## ORIGINAL PAPER



# Mindfulness and Parenting: A Correlational Study of Nonmeditating Mothers of Preschool Children

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**Abstract** Increasing evidence supports the relevance of mindfulness in parenting. We analyzed the relation between mindfulness and parenting variables in mothers that were not practicing meditation. Sixty-two mothers of preschool children completed self-report questionnaires that measured mindfulness, mindful parenting, and relevant mother's variables: parental stress, general stress, anxiety, and depression. As hypothesized, there was a significant positive correlation between mindfulness and mindful parenting, and a significant negative correlation among mindfulness and parental stress, depression, anxiety, and general stress. There was also a significant negative correlation between mindful parenting and parental stress, depression, and general stress, but not anxiety. Mindfulness was more strongly and consistently related to more general aspects of mother's mental health, while mindful parenting more strongly and consistently related to aspects of stress specific to their role as a mother, parent-child interactions and perceptions about their child. Through multiple regressions, we also explored which aspects of mindfulness and mindful parenting would predict lower levels of parental stress, depression, anxiety, and general stress. Mindful abilities of being non-judgmental about herself as a person and as a mother appeared as main predictive variables. These results suggest interventions that aim to reduce mothers' levels of depressive, anxious and stressrelated symptoms (general and specific to parenting) should focus on cultivating acceptance and non-judgment of experiences during daily activities, and specifically during mother-child interactions.

**Keywords** Mindfulness · Parenting · Parental stress · DASS-21 · Preschool children

## Introduction

What is mindfulness, and why may it relate to parenting? Mindfulness has to do with particular qualities of attention and consciousness that may be cultivated through meditation (Baer 2003). It has been defined as a state of attention to present events and experiences, not mediated by speech or cognitive discerning (Brown et al. 2007a; Grossman et al. 2004), and characterized by being open, receptive, and free of judgment (Bishop et al. 2004). An operational definition of mindfulness proposed by Kabat-Zinn (2003) is "the consciousness that emerges from intentionally directing attention to the present moment, without judging the experience that unfolds moment to moment." Several empirical studies support that cultivating mindfulness reduces stress, anxiety, and depression (Baer 2003; Brown et al. 2007b; Grossman et al. 2004; Hoffman et al. 2010; Vollestad et al. 2012).

Evidence supporting the relevance of mindfulness in parenting is increasing (e.g., Altmaier and Maloney 2007; Bögels et al. 2008, 2013; Coatsworth et al. 2010; Coatsworth et al. 2015; Dawe and Harnett 2007; Duncan and Bardacke 2010; Pérez-Blasco et al. 2013; Singh et al. 2006, 2007, 2010a, b; Vieten and Astin 2008). Considering the negative effects of stress and depression in parenting, and therefore in child development, an intervention that successfully reduces these symptoms and improves a mother's mental health would be beneficial for both parents and their

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children. Several empirical studies have found relations between higher levels of parental stress and problems in parenting and family functioning. This includes less appropriate parent–child interactions, as well as dysfunctional parenting and child behavioral problems (Bonds et al. 2002; Creasey and Jarvis 1994; Sidebothan 2001). Stressed parents would tend to be more rejecting, more controlling and reactive, and less affectionate to their children (e.g., Belsky 1984; Webster-Stratton 1990). Studies also show that depression is correlated with lower maternal sensibility, which negatively affects mother–child interactions (Goodman and Gotlib 2002; Murray et al. 1993; Restifo and Bögels 2009; Stein et al. 1991).

It should be noted that mindfulness in parenting is considered more multifaceted than just stress reduction for parents. Kabat-Zinn and Kabat-Zinn (1997) defined mindful parenting as "paying attention to your child and your parenting in a particular way: intentionally, here and now, and non-judgmentally." Duncan et al. (2009) proposed a model of mindful parenting that included the following dimensions: listening with full attention, nonjudgmental acceptance of self and child, emotional awareness of self and child, selfregulation in the parenting relationship, and compassion for self and child. The authors stated that incorporating mindfulness into parenting would allow parents to stop and shift their awareness towards the present moment, thus being better able to self-regulate their emotions and make better moment-to-moment parenting decisions. In consequence, there would be less automatic negative interactions and better quality parent-child relations. Increasing mindfulness would ultimately allow parents to be more conscious of their actions, and adopt a nonjudgmental attitude towards themselves and their children. It can be suggested that parents who either have a natural mindful capacity, or have learned mindfulness practices, would have better relationships with their children and could more often avoid automatic maladaptive reactions.

This is especially relevant if we consider that parent-child interactions affect not only a child's immediate response and behavior, but also is crucial in the way the child's brain develops. Neuroscience research reveals that a child's brain physically changes according to its life experiences. This is called neuroplasticity and, as Siegel and Payne Bryson (2015) pointed out, it has enormous implications for parenting. The way parents interact with their children, in particular during moments of stress or conflicts, considerably affects the child's brain development. The authors stated that if repeated experiences change the actual physical structure of the brain, then it is essential for parents to be intentional, or we could say mindful, regarding the experiences they provide for their children.

Mindfulness practice is particularly relevant in the preschool years. At this age, due to a normal need of the child for autonomy, children usually present an increase of oppositionist behavior and frustration, often leading to temper tantrums (Milicic 1991). Also, the preschool child is expected to develop basic socialization skills, which usually include not having his or her desires fulfilled at will. Therefore, conflicts tend to arise more often around this developmental stage. During this stage, mindfulness practice would allow parents to be less stressed, to have less automatic reactions during the intense parent—child interactions, and to be a better model for the child to learn self-regulation. A child that is less judged, and more fully listened to, would thus probably be less exposed to frustrating situations. When they do arise, he or she would be better equipped to go through them.

Most studies regarding mindfulness and parenting assess the results of mindfulness-based interventions directed to parents. For example, in a randomized trial study, Coatsworth et al. (2010) found that adding mindfulness to an already empirically-validated parenting program improved mindful parenting variables and the quality of parent-child interaction. Furthermore, Dawe and Harnett (2007) studied the effect of mindfulness training for parents with drug addiction and found improved family functioning and reduced potential of child maltreatment. Singh et al. (2006, 2007, 2010b) found that mindfulness interventions resulted in higher parental satisfaction, lower levels of aggressiveness in children, and higher levels of child compliance. Parents of children with developmental delays reported higher levels of mindfulness, parental satisfaction, better social interaction with their children, and lower levels of parental stress (Singh et al. 2007). Van der Oord et al. (2012) evaluated the effectiveness of a mindfulness-based intervention for children with ADHD and their parents. In this study, they found reduced levels of parental stress, hyper-reactivity, and attention disorder, as well as increased mindfulness levels in the parents.

These kinds of studies provide substantial evidence regarding the effects of mindfulness-based programs for parents. Nevertheless, interventions are usually complex and include several factors intrinsic to their characteristics, making it difficult to be certain about what specific aspects generated the results. Was it mindfulness *per se?* Was it being listened to in the context of a group experience? Was it sharing experiences with others? Was it having a supportive and attentive teacher? Considering the complexity of intervention scenarios, it is also interesting to approach the study of mindful parenting by analyzing the relation among mindfulness as a "trait" and parenting variables.

Identifying relevant aspects associated with being more mindful provides further evidence regarding the importance of mindfulness, regardless of meditation practice. Studies have found that people who are naturally more mindful report feeling less stressed, anxious, or depressed,



and more happy, inspired, grateful, self-compassionate, and satisfied with life (Baer et al. 2006; Brown and Ryan 2003; Cardaciotto et al. 2008; Feldman et al. 2007; Ma 2008; Walach et al. 2006). Higher mindfulness has also been related to more awareness of self-emotions, self-acceptance, and a better ability to correct or repair unpleasant emotional states (Baer et al. 2008; Brown et al. 2007b; Feldman et al. 2007).

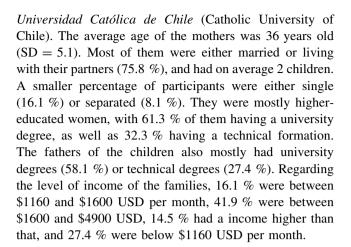
There are also some studies that assess the relation among mindfulness in parents and other parenting variables, without intervention. It has been found that higher levels of mindfulness are associated with lower levels of depressive symptoms in parents (Parent et al. 2010), higher levels of involvement in parental tasks and roles associated to child socialization (MacDonald and Hastings 2010), lower amounts of internalizing and externalizing behavior in their children (Parent et al. 2010; Williams and Wahler 2010), and authoritative parenting style (Williams and Wahler 2010). Bluth and Wahler (2011) found a significant negative correlation between levels of mindfulness in mothers and the amount of parenting effort they felt was required for parenting their preschool children. Both kinds of studies, those evaluating mindfulness associated with an intervention and those analyzing the relation among mindfulness and other variables without intervention, add evidence from different perspectives. This allows a broader picture of the role of mindfulness in parenting.

The purpose of the present study was to analyze the relation between mindfulness and variables considered relevant for the parent-child relation: parental stress, general stress, anxiety, and depression. The study also analyzes the relation between mindfulness and more specific mindful parenting variables: listening with full attention, selfregulation in the parenting relationship, non-judgmental acceptance of self, and empathy and acceptance for the child. We hypothesized that mindfulness and mindful parenting variables would relate positively among each other, and negatively with the other variables, -parental stress, general stress, anxiety, and depression. We also explored which aspects of mindfulness and mindful parenting would predict lower levels of parental stress and lower levels of depression, anxiety, and stress, as measured by the DASS-21 questionnaire. Finally, we also explored which aspects of mindfulness related specifically with mindful parenting.

# Method

## **Participants**

The participants of this study were 62 mothers of preschool children (2–5 years old) who worked at the *Pontificia* 



#### **Procedure**

The mothers were contacted through the university's preschool centers their child attended, either by e-mail, letter, or personally. The mothers were informed their participation was voluntary and confidential, and they signed a letter of consent. Then they were given the questionnaires, either on paper or by e-mail, and were asked to send it back to the preschool center in a closed envelope, or by e-mail.

#### Measures

Sociodemographic Questionnaire

The participants completed a questionnaire regarding contact and sociodemographic information, including the following aspects: date of birth, occupation, marital status, level of education, average level of income, number of children and their ages, level of education of the father of their preschool child, relationship of their preschool child with their father, and members of the family group (living in the same house).

## IM-P Scale

Self-report questionnaire in Likert scale, developed by Duncan (2007), which evaluates mindfulness in parenting; that is, the extension of mindfulness to the interpersonal domain of parent–child interactions. Scores range from 1 to 5. The original scale had five subscales. Listening with full attention refers to listening to your child with focused attention and awareness of experiences in the present moment; Emotional awareness of self and child refers to parents' ability to be aware of emotions within themselves as well as in their child; Self regulation in parenting relationship refers to parents becoming less reactive to their child's behavior and adopting a style of more calmly selecting a parenting style without necessarily reacting



immediately; Non-judgmental acceptance of self and child refers to the need for parents to become more aware of the (unconscious) expectations they often have of their parenting and their child's behavior and to gradually learn to adopt a more non-judgmental acceptance of both; and Compassion for self and child refers to developing a genuine stance of caring and compassion for the child, as well as for themselves as parents (Duncan et al. 2009). In the present study we used the Spanish-language version, which was adapted with a sample of mothers in Chile (Corthorn et al. 2015), which includes the following four subscales: Listening with full attention, Self regulation in parenting relationship, Non-judgmental acceptance of self as a mother, and Empathy and acceptance for the child.

Regarding internal consistency, reliabilities of this 27-item Chilean version of the IM-P were very good ( $\alpha=0.91$ ). Subscale reliabilities were good in general, with only one subscale having a lower, but still acceptable, Cronbach's alpha score ( $\alpha=0.75$  for Empathy and Acceptance for the Child) (Corthorn et al. 2015). Previous studies presented adequate reliability of the IM-P original scale and preliminary convergent and discriminant validity in relation to mindfulness and other parenting constructs was demonstrated (Coatsworth et al. 2010).

## Five-Facet Mindfulness Questionnaire (FFMQ)

The FFMQ is a 39-item measure that assesses five mindfulness domains (Baer et al. 2006). Scores range from 1 = Never or rarely true, to 5 = Very often or always true. Subscale Observing ( $\alpha = 0.78$ ) measures the tendency to notice or attend to internal and external experiences, such as emotions, cognitions, sights, and smells. Describing  $(\alpha = 0.90)$  measures the tendency to verbally describe and label these experiences. Acting with awareness ( $\alpha = 0.87$ ) refers to bringing full awareness to current activity or experiences. Non-judging ( $\alpha = 0.82$ ) refers to a non-evaluative stance toward inner experiences. Non-reacting  $(\alpha = 0.79)$  measures the tendency to allow thoughts and feelings to come and go, without getting carried away by them. Construct validity of FFMQ has been extensively assessed in meditating and non-meditating samples (Baer et al. 2006, 2008). In Chile, good reliability has been found for the general scale ( $\alpha = 0.91$ ). Scores range from 0.75 to 0.88 in Cronbach's Alpha for the five subscales (Solari 2010).

## Parenting Stress Index-Short Form

Self-report questionnaire, in Likert scale with scores ranging from 1 to 5, developed by Abidin (1995). It measures level of stress of parents or caregivers respect their parenting role. The abbreviated form used in this study included 36 items,

divided into three subscales. The Parental Distress (PD) subscale reflects a parent's perception of child-rearing competence, conflict with his or her spouse or partner, social support, and stresses associated with the restrictions placed on other life roles. The Parent-Child Dysfunctional Interaction (P-CDI) subscale assesses a parent's perception that the child does not meet expectations and that interactions with the child are not reinforcing. The Difficult Child (DC) subscale surveys the parent's view of the child's temperament, defiance, noncompliance, and demandingness. The sum of these subscales generates a final global score named Total Stress, which refers to the level of stress that the caregiver perceives regarding his/her role. Raw scores can be transformed into standardized percentiles that can be interpreted. Scores ranging between percentile 25 and 80 indicate a normal level of stress within the population, considered appropriate since it implies a minimal stress related to responding to other's needs. Scores below that range are considered low levels of stress and are not considered appropriate, since it may relate with careless behavior regarding their children. Scores above the normal range are considered high levels of stress, which are also inappropriate because it may obstruct normal functioning. Validity studies have been made in several cultures. Reliability was obtained in a sample of 800 American families with test-retest methodology. Coefficients obtained were .84 (total score), .85 (PD), .78 (DC), and .68 (P-CDI), and Cronbach's alpha values of .91 (total score), .87 (PD), .85 (DC), .80 (P-DCI). Its validity levels show correlations between .73 and .95 (Abidin 1995). It has not been validated in Chile, but it has been applied in different cultures (e.g., Chinese, Italian, Portuguese, French, and Latin-American) and it has international acknowledgement.

## DASS-21

The Depression Anxiety Stress Scales 21 (DASS-21) is a short form of Lovibond and Lovibond's (1995) 42-item selfreport measure of depression, anxiety, and stress (DASS). The DASS consists of three 14-item self-report scales that measure depression, anxiety, and stress. A 4-point severity scale measures the extent to which each state has been experienced over the past week. The DASS-21 consists of three 7-item self-report scales taken from the full version of the DASS. The *Depression* scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, and lack of interest/involvement, anhedonia, and inertia. The Anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The Stress scale is sensitive to levels of chronic, nonspecific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable/over-reactive, and impatient. Scores can be grouped in ranges



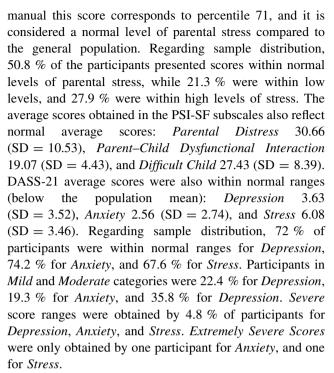
according to severity: *Normal, Mild, Moderate, Severe,* and *Extremely Severe*. These labels are used to characterize the full range of scores in the population. For example, "mild" means that the person is above the population mean, but still well below the typical severity of people seeking help (it does not mean a mild level of a "disorder"). DASS-21 was translated and adapted in Chile by Vinet et al. (2008) and modified by Román (2010). Psychometric studies support its use in Chilean population (Antúnez and Vinet 2012).

## **Data Analyses**

The statistical analysis was made using SPSS® 19.0. Descriptive analyses of PSI-SF (Parenting Stress) and DASS-21 (Depression, Anxiety and Stress) were made. Next we obtained Pearson correlation analysis among mindfulness and parenting variables (mindful parenting, parenting stress, mother's level of general depression, anxiety and stress), and between mindful parenting and the other mothers' variables just mentioned, except mindfulness. Also, hierarchical multiple regression analyses were made to evaluate the relation between FFMO subscales and the different variables in this study: mindful parenting, parental stress, stress, anxiety, and depression. The following set of control variables were entered in the first block: mother's age, level of schooling, level of income, marital state, number of children, and age of their preschool child. In this first block the method selected was "Enter", where all variables are introduced into the equation in one step, making sure all control variables were considered in the model. Then, in a second block, the variables corresponding FFMQ subscales were included with "Stepwise" method, where the multiple variables are regressed, while simultaneously removing those that are not important, and finally leaving only those that better explain the distribution. Finally, hierarchical multiple regression analyses were also made to evaluate the relation between IM-P subscales and the different variables in this study, except general mindfulness. The same method was used to introduce the variables (first "Enter" method for control variables and then "stepwise" for IM-P subscales). In most of the models obtained, the control variables were not statistically significant. Therefore, multiple regression analyses were run again excluding the control variables or including only those that were significant. These were the models reported in the present paper.

# **Results**

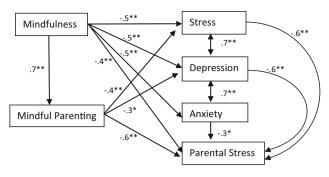
The mothers that participated in the present study obtained an average score of 77 (SD = 18.79) in parental stress (total PSI-SF score). According to PSI-SF evaluation



As hypothesized, there was a significant positive correlation between mindfulness and mindful parenting (r = .699, p = .000), and a significant negative correlation among mindfulness (total FFMQ score) and parental stress (total PSI-SF score) (r = -.442, p = .001), depression (r = -.510, p = .000), anxiety (r = -.505, p = .000), and stress (r = -.500, p = .000). Also, as hypothesized, there was a significant negative correlation between mindful parenting (IM-P total score) and parental stress (r = -.553, p = .000), depression (r = -.303, p = .020), and stress (r = -.398, p = .002). On the contrary, the negative correlation between mindful parenting and anxiety was not statistically significant. Figure 1 presents a graphic representation of the correlations among the variables. It is important to mention that the unidirectionality of most of the arrows does not imply that we are assuming causality from the results obtained, but we did intend an hypothetical model derived from logical reasoning that could be further assessed in future studies.

In Table 1, we present the correlations among all of the FFMQ and IM-P subscales; almost all subscales correlated significantly among each other. It is interesting to note which of them correlated more highly to help understand the interaction among mindfulness and mindful parenting in more detail. IM-P subscale *Non-judgmental acceptance of self as a mother* most highly correlated with FFMQ subscales *Non-judging*. That is, a general ability of being non-judgmental towards her own inner experience would facilitate the mother to be also less judgmental of herself as a mother. IM-P subscale *Listening with full attention* most highly related with FFMQ subscales *Describing* and *Acting* 





**Fig. 1** *Graphic* representation of the correlations among the variables in study.  $*p \le 0.05$ ;  $**p \le 0.01$ ; Important to notice that causality is not assumed and that the directions of the *arrows* are hypothetical

with awareness. Being fully aware of the current activity (interacting with their child) is necessary for being able to listen (or observe) with full attention to their child. Describing, or being able to put into words what one feels and perceives implies a certain level of emotional selfawareness, which could help the mother be more able to connect not only to her own emotions, but also to her child. IM-P subscales Self regulation in parenting relationship most highly correlated with FFMQ subscales Observing and Non-reacting. Being able to observe and notice internal and external experience (such as one's own emotions during parenting interaction) seems necessary for non-reacting to those experiences, thus facilitating self-regulation during parenting interactions. Finally, IM-P subscale Empathy and acceptance for the child most highly correlated with Describing. These subscales are not as clearly related. As mentioned above, describing, or putting into words what one feels and perceives, would imply a certain level of emotional awareness. This would be necessary for empathizing with the child and being accepting of his or her emotions, feelings, and behaviors.

Table 2 presents the correlations among mindfulness and parental stress, and among mindful parenting and

parental stress. It is interesting to note that mindful parenting correlated more strongly with parental stress (r = -.553, p = .000) than mindfulness with the same variable (r = -.442), considering total scores.

PSI-SF total score significantly correlated with all subscales of mindful parenting and with almost all mindfulness subscales, with the exception of *Non-reacting*. Correlation values were higher with mindful parenting subscales than with mindfulness subscales.

Regarding the interaction among subscales, all except Non-reacting FFMQ subscales correlated with Parental Distress (PSI subscale). Parent—Child dysfunctional interaction and Difficult Child (PSI-SF subscales) presented fewer significant correlations and with lower values, with FFMQ subscales. IM-P subscales presented more significant and higher values of correlations among the PSI-SF subscales. All IM-P subscales significantly correlated with Difficult Child, and all IM-P subscales, except Empathy and acceptance for the child, significantly correlated with Parental Distress. Parent—Child dysfunctional interaction only significantly correlated with IM-P Empathy and Acceptance for the child.

Table 3 presents the correlations between mindfulness and DASS-21 (Depression, Anxiety and Stress), and among mindful parenting and DASS-21. In this case, mindfulness correlated more strongly (higher values and significance) than mindful parenting with DASS-21 subscales. Mindful parenting did not significantly correlate with *Anxiety*, only with *Depression* and *Stress*, with low correlation values.

FFMQ subscales that appear more strongly correlated with DASS-21 were *Describing*, *Acting with Awareness*, and *Non-judging*. *Observing* and *Non-reacting* presented lower correlation values, but still some of them were statistically significant. IM-P subscales that appeared significantly correlated with all DASS-21 aspects were *Nonjudgmental acceptance of self as a mother* and

Table 1 Correlations between FFMQ subscales and total scores, and IM-P subscales and total scores

	IM-P subscales								IM-P total	
	Non-judgment of self as a mother		Listening with full attention		Self regulation in parenting relationship		Empathy and acceptance for the child		score	
	r	p	r	p	r	p	r	p	r	p
FFMQ subscales										
Observing	.303	.017	.463	.000	.470	.000	.403	.001	.527	.000
Describing	.449	.000	.606	.000	.399	.001	.544	.000	.641	.000
Act awareness	.434	.000	.586	.000	.377	.003	.378	.003	.576	.000
Non-judging	.562	.000	.403	.001	.320	.012	.115	.384	.455	.000
Non-reacting	.177	.188	.298	.024	.405	.002	.347	.009	.415	.002
FFMQ total score	.520	.000	.638	.000	.489	.000	.472	.000	.699	.000



Table 2 Correlations between FFMO and IM-P subscales and total scores, and PSI-SF subscales and total scores

	PSI-SF su	PSI-SF total score						
	PD		P-CDI		DC			
	r	p	r	p	r	p	r	p
FFMQ subscales								
Observing	294	.020	149	.249	203	.117	293	.022
Describing	463	.000	311	.014	356	.005	491	.000
Act awareness	323	.010	117	.365	297	.020	340	.007
Non-judging	356	.005	063	.627	154	.237	286	.026
Non-reacting	253	.058	066	.624	231	.087	259	.054
FFMQ total score	448	.000	189	.158	325	.015	442	.001
IM-P subscales								
Non-judgment of self as a mother	645	.000	147	.254	257	.045	513	.000
Listening with full attention	425	.001	208	.105	312	.015	422	.001
Self regulation in parenting relationship	269	.036	165	.205	285	.027	310	.016
Empathy and acceptance for the child	238	.067	488	.000	408	.001	425	.001
IM-P total score	514	.000	335	.009	423	.001	553	.000

**Table 3** Correlations between FFMQ and IM-P subscales and total scores, and DASS-21

	DASS-21						
	Depress	ion	Anxiety		Stress		
	r	p	r	p	r	p	
FFMQ subscales						<u>.</u>	
Observing	263	.039	215	.094	199	.121	
Describing	447	.000	357	.004	434	.000	
Acting with awareness	375	.003	407	.001	426	.001	
Non-judging	376	.003	414	.001	403	.001	
Non-reacting	262	.049	203	.129	289	.030	
FFMQ total score	510	.000	505	.000	500	.000	
IM-P subscales							
Non-judgmental acceptance of self as a mother	379	.002	349	.005	334	.008	
Listening with full attention	325	.010	340	.007	400	.001	
Self regulation in parenting relationship	121	.351	066	.613	249	.053	
Empathy and acceptance for the child	195	.134	108	.412	338	.008	
IM-P total score	303	.020	240	.067	398	.002	

Listening with full attention. Self-regulation in parenting did not significantly correlate with any DASS-21 subscales and *Empathy and acceptance for the child* significantly correlated with *Stress* subscale only.

# **Multiple Regression Analyses**

Five multiple regression analyses were run to explore which facets of mindfulness as considered in the FFMQ scale would relate with each of the following dependent variables: parental stress (PSI-SF total score), depression, anxiety, and stress (DASS-21 subscales), and mindful

parenting (IM-P total score). For each model, the five facets of mindfulness were introduced as predictive variables. For the dependent variable *Anxiety*, *Mother's Age* was also included as a predictive variable, since it was significant as a control variable in the previous regression analyses, as explained in the Method.

As seen on Table 4, the five models were statistically significant. It is interesting to note that the predictive variables more frequently introduced by the models were *Non-judging*, which significantly predicted depression, anxiety, stress, and mindful parenting; and *Describing*, which significantly predicted parental stress, depression,



stress, and mindful parenting. Hence, according to this analysis, the mindful abilities of being non-judgmental of the experiences and being able to verbally describe and label these experiences would be relevant for variables related to better parenting.

Beside these predictive variables appearing in most of the models, *mother's age* and *Acting with Awareness* were included (besides Non-judging) in predicting Anxiety. Also, *Observing* was included as a predictive significant variable of mindful parenting (besides *Non-judging* and *Describing*, as already mentioned). *Non-reacting* was not included as a predictive variable in any of the models.

Four multiple regression analyses were run to explore which aspects of mindful parenting as considered in the IM-P scale would relate with each of the following dependent variables: parental stress (PSI-SF total score), depression, anxiety, and stress (DASS-21 subscales). For each model, the four subscales of the IM-P were introduced as predictive variables.

As can be seen on Table 5, all four models were significant. Parental stress had a higher variance explained by IM-P model ( $R^2 = .377$ ) than FFMQ model ( $R^2 = .238$ ). On the contrary, models for predicting mother's mental health variables (depression, anxiety, and stress) had higher variance explained by FFMQ models ( $R^2 = .310$  for *Depression*;  $R^2 = .374$  for *Anxiety* and  $R^2 = .306$  for *Stress*), compared to IM-P models ( $R^2 = .135$  for *Depression*,  $R^2 = .109$  for *Anxiety* and  $R^2 = .180$  for *Stress*).

Regarding the predictive variables introduced by the model, all models included *Non-judgmental acceptance of self as a mother*. Two of them, Parental Stress and Stress, also included *Empathy and Acceptance for the Child* subscale. The subscales of *Listening with full attention* and *Self-regulation in the parenting relationship* were not included in any of the models. Again, as in FFMQ models the ability of non-judging (oneself as a mother or one's child, in this case) appeared as the most relevant aspect of

mindful parenting, regarding parental stress and mother's mental health variables.

#### Discussion

First, most of the hypotheses proposed were confirmed by the results of the relational analysis. There was a positive significant correlation among mindfulness and mindful parenting. Correlation value was high, yet not so much as to imply multicolineality, therefore indicating each of them would represent distinct constructs. This is congruent with previous studies' findings regarding construct validity of IM-P scale (Corthorn et al. 2015). Also, there was a negative significant correlation among mindfulness and mother's mental health variables and parental stress, as well as among mindful parenting and mother's level of depression, general stress and parental stress. There was not a significant relation between mindful parenting and anxiety. These variables probably did not correlate because anxiety is a more physiological aspect in DASS-21 scale, and therefore more related with general mindfulness.

According to the results of the present study we can think that both mindfulness in general, and mindfulness specifically related to parenting, would be relevant variables for mother's mental health symptoms, as measured by DASS-21 and parental stress as measured by PSI-SF. Nevertheless, it is interesting to note that mindfulness more strongly correlated with the DASS-21 dimensions; that is, with personal aspects of the mother's mental health. On the other hand, mindful parenting more strongly correlated with PSI-SF; that is, with those aspects of stress specifically referred to parenting. The previous finding adds evidence to the distinction among mindfulness and mindful parenting as constructs. Each is related to different aspects of the women participating on this study. Since causality cannot be assumed, future studies would be needed to

**Table 4** FFMQ subscales as predictive variables of parental stress, depression, anxiety, stress and mindful parenting

Dependent variables	F	Sig	$R^2$	Predictive variables introduced by the model
Parental stress	16.896	.000	.238	Describing ( $\beta = -1.563, p = .000$ )
Depression	12.145	.000	.310	Describing ( $\beta =238, p = .001$ )
				Non-judging ( $\beta =163, p = .021$ )
Anxiety	10.377	.000	.374	Mother's age ( $\beta =154$ , $p = .011$ )
				Acting with awareness ( $\beta =122, p = .025$ )
				Non-judging ( $\beta =128, p = .030$ )
Stress	11.888	.000	.306	Describing ( $\beta =218, p = .003$ )
				Non-judging ( $\beta =196, p = .008$ )
Mindful parenting	17.295	.000	.504	Describing ( $\beta = .786, p = .004$ )
				Non-judging ( $\beta = .636, p = .004$ )
				Observing ( $\beta = .475, p = .047$ )



Table 5 IM-P subscales as predictive variables of parental stress, depression, anxiety, stress

Dependent variables	F	Sig	$R^2$	Predictive variables introduced by the model
Parental stress	16.624	.000	.377	Non-judgmental acceptance of self
				$(\beta = -1.804, p = .000)$ Empathy and acceptance for the child
				$(\beta = -1.661, p = .004)$
Depression	8.859	.004	.135	Non-judgmental acceptance of self
				$(\beta =277, p = .004)$
Anxiety	6.954	.011	.109	Non-judgmental acceptance of self
				$(\beta =193, p = .011)$
Stress	6.143	.004	.180	Non-judgmental acceptance of self
				$(\beta =190, p = .034)$
				Empathy and acceptance for the child
				$(\beta =217, p = .037)$

confirm directionality of the arrows in the proposed hypothetical model.

Also, when analyzing in more detail the correlations among the subscales of the instruments measuring mindfulness, mindful parenting, and parental stress, we found that mindfulness more strongly correlated with the aspect of parental stress called Parental Distress. This PSI-SF subscale reflects a parent's perception of child-rearing competence, conflict with his or her spouse or partner, social support, and stresses associated with the restrictions placed on other life roles. This subscale included items that reflect general level of life satisfaction ("There are several things about my life that bother me") and level of life satisfaction more related with being a parent ("Having a child has caused more problems than I expected in my significant relations"). It is reasonable that this specific aspect of parental stress was more strongly and consistently related to mindfulness across FFMQ scales, since this is the more personal dimension of PSI-SF scale. Mindful parenting, on the other hand, not only showed a higher correlation value with Parental Distress, but also more of its subscales significantly related with Difficult Child (parent's view of the child's temperament, defiance, noncompliance, and demandingness). In addition to this, IM-P total score also significantly correlated with Parent-Child Dysfunctional Interaction (which was not the case for FFMQ total score). This PSI-SF subscale assesses a parent's perception that the child does not meet expectations and that interaction with the child are not reinforcing. Therefore, it can be thought that mindfulness as a general construct would more strongly relate to more personal aspects of mother's stress (as measured by DASS-21 and Parental Distress PSI-SF subscale), while mindful parenting as a more specific construct would also relate with aspects of stress related to parent-child interactions and mother's perceptions about her child.

Multiple regression analyses revealed Non-judging (FFMQ) and Non-judgmental acceptance of self as a mother (IM-P) as main predictors of mother's level of mental health variables (DASS-21), and Non-judgmental acceptance of self as a mother also as a main predictor of lower levels of parental stress. Empathy and acceptance for the child—an IM-P subscale that also includes some items related to judgment, in this case, of one's child-also appeared as a relevant predictor of parental stress and general stress. Thus, it seems that non-judging is an important factor contributing to the alleviation of mother's mental health, generally, or related to parenting. Putting it in a simpler way, a mother feels better without so many judgments and self-judgments. This finding is consistent with a previous study conducted by Cash and Whittingham (2010). The authors also performed a multiple regression analysis to determine which aspects of mindfulness as measured in FFMQ would predict depression, anxiety, and stress, as measured by DASS-21. They found that the main predictor was Non-judging. This would also be consistent with Baer et al.'s (2006) findings that Non-judging had the highest correlations with psychological symptoms, neuroticism, thought suppression, difficulty regulating emotion, and experiential avoidance, compared to all other mindfulness facets.

The other main predictive variable was FFMQ *Describing*, being able to verbally describe and label perceived inner or outer experiences—including physical sensations, emotions, feelings, and thoughts. It significantly predicted parental stress, depression, general stress, and mindful parenting. This aspect implies a certain level of emotional and physical awareness, and could be related with emotional skills. That would explain it being included as a main predictive variable. This finding is not consistent with previous studies, where the second main predictive variable of mental health related aspects was



Acting with Awareness (Cash and Whittingham 2010; Baer et al. 2006). Because of the exploratory nature of the present regression analysis, the results should be considered preliminary and need to be further assessed in future studies.

It is also relevant to consider the mindfulness aspects that did not appear in the predictive models. Conceptually related subscales Non-reacting and Self regulation in parenting interactions were not included in any of the predictive models. Self Regulation in parenting interactions was not significantly correlated to any of DASS-21 subscales, and Non-reacting (FFMQ) was not significantly correlated to parental stress. On the other hand, Self regulation in parenting interactions was related to parental stress, although with lower correlation value than other IM-P subscales. And Non-reacting was related to depression and stress subscales, although correlation values were not as high or as significant as other facets of mindfulness and DASS-21 scores. It seems that the ability of self-regulation and the related mindfulness concept of non-reaction are not relevant aspects regarding stress in mothers. Maybe this is so because what actually generates stress in the mothers is not the automatic reactions or lack of self regulation themselves, but rather the self-judgment that does (or does not) follow these reactions. It is important to note that the findings in the present study would not imply that non-reacting or self-regulation are not relevant aspects in parenting. It is very probable that these variables are relevant for dimensions not assessed in the present study. Observing direct parent-child interactions, or maybe assessing effects of mother's self-regulation in child outcomes, would probably give more light regarding the importance of this specific mindfulness aspect. The same can be said about Acting with Awareness, -which only appeared relevant for predicting anxiety-, and Listening with full attention. These are aspects that would probably come up as more relevant if other variables were measured.

In summary, mindfulness and mindful parenting were significantly positively related among each other, and significantly negatively related with depression, anxiety, general stress, and parental stress—except mindful parenting and anxiety, which were not related. Mindfulness more strongly and consistently related across subscales with more general aspects of mothers' mental health, while mindful parenting more strongly and consistently related with aspects of stress specific to their role as a mother, parent—child interactions, and perceptions about their child. Exploratory multiple regression analyses suggest that the ability of being non-judgmental about herself as a person and as a mother is a main mindfulness aspect related with mothers' levels of depression, anxiety and stress, and also parental stress.

#### **Limitations and Future Research**

As this study was a cross-sectional correlation study, causality cannot be inferred. Future research is required to determine directionality of the relations among the main variables, and to reach definite conclusions about the relationships between specific mindfulness and mindul parenting aspects and depression, anxiety, stress, and parental stress. It would also be of interest to count on research regarding the relation of mindfulness and mindful parenting with other relevant parenting variables, including observational studies of mother–child interactions and child outcomes.

#### Compliance with Ethical Standards

**Conflict of interest** The authors declare that they have no conflict of interest.

**Ethical Approval** All procedures performed in the present study were approved by the ethical committee of the School of Psychology of the *Pontificia Universidad Católica de Chile* (Catholic University of Chile), and in accordance with the 1964 Helsinki declaration and its later amendments.

**Informed Consent** Informed consent was obtained from all individual participants included in the study.

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