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## Validation of the Interpersonal Mindfulness in Parenting Scale in Chinese Parents

### Introduction

Although there are some shared values and attitudes that parents possess and adopt to socialize their children with, such as love and warmth, how they perform and communicate these to their children varies in different cultures (Darling & Steinberg, 1993; Lo, Kwok, Yeung, Low, & Tam, 2017; Yeung, 2016; Yeung, Chen, Lo, & Choi, 2017). For instance, in China, it has been widely acknowledged that “guan” (to govern) and “xun” (training) are indigenous practices of traditional Chinese parenting (Chao, 1994). Confucianism provides a philosophical basis and structure for traditional Chinese parenting practice. Chinese parents expect children to be obedient and respectful and parents are expected to be responsible and serve as a life coach who passes along social norms, values, and life experiences to children (Ho, 2000). In China, child behaviors are expected to be regulated within well-defined duties, obligations, and rules, and as such, less personal space is allowed for avoiding interpersonal conflict (Shek & Sun, 2014).

While Chinese families across the world are still largely influenced by these traditional parenting practices, a Western, child-centered approach has gradually been infused in contemporary in child rearing, particularly among more highly educated Chinese populations (Xu, Zhang & Hee, 2014). Recent studies report that Chinese families do not endorse harsh parenting, and show high levels of warmth and engagement in training their children, which includes using a mixture of control, support, care, and concern (Shek & Sun, 2014; Xu et al., 2005). In light of these changes in parenting practices and beliefs, it has not been determined if parenting measures developed in Western contexts are appropriate for use in Chinese culture (Shek & Sun, 2014).

Mindful parenting (MP) is an emerging concept that refers to parenting in which practices and principles of mindfulness are integrated into parents' thoughts, feelings, and behaviors. In particular, attitudes of compassion, acceptance, and kindness are emphasized in interactions with children (Bogels & Restifo, 2015; Duncan et al., 2009; Kabat-Zinn & Kabat-Zinn, 1997). Although it is possible to use behavioral observation to assess MP (Duncan et al., 2015), it is more common and convenient to use self-reported measure in this area of study. Duncan (2007) developed a brief 10-item self-report measure of mindful parenting, that was expanded to encompass five theorized dimensions of MP (Duncan et al., 2009) in the construction of a 31-item Interpersonal Mindfulness in Parenting (IM-P) scale: 1) listening with full attention to the child; 2) non-judgmental acceptance of the self and the child; 3) emotional awareness of the self and the child; 4) self-regulation in the parenting relationship; and 5) compassion for the self and the child. The IM-P has been shown to be sensitive to intervention change (Coatsworth et al., 2010; 2015).

The psychometric properties of the 31-item IM-P were studied in two published studies recently. The first one was based on three samples of 1177 mothers in the Netherlands (de Bruin et al., 2014). It was found that 29 items of the IM-P formed a six-factor structure, with emotional awareness of child, and emotional awareness of oneself as a parent separating into two distinct factors. Later a second study was conducted on three samples of 860 Portuguese parents (Moreira & Canavarro, 2017). 29 items of IM-P formed a five-factor structure, and the emotional awareness of self did not form a separate factor. Such findings suggested that more empirical studies are required to further investigate the measurement of MP.

Further research on MP using the brief IM-P has shown, that MP is negatively correlated with parental depression, child internalizing problems, and child externalizing problems, but not with observed positive or negative parenting (Parent et al., 2010). Another study found an indirect

but significant effect between MP and adolescent substance use. It has also been suggested that MP might be helpful in promoting positive interactions within the family context (Turpyn & Chaplin, 2015) and that it is related to youth disclosure that supports parental monitoring (Lippold, et al., 2015). A model of MP and youth psychopathology was tested in which parent dispositional mindfulness was indirectly related to youth internalizing and externalizing problems, through negative parenting practices and MP (Parent, McKee, Rough, & Forehand, 2015).

Other studies used the full, extended version of the IM-P. A study of 28 parents of children diagnosed with Autistic Spectrum Disorder (ASD) found that higher levels of MP were associated with lower depressive symptoms and stress. Although MP did not mediate the relation between behavioral problems and parental distress, an important role for the dimension of self-compassion in parenting was demonstrated (Beer, Ward, & Moar, 2013). Finally, a study of sample of 901 adolescents and their parents investigated the relationship between MP and adolescent's internalizing symptoms. Among all dimensions of MP, it was found the non-judgmental acceptance factor was the sole statistically significant predictor (Geurtzen, Scholte, Engles, Tak, & van Zundert, 2014).

Mindfulness-based intervention research with families is growing. A pilot randomized controlled trial (RCT) with 65 families comparing the outcome of Mindfulness-enhanced Strengthening Families Program: For Parents and Youth (MSFP), the original Strengthening Families Program: For Parents and Youth (SFP), and the waitlist control group. MP was found to be the mediator of beneficial MSFP program effects on outcomes of discipline consistency, anger management, and mother's negative affect and behavior towards youth (Coatsworth, Duncan, Greenberg, & Nix, 2010). Another mindful parenting program was delivered to 29 parents and their children with autism spectrum disorder (ASD). MP significantly increased at post-test and follow-up (de Bruin,

Blom, Smit, van Steensel, & Bögels, 2014). In another, quasi-experimental study conducted to investigate the effects of a mindful parenting program in a psychiatric population ( $N = 70$  parents), a significant improvement in parent interpersonal mindfulness was found and it predicted improvements in child psychopathology (Meppelink, de Bruin, Wanders-Mulder, Vennik & Bogels, 2016). However, not all studies of MP reported similarly straight-forward results. A large-scale RCT involving 432 families compared MSFP, SFP, and an information-only control condition. Fathers from MSFP reported higher emotional awareness of the child, more compassion and acceptance for their children and themselves, and better listening with full attention than fathers did in the SFP. Mothers from MSFP showed greater support and understanding than mothers from SFP, as reported by youth. However, similar increases in MP were found among mothers from the SFP but were not found in mothers from the MSFP, suggesting greater benefits for fathers on MP (Coatsworth et al., 2015).

For MP to be studied across different cultural contexts, the measurement of MP must be validated in different languages. In addition, more work is needed to refine the construct and measurement of mindful parenting. First, the hypothesized sub-dimensions of MP warrant more empirical investigation as there has been only one published validation study of the IM-P in the Netherlands. More studies are required to investigate if this parenting measure that was developed in the English language in the United States is valid for Chinese populations. Second, mindfulness practices originated from Eastern religious traditions, but none of the studies noted are based on Asian populations. Conceptualizations of “good” parenting are largely related to culturally-specific socialization processes (Bornstein, 2012) and it is uncertain that a MP approach constructed by Western researchers can be used to assess parenting practice in the East. Third, most studies assessing MP are based on samples of adolescent’s parent, except Geurtzen et al. (2014) and

Laurent et al. (2017). In the latter's study, mothers with higher level of MP showed steeper cortisol recovery slopes and MP moderated the effects of life stress on mother and infant cortisol levels (Laurent et al., 2017). More research should be conducted on MP across the family life cycle.

In this study, we assessed the psychometric properties of the Chinese translation of the IM-P self-report scale among Hong Kong Chinese parents. The overall reliability and validity of the scale, and factor structure was investigated using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). We also validated the measure in relation to a variety of relevant constructs. We hypothesized that the IM-P would be positively related with parental dispositional mindfulness, happiness, and family functioning, and negatively associated with parental stress, depression, and child behavioral problem.

## **Method**

### **Participants**

This study was based on a sample of 837 parent participants of preschool, primary school, or secondary school children that were pooled by three individual samples. All participants were recruited with the help of five non-governmental organizations (NGOs), primary and secondary schools respectively. A cover letter, a consent form, and the questionnaire were distributed to parents. An inclusion criterion for this study was that all participants were required to have at least one child who was living with them at the time of questionnaire completion. Parents participated on a voluntary basis without incentive payment. They were asked to return the completed questionnaires and consent form in two separate envelopes to assure anonymity.

Sample 1 included parents of preschool children ( $n = 394$ ) who were requested to fill the full 31-item version of the IM-P (Duncan, 2007), the Eyberg Child Behaviour Inventory (ECBI; Eyberg & Ross, 1978), the Parenting Stress Index Short Form (PSI-SF; Abidin 1990), the Intrinsic Religious Orientation subscale of the Religious Orientation Scale-Revised (ROS-R; Gorsuch and McPherson, 1989), and the Brief Measure of Religious Coping (PRCOPE; Pargament et al., 1998). Sample 2 included parents of primary school children ( $n = 242$ ) and a questionnaire with the full version of the IM-P, the Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003), and the 12-item General Health Questionnaire (GHQ-12; Golderberg & Williams, 1988) were given to these parents. Sample 3 included parents of secondary school children ( $n = 201$ ) and they completed the full version of the IM-P, the Family Adaptation, Partnership, Growth, Affection, Resolve Scale (APGAR; Smilkstein, Ashworth, & Montano, 1982), the Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999), and the 12-Item Short Form Health Survey (SF-12; Ware, Kosinski & Keller, 1996).

Among the grand sample of 837 parent participants, the majority (82.3%) were mothers. Most of them (90.6%) were married and above half (53.0%) had a full time job. Over three quarters (78.5%) attained an education level of secondary school or above. The mean age of their children was 7.59 ( $SD = 3.85$ ). Participant demographics are shown in Table 1.

Two independent samples, sample A and B, were drawn by a random sampling procedure in SPSS 21 with a normal distribution with zero mean and a standard deviation of one. Sample A, which consists of 50% of the grand sample ( $n = 419$ ), was used for Exploratory Factor Analysis (EFA); and Sample B, which consist of the second half of the grand sample ( $n = 418$ ), was used for Confirmatory Factor Analysis (CFA) subsequently.

## Procedures

The Chinese version of the IM-P Scale was created with the permission of the original author of the IM-P Dr. L. Duncan, and translated from English-language version by a clinical psychologist with a Doctoral degree in psychology and an extensive personal practice of mindfulness meditation. The first draft was revised through a consensus process conducted by the first, second, and the sixth authors. A back translation check was done by a research assistant who had an undergraduate degree in psychology and was endorsed by the author of the original English-language version.

This study was approved by the university research office ethics committee of the first author.

## Measures

*Eyberg Child Behaviour Inventory (ECBI)*. This is a widely used 36-item scale used to assess parent perception of disruptive behavior of their children. The ECBI has two sub-scores: a 'Problem Score' measuring the extent to which parents are troubled by their children's disruptive behaviours (scored dichotomously as 0 or 1), and an 'Intensity Score' assessing parents' ratings of the intensity of various problem behaviors on a 7-point scale. The Chinese version has been validated for use with Hong Kong Chinese parents by Leung et al. (2003). In this present study, the inter-coefficients were .93 for 'Problem Score' and .93 for 'Intensity score'.

*Parenting Stress Index Short Form (PSI-SF)*. This 36-item inventory was developed by Abidin (1990) to assess the perceived sources of difficulties and levels of parenting stress experienced by parents using 5-point response scale. It has three sub-scales: parental distress, parental-child dysfunctional interaction, and difficult child. The Hong Kong Chinese version was validated by Lam (1999). The Cronbach's alphas were .93 for the total score, and .89, .80, .90 for three sub-scales respectively in this study.

*Mindful Attention Awareness Scale (MAAS)*. This 15-item inventory was developed by Brown and Ryan (2003) to assess the core characteristic of mindfulness, which was a receptive state of mind, informed by sensitive awareness of the present moment using 6-point response scale. The Chinese version was validated by Black et al. (2012) and Deng et al. (2012). The Cronbach's alpha was .90 in this study.

*12-item General Health Questionnaire (GHQ-12)*. This 12-item inventory was developed by Golderberg and Williams (1988) to assess participants' general mental health through identifying minor psychiatric symptoms using 4-point response scale. The Chinese version was validated by Shek (1989). The Cronbach's alpha was .88 in this study.

*Family Adaptation, Partnership, Growth, Affection, Resolve Scale (APGAR)*. This 5-item inventory was developed by Smilkstein, Ashworth and Montano (1982) to assess participants' satisfaction of family functions using 3-point response scale. The Cronbach's alpha was .84 in this study.

*Subjective Happiness Scale (SHS)*. This 4-item inventory was developed by Lyubomirsky and Lepper (1999) to assess participants' subjective happiness using 7-point response scale. The Chinese version was validated by Nan et al., 2014. The Cronbach's alpha was .74 in current study.

*12-Item Short Form Health Survey (SF-12)*. This 12-item inventory was developed by Ware, Kosinski and Keller (1996) to assess participants' mental health and physical health. The Cronbach's alpha was .75 in current study.

*Intrinsic Religious Orientation subscale of the Religious Orientation Scale-Revised (ROS-R)*. This subscale consisted of 8 items and measured participant's intrinsic religiosity (Gorsuch and McPherson, 1989). *Brief Measure of Religious Coping (Brief PRCOPE)*. This 7-item measure



investigated participant's positive religious coping (Pargament et al., 1998). Both ROS-R and PRCOPE were selected to explore whether these variables of parental religious involvement overlaps with MP. They had been used in a study of family religiosity for Chinese (Yeung & Chan, 2013). The Cronbach's alpha of the ROS-R and PRCOPE were 0.88 and 0.90 in this study.

#### Data analyses

A two-stage factor analysis approach was adopted to examine the factor structure of the Chinese version of IM-P. Based on sample A, parallel analysis (PA) was conducted to determine the number of factors. SPSS syntax developed by O'Connor (2000) was used to calculate the mean and the 95th percentile for each of the eigenvalues of 100 randomly generated data sets. The number that real-data eigenvalues from a principal component analysis (PCA) exceeded random data eigenvalues was the criterion to determine the number of factors to be extracted. EFA by maximum likelihood was then performed, in which Promax rotation was applied to let the extracted factors be correlated with each other, as theoretically, factors of a latent construct should ideally be interrelated. The use of maximum likelihood for factor extraction is preferable to principal components analysis, as the former can estimate weights for the variable items on factors to maximize the probability of having sampled the correlation matrix from a multivariate normally distributed population than the latter approach.

Sample B was used to perform CFA in order to further validate the identified factor structure from the EFA. Modification index analyses were used to manage cross-loading and improve the model. All data analyses were performed by SPSS 22.0. Cronbach's alphas were computed to determine the internal consistency of the Chinese version of IM-P. Convergent and divergent validity were further examined by calculating the inter-correlations of mindfulness, parental stress,

family functioning, child behavior problem, happiness, depression, psychiatric well-being, mental health and physical health, and parental religious involvement.

## Results

### Factor Structure of Chinese version of IM-P

To decide on the number of factors, a PA was conducted. The results was shown in Table 2 and a four factor model was suggested. Four eigenvalues of the real dataset exceeded random values, so a four-factor EFA was followed. EFA by maximum likelihood was then performed, in which Promax rotation was applied.

Table 3 shows the four factor-solution of the scale. Items 3, 4, 5, 6, 7, 10, 12, and 15 were excluded due to low inter-item reliability and double loading. Results of this 23-item, 4-factor EFA explained 41.72% of the variance. In addition, both a high Kaiser-Meyer-Olkin value,  $KMO = .89$ , and significant Bartlett's test,  $X^2 = 3177.72, p < .001$ , suggested sampling and correlation adequacy for the factoring procedure. Seven items loaded significantly on the first factor, which involved all items of the Compassion for Child subscale in the Dutch validation study, so our first factor was named Compassion for Child (CC). Six items loaded on the second factor, which involved all items of Emotional Awareness of Self in the Dutch study, so our second factor was named Emotional Awareness in Parenting (EAP). In addition, six items loaded on the third factor, which significantly overlapped with items of Non-judgmental Acceptance of Parental Functioning in the Dutch study, so our second factor was named Nonjudgmental Acceptance in Parenting (NJAP). Finally, four items loaded significantly on the fourth factor, which were almost identical with items

from the Listening with Full Attention subscale in the Dutch study, and therefore the term Listening with Full Awareness (LFA) was used.

Subsequently, a CFA was conducted to verify the psychometric properties of the newly generated IMP scale in this sample of Chinese parents. The initial CFA model with all items loading on their respective latent factor obtained in EPA analysis showed a less optimal data-model fit,  $X^2 = 460.17$ ,  $df = 224$ ,  $p < .001$ ,  $GFI = .91$ ,  $CFI = .92$ ,  $RMSEA = .05$  (Model 1 in Table 4). Modification Index (MI) analyses indicated setting free the covariances between residuals of items 17 and 23, items 22 and 30, and items 27 and 28. This residual-covariance model (Model 2) attained a good data-model fit,  $X^2 = 402.63$ ,  $df = 221$ ,  $p < .001$ ,  $GFI = .92$ ,  $CFI = .94$ ,  $RMSEA = .04$ , in which model comparison supported rejection of model 1 in favor of model 2. Figure 1 shows the results of model 2 as our final best fit CFA model.

#### Construct Validity of Chinese version of IM-P

Table 5 shows the correlation coefficients of the total score and four factors of the Chinese version of the IM-P with other variables. As expected, the IM-P total score and the four factors were positively correlated with general dispositional mindfulness as measured with the MAAS (Total Score:  $r = .59$ ,  $p < .001$ ; CC:  $r = .37$ ,  $p < .001$ ; NJAP:  $r = .59$ ,  $p < .001$ ; EAP:  $r = .26$ ,  $p < .001$ ; LFA:  $r = .55$ ,  $p < .001$ ), family functioning (Total Score:  $r = .40$ ,  $p < .01$ ; NJAP:  $r = .37$ ,  $p < .01$ ; EAP:  $r = .39$ ,  $p < .01$ ; LFA:  $r = .28$ ,  $p < .05$ ), subjective happiness (Total Score:  $r = .51$ ,  $p < .001$ ; CC:  $r = .27$ ,  $p < .05$ ; NJAP:  $r = .53$ ,  $p < .001$ ; EAP:  $r = .40$ ,  $p < .01$ ; LFA:  $r = .28$ ,  $p < .05$ ), psychiatric well-being (Total Score:  $r = .54$ ,  $p < .001$ ; CC:  $r = .27$ ,  $p < .001$ ; NJAP:  $r = .57$ ,  $p < .001$ ; EAP:  $r = .28$ ,  $p < .001$ ; LFA:  $r = .40$ ,  $p < .001$ ), mental health (Total Score:  $r = .53$ ,  $p < .001$ ; CC:  $r = .30$ ,  $p < .05$ ; NJAP:  $r = .57$ ,  $p < .001$ ; EAP:  $r = .34$ ,  $p < .01$ ; LFA:  $r = .42$ ,  $p > .01$ ).

IM-P was low correlations with physical health (Total Score:  $r = -.03, p > .05$ ; CC:  $r = -.14, p < .05$ ; NJAP:  $r = .07, p > .05$ ; EAP:  $r = .00, p > .05$ ; LFA:  $r = -.03, p > .05$ ), intrinsic religious orientation (Total Score:  $r = .22, p < .01$ ; CC:  $r = .20, p < .01$ ; NJAP:  $r = .09, p > .05$ ; EAP:  $r = .27, p < .01$ ; LFA:  $r = .07, p > .05$ ), and positive religious coping (Total Score:  $r = .12, p > .05$ ; CC:  $r = .18, p > .05$ ; NJAP:  $r = -.01, p > .05$ ; EAP:  $r = .18, p > .05$ ; LFA:  $r = -.06, p > .05$ ).

In order to test predictive validity of the IM-P, regression analyses were conducted. Table 6 shows that, after controlling for child age, parent age, gender, and marital status, the IM-P total score and four factors negatively predicted parental stress total score (Total Score:  $\beta = -1.08, p < .001$ ; CC:  $\beta = -1.28, p < .001$ ; NJAP:  $\beta = -2.38, p < .001$ ; EAP:  $\beta = -1.66, p < .001$ ; LFA:  $\beta = -2.82, p < .001$ ), parental distress (Total Score:  $\beta = -.41, p < .001$ ; CC:  $\beta = 2.45, p < .001$ ; NJAP:  $\beta = 2.23, p < .001$ ; EAP:  $\beta = -1.92, p < .01$ ; LFA:  $\beta = -1.11, p < .05$ ), stress from parent-child dysfunctional interaction (Total Score:  $\beta = -.35, p < .001$ ; CC:  $\beta = 1.31, p < .01$ ; NJAP:  $\beta = .88, p < .05$ ; LFA:  $\beta = -1.21, p < .05$ ; but not EAP:  $p > .05$ ), and stress from perceiving the child as difficult (Total Score:  $\beta = -.32, p < .001$ ; CC:  $\beta = 1.64, p < .01$ ; NJAP:  $\beta = 1.89, p < .001$ ; EAP:  $\beta = -1.31, p < .05$ ; LFA:  $\beta = -1.21, p < .05$ ). In addition, the IM-P total score and the factors significantly predicted family functioning (Total Score:  $\beta = .10, p < .01$ ; NJAP:  $\beta = .25, p < .01$ ; EAP:  $\beta = .26, p < .01$ ; but not CC nor LFA:  $p > .05$ ), child behavioral problems (Total Score:  $\beta = -.27, p < .001$ ; CC:  $\beta = -.31, p < .05$ ; NJAP:  $\beta = -.64, p < .001$ ; EAP:  $\beta = -.38, p < .05$ ; LFA:  $\beta = -.98, p < .001$ ) and their intensity (Total Score:  $\beta = -.94, p < .001$ ; CC:  $\beta = -.88, p < .05$ ; NJAP:  $\beta = -2.47, p < .001$ ; LFA:  $\beta = -3.72, p < .001$ ; but not EAP:  $p > .05$ ). The IM-P total score and the factors significantly predicted intrinsic religious orientation (Total Score:  $\beta = .12, p < .01$ ; CC:  $\beta = .26, p < .01$ ; EAP:  $\beta = .40, p < .001$ ; but not NJAP nor LFA:  $p > .05$ ), and some IMP factors were significantly predictive of positive religious coping (CC:  $\beta = .35, p < .01$ ; EAP:  $\beta = .38, p < .05$ ; but not Total Score, NJAP nor LFA:  $p > .05$ ).

Furthermore, we conducted multiple indicators multiple causes (MIMIC) modeling to see stability and effects of covariates on stability. MIMIC includes both a measurement model (as our established CFA model) and a structural model with theoretically relevant covariates. The covariates in our MIMIC model include parent gender, age, and marital status. The MIMIC model obtained a good fit,  $\chi^2 = 826.38$ ,  $df = 281$ ,  $p < .001$ ,  $GFI = .93$ ,  $CFI = .91$ ,  $RMSEA = .05$ , showed in Figure 1. Results showed that older parental age was significantly related to higher CC ( $\beta = .11$ ,  $p < .01$ ), NJAP ( $\beta = .05$ ), and EAP ( $\beta = .12$ ,  $p < .001$ ). Male parents had significantly higher NJAP ( $\beta = .16$ ,  $p < .05$ ) and marital status predicted EAP ( $\beta = .15$ ,  $p < .01$ ).

#### Reliability of the 23 item Chinese version of the IM-P

Table 7 includes the mean scores of the Chinese version of the IM-P items, and their total scores. Overall, internal consistency based on 23 items was 0.85 and those of four subscales are 0.70 to 0.84. Item level tests were conducted to assess the scale mean and variance if an item was deleted, corrected item-total correlations and Cronbach's alpha if item deleted. These results suggest that all items performed well, with no significant improvements in reliability associated with deleting any single individual item.

#### Discussion

We examined the psychometric properties of the Hong Kong Chinese version of IM-P scale. Internal consistency, the factor structure of the measure, convergent validity, and the suitability as

an outcome measure were reported. It was found that the IM-P had acceptable internal consistency. When the factor structure was explored, four factors emerged, which differed somewhat from the originally hypothesized dimensions of the IM-P from the U.S. (Duncan, 2007) and the results from two validation studies (de Bruin et al., 2014; Moreira & Canavarro, 2017). This may reflect that parenting behavior and meaning are embedded in culture, like many topics in cross cultural studies (Bornstein, 2012). Researchers interested in studying mindfulness in the context of parenting and families should adopt Western concepts and measures with necessary cultural adaptations. In this study, we found initial support for the validity of the IM-P in studying Chinese parents. More studies should be conducted to understand the possible application of mindfulness in the context of parenting and families in Chinese culture. As family practitioners and researchers have started to develop interest in applying mindfulness-based interventions for Chinese families, the Chinese version of the IM-P may also be used in evaluating program effects

It was interesting to note that emotional awareness of self and emotional awareness of child did not emerge as distinctive factors in the Chinese versions of the IM-P scale. This may reflect a unique emotional coping style specific to Chinese parents in comparison to other cultural groups. In general, it has been consistently found that rumination and suppression are commonly used to cope with emotional ambivalence among Chinese (Chen, Cheung, Bond & Leung, 2005). Emotional expression is determined more by authority and role relationships than individual feelings (Ho, Fu, & Ng, 2004) and it is commonly acceptable for Chinese parents to teach their children emotional management with suppression, especially in front of people with higher authority and in social contexts.

As such, the concept of mindfulness may have special relevance in the struggles of Chinese parents, who faces dilemmas between concerns about children's fulfillment of duties, obligations,

and rules endorsed by traditional Chinese culture on one hand, and the development of independent and self-determined characters (Sun, 2013). Strict parental control are common among Chinese families and provision of personal space for children has not been placed in the priority in Chinese parenting (Shek & Sun, 2014). It is likely that Chinese parents may experience a unique experience of stress arising from raising their children and mindfulness may be useful both in regulating their difficulties, and provide benefit for supporting their children with more flexibility in response to daily challenges.

In last few decades, mindfulness-based intervention has developed its relative strong evidence-base in health care and mental health issues, such as cancer and other chronic medical conditions, depression (Kabat-Zinn, 2013; Segal, Williams, and Teasdale, 2012). More recently, scholars have begun applying mindfulness-based intervention with the aim of reducing the stress of Chinese parents and caregivers (Hou et al., 2014; Lo, Chan, Szeto, Chan, & Choi, in press; Lo et al., in press). It signified that one future direction for mindfulness research is to expand its relevance from an individual level to an interpersonal level and thus a model of mindful relating has been proposed to address the needs of family life (Gehart, 2012). From a mindfulness perspective, parenting is grounded on a model of mindful relating processes, that would be a balance between relational processes and personal processes. While relational processes involves being emotionally presence and available to the other, experiencing and expressing compassion for and acceptance of the other, personal processes includes self-regulation of one's own emotions, and practicing self-acceptance for the self.

## Limitations

This study has several limitations. First, the research findings are based on convenience samples of parents in Hong Kong who do not represent the overall Chinese population. Future studies should test the IM-P in mainland China, Taiwan, and other Chinese communities in the diaspora so as to verify if this scale is suitable for other Chinese communities outside of Hong Kong. Second, all data were collected using self-reported measures and thus social desirability/self-presentation bias may become a concern. Further studies should link the Chinese version of the IM-P with other observational methods, such as was done with the English-language version of the IM-P in the U.S. (Duncan et al., 2015), or combine or compare rating from multiple family members, for examples, the ratings of children and spouse for cross validation.

In conclusion, the present study offers the translation and initial validation of the Hong Kong Chinese version of the IM-P for the assessment of mindful parenting. The scale has good psychometric properties and has been demonstrated to be a valid measure. It was found to have moderate positive correlations with parent dispositional mindfulness, happiness, mental health, moderate negative correlations with parental depression and stress, and child behavioral problem, and no correlations with physical health and positive religious coping. The scale is recommended for use in studies of mindful parenting, and may be used as an outcome measure in studies of mindful parenting intervention programs for Chinese populations.

### **Compliance with Ethical Standards**

This study was approved by the City University of Hong Kong Research Office Ethics Committee.



## **Informed Consent Statement**

Written consent was obtained from all individual participants.

## **Declaration of conflicting interests**

The authors declared no potential conflicts of interest with respect to the research, authorship, and publication of this article.

## **Author Contributions**

LHHM: designed and executive the study, and wrote the paper. YJWK: assisted in designing the study, analyzed the data, and wrote the section of results of the paper. DLG: offered advice on the translation, endorsed the final version of the translation, and assisted in editing of the paper. MA: collaborated in the data collection for sample 2. SAFY: collaborated in the data collection for sample 2. CSKC: assisted in scale translation and collaborated in the data collection for sample 1. CCW: assisted in data analyses. SMP: collaborated in the data collection for sample 1. CKKW: offered advice and assisted in data analyses. NSM: offered advice on study design and proofread the paper.

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