAI-T) and the state component measuring the current level of anxiety (STAI-S). The STAI-T was used in this study. It contains 20 items rated on a 4-point Likert scale with possible scores ranging from 20 to 80, higher scores indicating higher levels of trait anxiety. The Chinese version of the STAI has good psychometric properties (Shek 1988). Internal consistency for the STAI-T was 0.81 and the split-half reliability coefficient was 0.83. Significant correlations with measures of depression, ego strength and general health supported the concurrent validity (Shek 1993).

Procedure

Ethical approval was obtained from the university and local institutional review board. Childbearing couples who met the sample inclusion criteria were recruited. Written

informed consent was obtained from couples who agreed to participate in the study, and they were assured of confidentiality. Participants were asked to complete three self-report instruments, including the C–MOS–FMFM and the Chinese versions of the MOS–SSS and the STAI-T. The C–MOS–FMFM was administered again 4 weeks later at the antenatal clinic for test–retest reliability. Those pregnant women not accompanied by their partners at the retest were given the C–MOS–FMFM for their partners to complete at home and return in a pre-addressed stamped envelope.

Data Analysis

Data were analysed using the SPSS for Windows Version 18.0. Descriptive statistics were employed to summarise demographic characteristics. The internal consistency of the C–MOS–FMFM was assessed by Cronbach's α coefficients. A Cronbach's α greater than 0.70 was considered acceptable for the instrument's internal reliability (Streiner and Norman 2008). The test–retest reliability at the initial and 4-week follow-up stages was calculated by the intra-class correlation coefficient (ICC). An ICC above 0.70 indicated good reliability (Scientific Advisory Committee of the Medical Trust 2002). The construct validity of the scale was examined by calculating the correlation coefficients of the C–MOS–FMFM with MOS–SSS and STAI-T; the correlation coefficient between the FFM, MFM and overall happiness with family life; and the correlation coefficient of the C–MOS–FMFM between the childbearing women and their partners. A principal component factor analysis and oblique rotation technique were performed to examine the factor structure of the C–MOS–FMFM. Extraction of factors was based on the Kaiser-Guttman criterion with eigenvalues greater than 1.0, and Cattell's (1978) scree test. Factor loadings that exceeded the criterion of 0.30 were regarded as significant (Hair et al. 2010).

Results

Sample

The mean age of the childbearing couples was 34 years (SD = 5.2, range = 18–57) and over 80% were expecting their first child. More than 99% of the participants had at least a secondary school education. The majority of the women (79.7%) and all their partners were in employment, with a median monthly household income of HK$29,400 (US$3,769). The participants were thus predominately well-educated middle-class couples. The obstetrics and demographic characteristics of the subgroups of expectant mothers and fathers are presented separately in Table 1.

Factor Analysis

The factor structure of the C–MOS–FMFM was first evaluated separately for each subgroup. Bartlett tests of sphericity were significant for subgroups of fathers ($\chi^2 = 388.5$, $df = 36$, $P < 0.001$) and mothers ($\chi^2 = 415.4$, $df = 36$, $P < 0.001$), indicating the data distribution conformed to multivariate normality. The Kaiser–Meyer–Olkin values were 0.74 and 0.82 for the respective subgroups of fathers and mothers, indicating sampling adequacy for factor analysis (George and Mallery 2006). In the subgroup of expectant fathers, factor analysis using principal component analysis with oblique rotation revealed three factors with eigenvalues >1.0. Scree test also indicated a three-factor solution, accounting for 66.5% of the total variance. Using the same factor-analytic procedures on the subgroup of mothers, the three-factor solution was replicated, accounting for 69.2% of the total variance.

Because the results showed that the factors extracted from the two subgroups of fathers and mothers were highly similar, the factor structure of the C–MOS–FMFM was again evaluated in the total sample to conserve the power. Bartlett tests of sphericity were significant ($\chi^2 = 768.06$, $df = 36$, $P < 0.001$) and the Kaiser–Meyer–Olkin values were 0.80, which met the assumptions for factor analysis. Factor analysis using principal component analysis with oblique rotation revealed three factors with eigenvalues >1.0. Scree test also indicated a three-factor solution, accounting for 67.0% of the total variance. The first factor consisted of the first three items reflecting the FFM, accounting for 38.6% of the total variance. The second factor comprised three positively worded MFM items, accounting for 17.5% of the total variance. The third factor comprised three negatively worded MFM items, accounting for an additional 10.9% of the variance. Inter-factor correlations were 0.47, 0.19 and 0.34 between factor 1 and 2, factor 1 and 3, and factor 2 and 3, respectively. All items demonstrated moderate or strong loading >0.40 (Table 2).

Reliability

Cronbach's α for the total scale was 0.79 for all the participants and 0.76 and 0.83 for the respective subgroups of fathers and mothers, indicating adequate internal consistency. Cronbach's α for the FFM subscale was 0.88 for all the participants and 0.88 and 0.89 for the respective subgroups of fathers and mothers, indicating adequate internal consistency. Cronbach's α for the MFM subscale was 0.66 for all the participants and 0.58 and 0.71 for the respective subgroups of fathers and mothers, indicating adequate internal consistency for the subgroup of mothers, but fair for the total sample and poor for the subgroup of fathers (Table 3). Subscales to total scale correlations in the total

Table 1 Demographic and obstetric characteristics of the participants

Characteristics	Total sample (N = 256) n (%)	Subgroup of expectant mothers (n = 128) n (%)	Subgroup of expectant fathers (n = 128) n (%)
Age: mean (SD)	34.0 (5.2)	32.9 (4.5)	35.2 (5.7)
Gestation (trimester)			
First		7 (5.5)	
Second		54 (42.2)	
Third		67 (52.3)	
Gravida			
Primigravida		105 (82.0)	
Multigravida		23 (18.0)	
Education			
Primary	1 (0.4)	1 (0.8)	0
Secondary	106 (41.4)	50 (39.1)	56 (43.8)
Tertiary	35 (13.7)	16 (12.5)	19 (14.8)
University	114 (44.5)	61 (47.6)	53 (41.4)
Employment status			
Unemployed/housewife	26 (10.2)	26 (20.3)	0
Employed	230 (89.8)	102 (79.7)	128 (100.0)
Household income (monthly)			
<$1,300	9 (3.5)		
$1,300–$2,600	59 (23.0)		
$2,601–$3,900	64 (25.0)		
$3,901–$5,200	37 (14.5)		
$5,201–$6,410	40 (15.6)		
>$6,410	47 (18.4)		

Table 2 Principal component factor analysis with oblique rotation of the C–MOS–FMFM (n = 256)

C–MOS–FMFM items	Factors		
	I	II	III
Family functioning measure			
Item 1: The amount of togetherness and cohesion you have	**0.92**	−0.02	−0.02
Item 2: The support and understanding you give each other	**0.89**	0.05	0.01
Item 3: The amount you talk things over	**0.91**	−0.06	−0.03
Marital functioning measure			
Item 5: We said anything we wanted to say to each other	0.25	**0.50**	0.09
Item 8: I feel close to my spouse or partner	−0.06	**0.87**	−0.01
Item 9: My spouse or partner was supportive of me	−0.05	**0.90**	−0.06
Item 6: We often had trouble sharing our personal feelings	0.02	0.08	**0.74**
Item 7: It was hard to blow off steam with each other	−0.08	−0.13	**0.73**
Item 10: We tended to rely on other people for help rather than on each other	0.04	0.04	**0.76**
Eigenvalue	3.5	1.6	1.0
Percentage of variance explained by factor	38.6	17.5	10.9

Major loadings for each item are bolded

sample were 0.78 for the FFM and 0.85 for the MFM. Both subgroups of fathers and mothers yielded similar results, indicating homogeneity of the scale.

The ICC for the total scale was 0.73 and 0.74 for respective subgroups fathers and mothers, with an overall ICC of 0.74 for the total sample, indicating satisfactory

Table 3 Internal consistence and test–retest correlations of the C–MOS–FMFM

	Cronbach's α			ICC[d]		
	Total sample (N = 256)	Subgroup of fathers (n = 128)	Subgroup of mothers (n = 128)	Total sample (N = 256)	Subgroup of fathers (n = 128)	Subgroup of mothers (n = 128)
C–MOS–FMFM[a]	0.79	0.76	0.83	0.74**	0.73**	0.74**
FFM subscale[b]	0.88	0.88	0.89	0.61**	0.62**	0.61**
MFM subscale[c]	0.66	0.58	0.71	0.68**	0.69**	0.66**

** $P < 0.001$ (two-tailed)

[a] Chinese version of the medical outcomes study family and marital functioning measures

[b] Family functioning measure

[c] Marital functioning measure

[d] Intraclass correlation coefficient

Table 4 Correlations of the C–MOS–FMFM with overall happiness with family life, MOS–SSS and STAI-T

	C–MOS–FMFM[a]		
	Total scale	FFM subscale[b]	MFM subscale[c]
Overall happiness with family life			
Total sample (N = 256)	0.69**	0.74**	0.44**
Subgroup of fathers (n = 128)	0.69**	0.76**	0.57**
Subgroup of mothers (n = 128)	0.70**	0.72**	0.50**
MOS–SSS[d]			
Total sample (N = 256)	0.38**	0.34**	0.28**
Subgroup of fathers (n = 128)	0.43**	0.42**	0.26**
Subgroup of mothers (n = 128)	0.31**	0.28**	0.25*
STAI-T[e]			
Total sample (N = 256)	−0.48**	−0.39**	−0.38**
Subgroup of fathers (n = 128)	−0.47**	−0.37**	−0.36**
Subgroup of mothers (n = 128)	−0.51**	−0.42**	−0.43**

** $P < 0.01$ (two-tailed)

[a] Chinese version of Medical Outcomes Study Family and Marital Functioning Measures; the item "overall happiness with family life" was removed from the total scale in running the correlation with overall happiness with family life

[b] Family functioning measure

[c] Marital functioning measure

[d] Medical outcomes study-social support survey

[e] Trait anxiety inventory

stability of the C–MOS–FMFM over a 4-week period. The ICC for the FFM was 0.62 and 0.61 for respective subgroups fathers and mothers, with an overall ICC of 0.61 for the total sample. The ICC for the MFM was 0.69 and 0.66 for respective subgroups fathers and mothers, with an overall ICC of 0.68 for the total sample (Table 3). The findings showed fair stability of both subscales over a 4-week period.

Construct Validity

Correlations of FFM and MFM with Overall Happiness with Family Life

The FFM ($r = 0.74$, $P < 0.01$) and the MFM scores ($r = 0.44$, $P < 0.01$) correlated positively with overall happiness with family life in the total sample. Subgroups of

fathers and mothers also yielded similar results, which supported the construct validity of the C–MOS–FMFM (Table 4).

Correlations of the C–MOS–FMFM with MOS–SSS and STAI-T

The C–MOS–FMFM score correlated positively with MOS–SSS ($r = 0.38$, $P < 0.01$) and negatively with STAI-T ($r = -0.48$, $P < 0.01$). Both subgroups of fathers and mothers also yielded similar results, which supported the construct validity of the C–MOS–FMFM (Table 4).

Correlations of the C–MOS–FMFM Between the Childbearing Couples

The intraclass correlation between the couples' C–MOS–FMFM total score was 0.53 ($P < 0.001$) and 0.45 ($P < 0.001$) and 0.35 ($P < 0.001$), respectively for the FFM and the MFM scores, indicating a significant positive agreement.

Discussion

Findings from the psychometric testing demonstrate that the C–MOS–FMFM is a valid and reliable tool for the assessment of satisfaction with family and marital functioning in Chinese childbearing families. The total scale and the FFM subscale are internally consistent and fairly stable over time among the couples as well as the subgroups of fathers and mothers. Cronbach's α for the MFM subscale exceeds the criteria of 0.7 in the subgroup of mothers, but just below the recommended criteria in the subgroup of fathers. Both the FFM and MFM subscales are correlated strongly with the total scale, indicating a satisfactory degree of homogeneity.

Factor analysis reveals a three-factor structure of the C–MOS–FMFM reflecting the dimensions of the FFM (factor 1) and the MFM (factor 2 and 3). The positively worded items from the MFM loaded onto factor 2 reflecting intimate relationship, while negatively worded items loaded onto factor 3 reflecting conflicting relationship, suggesting that these factors represent complementary aspects of marital functioning. The results are similar to the three-factor structure identified by Thumboo et al. (2000) validating the C-MOS–FMFM among Chinese-speaking patients in Singapore. Thumboo et al. (2000) suggested that the two factors corresponding to the MFM may be merged into a common factor based on the principle of parsimony. However, other researchers suggested the possibility of separate positive and negative dimensions of marital quality (Cladis et al. 2009; Fincham and Linfield 1997; Mattson et al. 2007). The moderate correlation between the two factors suggests that they may be conceptually distinct but related dimensions representing couples' evaluations of the intimacy and conflict aspects of their marital relationship. These two aspects have consistently been identified as essential components in previous measures of marital functioning, such as the Personal Relationship Scale (Braiker and Kelley 1979) and the Partnership Questionnaire (Hahlweg et al. 1984).

As predicted, the C–MOS–FMFM is correlated positively with MOS-SSS and correlated negatively with STAI-T, providing evidence that supports the construct validity of the C–MOS–FMFM. The positive relationship between the C–MOS–FMFM and social support is consistent with the findings in previous studies (Salmela-Aro et al. 2010; Surkan et al. 2009; Thumboo et al. 1999), suggesting that the availability of support in the couples' social network contributes to their satisfaction with family life and marital relationship. In the Chinese society, women generally receive a lot of attention and care from family and friends once they become pregnant. This may be due to the Chinese tradition where family members have a moral duty to care for the vulnerable members and the traditional beliefs of 'foetal education' which emphasizes on the importance of maintaining positive moods and healthy lifestyle such as eating nutritiously and having adequate rest on fetal growth (Kartchner and Callisster 2003). It is possible that the strong sense of interdependence among family members and support from friends help enhance couples' satisfaction with family life and marital relationship during the transition to parenthood.

The negative relationship between the C–MOS–FMFM and anxiety is in accordance with the findings in previous studies (Lee et al. 2007; Thumboo et al. 1999, 2000), suggesting that couples who are less satisfied with their family life and marital relationship are more likely to experience negative emotion and anxiety during the transition to parenthood. The results highlight the importance of the quality of family and marital functioning in facilitating parental adaptation and reducing the risk of psychological distress during the parental transition.

The findings of substantial correlations between satisfaction with family life and marital functioning and overall happiness with family life are consistent with previous studies (Sherbourne and Kamberg 1992; Thumboo et al. 1999, 2000), suggesting that satisfaction with family life and marital functioning are important indicators of a happy family life. It is possible that childbearing couples who are more satisfied with their family life and marital relationship are more likely to provide nurturing conditions and support to each other, thus, experiencing more happiness with their family life during the parental transition. The results provide further evidence that support the construct validity of the C–MOS–FMFM among Chinese childbearing families.

The strength of this study includes a large sample size, fulfilling the requirement of 10 participants per parameter estimate for factor analysis. However, generalization of the result is limited to the middle-class Chinese childbearing families. Further study is recommended to validate the C–MOS–FMFM in families undergoing different developmental and socio-cultural transitions such as aging, retirement and migration.

The C–MOS–FMFM shows great promise for use as a two-dimensional measure of satisfaction with family life and marital functioning among Chinese childbearing couples. Healthcare professionals could use the C–MOS–FMFM in the clinical context for evaluating and understanding the quality of family and marital functioning in the Hong Kong Chinese population. Furthermore, the C–MOS–FMFM provides healthcare professionals with a useful tool for the design and evaluation of culturally appropriate interventions on childbearing families. Such interventions should foster the development of a cohesive and adaptable family system, which are critical for successful adaptation during the transition to parenthood.

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