



Published in final edited form as:

*J Fam Psychol.* 2015 April ; 29(2): 276–282. doi:10.1037/a0038857.

## Can Mindful Parenting Be Observed? Relations between Observational Ratings of Mother-Youth Interactions and Mothers' Self-Report Mindful Parenting

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### Abstract

Research on mindful parenting, an extension of mindfulness to the interpersonal domain of parent-child relationships, has been limited by its reliance on self-report assessment. The current study is the first to examine whether observational indices of parent-youth interactions differentiate between high and low levels of self-reported mindful parenting. The Iowa Family Interaction Rating Scales (IFIRS) were used to code interactions between mothers and their 7<sup>th</sup> grade youth. Mothers drawn from the top and bottom quartiles ( $n = 375$ ) of a larger distribution of self-reported interpersonal mindfulness in parenting ( $N = 804$ ) represented clearly defined high and low mindful parenting groups. Discriminant function analysis (DFA) was used to analyze how well six composite IFIRS observational rating variables (e.g., parental warmth, consistent discipline) discriminated between high and low self-reports of mindful parenting. DFA results were cross-validated, with statistically significant canonical correlations found for both subsamples ( $p < .05$ ). Subsequent independent samples  $t$ -tests revealed that group means were significantly different on all six IFIRS composite ratings. Confirmation of the relations between self-report mindful parenting and the observational ratings was also provided through hierarchical regression analyses conducted with a continuous predictor of mindful parenting using the full sample. Thus, the present study provides preliminary evidence for a link between self-reported mindful parenting and observed interactions between parents and youth.

### Keywords

mindful parenting; mindfulness; adolescence; behavioral observation; discriminant function analysis

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Mindfulness, drawn from Buddhist tradition, has become a popular focus of basic and applied research in Western psychology, medicine (Baer, 2003), and more recently,

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education (Greenberg & Harris, 2011). Mindfulness, defined as the awareness that arises through “paying attention in a particular way, on purpose, in the present moment, nonjudgmentally” (Kabat-Zinn, 2003), has been found to relate to better psychological functioning, both dispositionally (Brown & Ryan, 2003) and as a result of training in mindfulness meditation (Baer, 2003). Mindful parenting is an extension of mindfulness from the intra-personal to the interpersonal interactions of parent-child relationships (Duncan, Coatsworth, & Greenberg, 2009). Mindful parenting was first described by Myla and Jon Kabat-Zinn in their book *Everyday Blessings: The Inner Work of Mindful Parenting* (1997), which was followed by a call for empirical evaluation by Dumas (2005).

The Kabat-Zinns (1997; 2009, May) offer three foundations of mindful parenting: sovereignty, acceptance, and empathy. Sovereignty involves recognizing the child’s “wholeness” or “true nature” by “seeing beneath behavior.” Acceptance is described as “an attempt to come to terms with the nature of things,” within the parent, in the child, or in a particular situation. It includes not taking things personally, recognizing that things are always changing, and remaining flexible. Empathy is described as embodied compassion and understanding, feeling with the other. Metaphorically, thoughts and emotions in parenting can be seen as weather patterns, continually changing, and potentially obscuring parents’ ability to appreciate what is happening in the moment. In this view, the practice of bringing non-judgmental awareness to the present moment in parenting – the practice of mindful parenting – may permit greater clarity and connection in the parent-child relationship (Chang & Duncan, 2014).

Building upon the Kabat-Zinns’ theoretical work, efforts to develop an operational definition of mindful parenting (Duncan et al., 2009) yielded five core aspects of mindful parenting: (a) listening with full attention; (b) emotional awareness of self and child; (c) nonjudgmental acceptance of self and child, including greater awareness of expectations and attributions; (d) self-regulation in the parenting relationship; and (e) adopting compassion towards oneself as a parent and toward the struggles one’s child faces. From this theoretical perspective, mindful parenting involves practicing moment-to-moment awareness of one’s own thoughts and emotions and those of the child, and suspending judgmental attributions through developing an open and receptive stance in the parenting context.

Studies of mindful parenting interventions demonstrate a range of effects, including improvements in parent anger management and self-reported positive and negative affective behavior exhibited towards youth (Coatsworth, Duncan, Greenberg & Nix, 2010), and reductions in co-parenting disagreements and parenting stress (Bögels et al., 2010; Dawe & Hartnett, 2007). Although intervention research has provided experimental evidence that increases in mindful parenting (measured with the Interpersonal Mindfulness in Parenting scale; IM-P; Duncan, 2007) are related to improvements in other aspects of the parent-child relationship (Coatsworth et al., 2010), few descriptive studies have examined these relations.

Direct associations between mindful parenting and parent-child relational functioning have been examined in families of children with intellectual disabilities, externalizing and internalizing problems, and autism spectrum disorders. In a study of 105 fathers of children with moderate to profound intellectual disabilities (ages six to 18), MacDonald and Hastings

(2010) found that mindful parenting—as measured by the Present-Centered Attention subscale of the IM-P—was related to better parent-child engagement. Results showed that higher levels of mindful parenting were linked with a greater tendency for fathers to engage in child-related tasks such as transporting the child and with increased use of socialization strategies.

Mindfulness was found to be related to parenting style in a sample of clinic-recruited mothers of children with emotional and behavioral problems (Williams & Wahler, 2010). Mindful parenting was not assessed directly, but high levels of self-reported mindfulness (as measured by the Mindful Attention and Awareness Scale; Brown & Ryan, 2003) corresponded with mothers' ratings of their parenting style as authoritative, a warm but firm parenting style characterized by open dialogue with children and appropriate conflict management. Conversely, low levels of mindfulness corresponded with ratings of authoritarian parenting, a style less facilitative of open dialogue and more likely to embody harsh responses to conflict. Posthoc analyses revealed that parenting style mediated a relationship between mindfulness and maternal reports of child problem behavior with fewer child problems reported by authoritative mothers. Thus the more mindful the mother, the more likely she was to engage with her child in an authoritative manner, and the less likely she was to view her child as problematic.

In an investigation of mindful parenting and parental distress among families of children with an autism spectrum disorder ( $N = 28$ ), Beer and colleagues (Beer, Ward, & Moar, 2013) demonstrated that higher IM-P scores were associated less parent distress. In addition, higher levels of mindful parenting were associated with fewer, milder child behavior problems. Qualitative reports yielded indication that parents found it beneficial to use multiple aspects of mindful parenting simultaneously when interacting with their children. Practicing “self-compassion in parenting,” which is an extension of Neff's self-compassion construct (Neff, 2003) to the parenting context (Duncan et al., 2009), reduced distress felt by these parents in difficult parenting interactions.

One limitation of these studies is their reliance on self-reports of mindfulness and parenting. When studying complex interactions, questionnaire data are limited for such reasons as self-report bias (Hampton & Beavers, 2004; Margolin et al., 1998), over-estimation of the associations between variables (Dishion & Granic, 2004), or poor measurement of hypothesized complex, transactional dynamics and specific relationship constructs and sub-constructs (Hops, Davis, & Longoria, 1995). Although observational coding systems require considerable resources for training and monitoring, they are often best suited for capturing important behavioral sequences and interpersonal dynamics between individuals. The current study examines whether observational codes from the Iowa Family Interaction Rating Scales (IFIRS; Melby et al., 1998) discriminate between groups of parents who score high and low on a self-report measure of mindful parenting (IM-P; Duncan, 2007).

A key unanswered question in the area of mindful parenting research is whether parents' report of their own mindfulness in parenting is related to more objective, observational indicators of parenting (Garrison Institute, 2010). The current study provides a first step in this line of inquiry by using a person-centered approach to examine a central research

question: *Do observational ratings of mother-youth interactions differentiate mothers who self-report high levels of mindful parenting from those who report low levels of mindful parenting?* We hypothesized that observational ratings would differentiate between groups of parents who we hypothesized to have different behavioral phenotypes. Put simply, our goal was to test whether mothers who report bringing a high level of mindfulness into their parenting interactions appear different when interacting with their children from those who do not report mindfulness in their parenting. We expect these indicators to be related in a continuous and nuanced fashion, however our first question was simply whether person-centered discrimination is possible.

The IFIRS observational ratings include a large number of scales so we utilized a data reduction strategy to streamline analyses. Based on prior conceptual work (Duncan et al., 2009), a key affective dimension of mindful parenting is emotional awareness of self and child, which we expect to promote a warmer parent-child relationship. The element of mindful parenting regarding self-regulation in the parenting relationship is expected to facilitate greater consistency in discipline. Thus, we expected composite IFIRS indicators reflecting affective warmth, more enjoyment of the interaction, and less negative affective qualities in dyadic interactions, as well as ratings of consistency and less harshness in discipline practices to differentiate the mindful parenting groups.

## Method

### Participants

Data are taken from the PROSPER project (see Spoth, Greenberg, Bierman, & Redmond, 2004), which involved youth from two successive cohorts of sixth graders from 28 rural and small-town communities in Pennsylvania and Iowa who completed in-school questionnaires (an average of 88% of eligible students participated at each assessment wave). Families of students in the second cohort were randomly selected and recruited for participation in more intensive in-home assessments. Of 2,267 families contacted for in-home family assessments, 979 (43%) participated at wave 1 and 804 were retained at wave 3 (the current sample), with no evidence found at wave 3 for differential attrition (Spoth et al., 2010).

Of the 804 families, 375 were selected for inclusion in our primary analyses based on the mother/maternal caregiver's self-reported mindful parenting score (see below). Most parents were married (70.9%) with an average of 3.1 children ( $SD = 1.4$ ) per family. Mothers' mean age = 40.5 years ( $SD = 6.6$ ) and they averaged 14.1 ( $SD = 8.1$ ) years of education. Average age for youth in the subsample was 12.9 years ( $SD = .4$ ) and 51.5% were girls. Representative of the communities enrolled in the broader study, 87.5% of the youth subsample reported being Caucasian/White. Confirmatory analyses were conducted with the full sample of 804 families.

### Procedures

The in-home assessments included questionnaires and videotaped family interaction tasks. For the in-home assessment, youth and parents completed questionnaires individually and participated in structured dyadic (parent-youth) and triadic (mother-father-youth) DVD-

recorded interaction tasks. In the 15-minute dyadic task upon which current analyses are based, the mother and youth discuss a series of 13 questions about their relationship that they receive on index cards and read aloud to each other. Some questions are addressed to the mother and some to the youth and they are then asked to discuss their answers with each other. Questions are designed to elicit increasingly strong emotional responses and potential for disagreement as the task progresses. Examples include “*How do I know what’s going on in my child’s life, like in school, friends or other activities?*”; “*What does mom say when I do something she doesn’t like? Does she always do what she says she will do when this happens?*”; and “*If I ever have children, in what ways will I raise them like my mom has raised me? In what ways will I raise my children differently?*”

## Measures

**Mindful parenting**—Mindful parenting was assessed with the brief, 10-item version of the Interpersonal Mindfulness in Parenting scale (IM-P; Duncan, 2007). The IM-P is a self-report measure that encompasses affective, cognitive, and attitudinal aspects of the parent-child relationship and draws from the broader mindfulness literature, including existing measures of mindfulness (Baer et al., 2004; Brown & Ryan, 2003). The brief IM-P is intended to capture parents’ tendency to maintain: (a) present-centered attention regarding their internal experience and their child during parenting interactions (e.g., “I find myself listening to my child with one ear because I am busy doing or thinking about something else at the same time” (reverse-scored); (b) present-centered emotional awareness regarding their internal experience and their child during parenting interactions (e.g., “I am aware of how my moods affect the way I treat my child”); (c) openness and nonjudgmental receptivity to the child’s articulation of thoughts and emotions (e.g., “Even when it makes me uncomfortable, I allow my child to express his/her feelings”); and (d) self-regulation in parenting interactions (e.g., “When I am upset with my child, I notice how I’m feeling before I take action”). The items are rated on a 5-point Likert-type scale. Concurrent and discriminant validity in relation to a number of self-reported parenting constructs and intrapersonal mindfulness were demonstrated in a previous study (Duncan, 2007) and there is evidence the IM-P is sensitive to intervention effects (Coatsworth et al., 2010). In the current study,  $\alpha = .82$ .

**Behavioral observations**—The Iowa Family Interaction Rating Scales, 5<sup>th</sup> Edition, (IFIRS; Melby et al., 1998) assesses maternal individual characteristics, maternal parenting, and dyadic interactions<sup>1</sup>. The IFIRS is a global coding system that assesses individual (and group) behavioral and emotional characteristics and exchanges between family members. Here we used mother’s responses and dyad level codes taken only from the mother-child discussion task. The interactions were laboratory-coded by trained observers. Mothers were assigned scores on each of the IFIRS scales at the end of the 15-minute dyadic discussion task. Scores were made on a 9-point Likert-type response scale ranging from 1 (“Not at all characteristic”) to 9 (“Mainly characteristic”). Detailed information on the codes can be found in Melby and Conger (2001).

<sup>1</sup>Online supplementary materials are available that include descriptions of the IFIRS codes and detailed tables of study results.

**Maternal individual characteristics:** Maternal characteristics were measured using six Individual Characteristics Scales of the IFIRS. These included scales that described the mother's general state of being as assessed by the observers. Inter-rater reliabilities calculated for these scales with the current sample produced intraclass correlation coefficients (ICCs) of .42 to .73. Results from our preliminary data reduction analysis (see below) led us to exclude the maternal individual characteristics from the core substantive analyses of the current study.

**Maternal parenting:** Maternal parenting was measured using the Parenting Scales of the IFIRS. These included 12 behavioral scales that described the mother's approach concerning the child during the interaction. The parenting scales allow raters to draw from information outside of the interaction, such as statements from the youth about the parent's parenting strategies that occur in the home. In the current sample, ICCs for these scales ranged from .38 to .80.

**Maternal responses during dyadic interaction:** Maternal responses were measured by combining the Dyadic Interaction Scales (22 scales), the Dyadic Relationship Scales (two scales) and the Group Interaction Scale from the IFIRS. Together these 25 scales describe the mother's behaviors directed toward her child, the relationship between the mother and child, and the nature of their interaction. ICCs for these scales ranged from .35 to .83 in the current sample.

### Analytic Strategy

Analyses proceeded in four phases. First, the parenting and dyadic interaction IFIRS rating scales with intra-class correlations below .50 were identified and removed from further analyses. The remaining ratings were submitted to an orthogonal (Varimax rotation) exploratory factor analyses via Maximum Likelihood estimation. Scale computation and reliability analyses were carried out on the resulting factors. Second, to address whether IFIRS scales distinguished among high and low mindful parenting, a subsample of the 804 participants was selected by extracting the top ( $n = 200$ ) and bottom ( $n = 175$ ) quartiles of the IM-P, yielding a reduced sample of 375. We then created two randomly selected cross-validation subsamples, 50% of cases in each, with which to conduct two sets of discriminant function analyses (DFA). Sample 1 and Sample 2 were each submitted to a DFA with mindful parenting as the grouping variable and the IFIRS composites as the discriminating variables. Third, a series of independent samples  $t$ -tests were conducted to examine mean differences between the high and low mindful parenting groups on parenting and dyadic relationship factors. Lastly, to confirm the association among maternal parenting and dyadic interaction scales and mindful parenting in the full sample, the composite IFIRS scales were regressed onto the continuous mother's self-reported mindfulness in parenting ( $N = 804$ ) via hierarchical regression.



## Results

### Preliminary Analyses

The rotated exploratory factor analysis yielded seven factors of parenting and dyadic interaction with eigenvalues above 1.0, consistent with the scree plot; however one scale showed poor internal consistency (parental influence,  $\alpha < .40$ ) and was not used in further analysis. The remaining six composites included harsh parenting ( $\alpha = .86$ ), positive interaction ( $\alpha = .77$ ), positive parenting ( $\alpha = .82$ ), consistent discipline ( $r = .88$ ), parent communication skills ( $\alpha = .93$ ), and parental warmth ( $r = .30$ ). Descriptive statistics and correlations were computed for all variables included in the study<sup>2</sup>.

### Discriminating High vs. Low Mindful Parenting Groups by Behavioral Observation Codes

The mean IM-P score for the bottom quartile (low mindful parenting,  $n = 175$ ) was 3.12 ( $SD = .20$ ) and the mean score for those in the top quartile (high mindful parenting,  $n = 200$ ) was 4.3 ( $SD = .25$ ). To test whether behavioral observations differentiated mothers who self-report high vs. low levels of mindful parenting, we conducted DFA on the composite IFIRS scale scores: harsh parenting, positive parenting positive interaction, consistent discipline, parent communication skills, and parental warmth. Because we used a reduced sample (only top and bottom quartiles) we used a replication model by conducting analyses on a random 50% of the sample, as described above (Sample 1,  $n = 199$ ; 91 low mindful and 108 high mindful), and then cross-validated the results with Sample 2 ( $n = 176$ ; 84 low mindful and 92 high mindful). The structure matrix of the pooled within-groups correlations between the behavioral observations and the standardized canonical discriminant function was examined when the discriminant function was significant in only one model and not significant in the other. To replicate a good-fitting model across both samples, indicators that had a value of less than .30 in the significant Sample were removed from the model for both samples.

Results indicated that observations of parenting and dyadic interactions significantly differentiated between the high and low mindful parenting groups in Sample 1, canonical  $R = .313$ ,  $\Lambda = .902$ ,  $\chi^2(6) = 19.124$ ,  $p < .01$  and Sample 2, canonical  $R = .396$ ,  $\Lambda = .843$ ,  $\chi^2(6) = 20.804$ ,  $p < .01$ . In Sample 1 the model correctly classified 63.7% of the original cases, an improvement of 27.4% over the chance classification rate. In Sample 2 the model correctly classified 65.4% of the original cases, an improvement of 30.8% over the chance classification rate. The standardized canonical discriminant function coefficients and structure matrices are presented in Table 1. For Sample 1, the structure matrix indicated that all observation composites were strongly associated with the discriminant function ( $r > .30$ ); however, in Sample 2 only harsh parenting, positive parenting, parent communication skills, and positive interaction were strongly associated with the discriminant function ( $r > .30$ ).

Given the correspondence between the two samples in the significance of the DFAs, follow-up  $t$ -tests were performed on both samples ( $n = 375$ ). Results indicated that parents who scored high on mindful parenting had significantly higher mean ratings of positive interaction, positive parenting, consistent discipline, parent communication skills and

<sup>2</sup>Tables with means, SDs, number of items for each scale, and correlations for all study variables, along with detailed EFA results, are available as online supplemental materials.

parental warmth, and lower mean rating of harsh parenting than those scoring low on mindful parenting (see Table 2).

### Hierarchical Regression Analyses

To confirm the relations between self-report mindful parenting and the IFIRS composite ratings, six hierarchical regression models were estimated in the full sample ( $N = 804$ ) using continuous variables, with mindful parenting as the predictor variable and each IFIRS composite as the dependent variable, respectively. Youth age, gender, family income, number of children in the family, and maternal education were entered in block 1 as control variables, and maternal self-reported mindful parenting was entered in block 2. For brevity, only the significant relations between mindful parenting and IFIRS composites are reported here. Results indicated that maternal self-reported interpersonal mindfulness in parenting was significantly related to parental warmth ( $b = .12, p < .01$ ), positive interaction ( $b = -.15, p < .001$ ), positive parenting ( $b = .14, p < .001$ ), consistent discipline ( $b = .12, p < .01$ ), parent communication skills ( $b = .09, p < .05$ ), and harsh parenting ( $b = -.10, p < .05$ ). The association was in the expected direction for all variables.

### Discussion

This is the first study to show that observational ratings of parent-child interaction are related to self-report mindful parenting. Discriminant Function Analysis and follow-up  $t$ -tests demonstrated that mothers who scored high on a self-report measure of mindful parenting exhibited more positive interactions with their youth than did mothers who scored low. In our person-centered analyses, ratings of observed parent-child interactions were found to be significantly related to mindful parenting group membership with cross-validation performed in two random subsamples. In confirmatory analyses using the full sample and the continuous form of the mindful parenting variable as a predictor, mindful parenting was shown to be related to all six composite observational ratings. Most mindful parenting research to-date has relied solely upon self-report. Although prior work suggested that mothers reported exhibiting more positive affection toward their children in relation to increases in mindful parenting (Coatsworth et al., 2010), direct observation was not conducted to verify those reports. This study suggests that self-reported mindful parenting is associated with observable behaviors in mother-youth interactions.

Six composite ratings of parenting strategies from mother-youth discussions and direct behavioral ratings of parent-youth interactions significantly predicted mindful parenting group membership: harsh parenting (inversely), positive parenting, positive interaction, consistent discipline, parent communication skills, and parental warmth. In this study, mothers with high levels of mindful parenting were rated as engaging in more positive and consistent and less harsh parenting behaviors than mothers who scored low on mindful parenting. As well, they exhibited better communication and positive interaction in the observed dyadic interactions. These findings fit with prior research showing a link between mindfulness and self-reported authoritative parenting (Williams & Wahler, 2010). As hypothesized, we also found that the high mindful parenting group demonstrated greater consistency in discipline (and less harsh discipline). The practice of bringing mindfulness to



the parenting relationship may facilitate parents' ability to maintain consistency in discipline through greater self-regulation, thus facilitating avoidance of unintended harsh discipline (Duncan et al., 2009).

Mothers who scored high on mindful parenting exhibited greater warmth, a quality that is consistent with the compassionate and empathetic acceptance of one's child found in practicing mindful parenting. An area of particular importance for families of early adolescents, the high mindful parenting group also demonstrated better parent-child communication, which may be an effect of the child feeling less judged and more accepted, thus being more willing to talk openly with the parent and disclose information, which is important for effective parental monitoring (Lippold, et al., 2014). In addition, mothers in the high mindful parenting group scored higher on a composite rating of positive interaction. As young teens begin to spend more time alone and with peers, parents making time spent together count by being mindful (i.e., fully present), while honoring the child's sovereignty (Kabat-Zinn & Kabat-Zinn, 1997; 2009) by encouraging independence, may be key to avoiding potential disruptions in the relationship brought about by normative adolescent development. Future research should examine whether a mindful parenting intervention for those scoring low on mindful parenting can achieve improvements in discipline consistency, emotional warmth, and communication.

We saw relatively modest effect sizes for the differences in mean levels of observed behavior for the high and low mindful parenting groups. Cohen's  $d$ 's were predominantly in the medium range, with positive interaction showing the largest difference and parental warmth showing the smallest difference between groups. We might expect these effects to be larger if an observational rating system were employed that was specifically designed to assess mindfulness in parenting, however no such system is currently available. It may also be the case that the process of mindful parenting encompasses meta-emotion and meta-cognitive functions (Duncan et al., 2009) that are not directly observable through strictly behavioral paradigms. For instance, if a mother is engaging in a mindfulness-based self-regulatory strategy such as attending to her breath when experiencing frustration with her child, we may not know that she is doing so unless she reports it to us. More objective, real-time assessment could be achieved through the use of biological data collection in the form of monitoring of autonomic or neurological function. Mobile technology may also be used to employ ecological momentary assessment that would enable collection of real-time and real-world occurrences of mindful parenting practices.

We recognize that using sample-based cut-points has limitations in terms of defining high versus low mindful parenting, hence our attention to cross-validation and our confirmation of the relations between these variables using the full sample. Another strength of the study is our attention to testing links between mindful parenting and a number of different aspects of dyadic mother-youth interactions and reported parenting strategies using behavioral observation. Mindful parenting may be a more proximal indicator of the intrapersonal-interpersonal interface of cognitive and emotional processes that influence parenting behavior in the moment, thus holding important predictive power when examining a range of observational indicators. This study is a novel step forward in mindful parenting research,

but it is meant to be a preliminary investigation rather than a definitive demonstration of effects; replication of our results is warranted.

We used available data collected with the brief IM-P as our measure of self-report mindful parenting, which limited the range of mindful parenting facets in the current study. Recent research by Beer et al. (2013) highlighted both the importance of self-compassion in parenting, which we did not assess in the current study, and links between mindful parenting and lower frequency and severity of child behavior problems. Self-compassion in parenting is an element of mindful parenting (Duncan et al., 2009) not captured here with the brief version of the IM-P (Duncan, 2007), but one that is available in the extended version of the IM-P measure that includes items adapted from Neff's Self-Compassion Scale (Neff, 2003). Future work can extend the findings of the current study by including additional theorized dimensions of mindful parenting and testing the impact of those elements on child behavioral outcomes. In addition to including observation of mindful parenting, behavioral observation of child outcomes will strengthen our understanding of these processes and their potential value for promoting healthy development. Future research could also be undertaken to explore mindful parenting among fathers, and in triadic family interactions.

Our study suggests the potential for behavioral observation to inform our understanding of the benefit of mindful parenting for parent-youth relationships, however our findings represent mother-youth relationships among predominantly white families living in rural/small town areas of the U.S. The population from which the sample was drawn lacked racial/ethnic diversity and it bears noting that our level of response rate in the in-home subsample of the broader study was under half of those families randomly invited to participate. It was challenging to engage families in the intensive assessment required by the in-home protocol. Nevertheless, this study extends the evidence base of a relatively new area of inquiry, the extension of mindfulness to the interpersonal domain of parent-child relationships. Our research group has begun work to develop an observational coding scheme to examine mindful parenting directly (Geier, 2012), which could be compared with existing paradigms for assessing intra-personal mindfulness as well as the IFIRS. In the future we plan to test the dynamic associations among mindful parenting and other observed dimensions of parenting as well as child outcomes over time.

Mindful parenting covers an array of meta-cognitive and meta-emotional aspects of parenting in the moment as well as proximal aspects of how those intrapersonal processes of attention, awareness, nonreactivity, and non-judgment are brought to bear on parenting behavior and conveyed to the child through everyday, moment-to-moment parenting interactions. Just as intra-personal mindfulness in daily life has been shown to have unique predictive power in relation to other aspects of psychological functioning important for mental health (Baer et al., 2008; Brown & Ryan, 2003), mindful parenting may promote adaptive parenting behaviors. Mindful parenting provides a set of tools for parents to use in parenting the way they intend, allowing them to pay closer attention to their children and notice emotions arising in their own experience and that of their child when interacting in the moment, and therefore empowering them to choose how to respond versus reacting habitually. In the current study, we saw that brief, self-report of mindful parenting was related to a wide array of other important parenting qualities observed through interaction

between mothers and their youth. These results suggest that first cultivating mindful parenting may set the stage for subsequently improving positive interaction, communication, and discipline consistency, as well as reducing harsh discipline and increasing parental warmth. These are all key potential targets of parenting interventions and a mindful parenting intervention framework provides novel strategies not found in other family intervention approaches (Duncan et al., 2009). Initial findings suggest the addition of mindful parenting strategies to existing evidence-based prevention programs can strengthen their impact (Coatsworth et al., 2010). Our current results suggest the potential benefits of mindful parenting interventions may be detected observationally and also that the self-report assessment of mindful parenting may offer a possible proxy for observational measures that is more efficient to administer.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

## Acknowledgements

Work on this paper was supported by the National Institutes of Health through a research grant from the National Institute on Drug Abuse (R01 DA013709) and a career award to Larissa Duncan from the National Center for Complementary and Alternative Medicine (K01 AT005270). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. We thank Vickie Chang for literature review assistance and Bonnie Chu for copyediting help. Special thanks to the participants in the Garrison Institute meeting on mindful parenting for encouraging pursuit of this research question, and to the many PROSPER project participants and study team members for providing the data that made it possible to take this first step in addressing it.

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**Table 1**

DFA Structure Matrices of Behavioral Observation Ratings of Parenting and Dyadic Interaction Predicting Mindful Parenting Group

<b>Maternal and Dyadic Behavioral Observation Ratings</b>		
<b>Predictor Variable</b>	<b><i>r</i></b>	<b>Coeff.</b>
<i>Sample 1</i>		
Harsh Parenting	-.690	-.593
Consistent Discipline	.638	.503
Positive Interaction	.621	.435
Parent Communication	.505	-.496
Positive Parenting	.491	.296
Parental Warmth	.337	.312
<i>Sample 2</i>		
Positive Interaction	.871	.688
Parent Communication	.782	.610
Skills		
Positive Parenting	.682	.114
Harsh Parenting	-.338	.602
Parental Warmth	.299	.124
Consistent Discipline	.279	.042

*Note.* *r* = pooled within-groups correlations between independent variables and standardized canonical discriminant function. Coeff. = Standardized canonical discriminant function coefficients. Variables are ordered by absolute value of correlation.



**Table 2**  
 Mean Differences Between High and Low Mindful Parenting Groups on Behavioral Observation Ratings

Predictors	Low Mindful Parenting Group (n = 175)		High Mindful Parenting Group (n = 200)		t-Statistic	Cohen's d
	M	SD	M	SD		
Harsh Parenting	2.879	1.142	2.484	0.859	3.465***	0.359
Positive Interaction	4.807	1.357	5.497	1.148	-4.874***	-0.505
Positive Parenting	3.686	1.272	4.239	1.266	-3.879***	-0.402
Consistent Discipline	6.693	1.737	7.285	1.698	-3.069**	-0.318
Parent Communication	5.626	1.545	6.300	1.260	-4.244***	-0.439
Skills						
Parental Warmth	1.212	0.635	1.385	0.826	-2.096*	-0.217

Note. Significance levels are indicated as follows:

\*  $p < .05$ ,

\*\*  $p < .01$ ,

\*\*\*  $p < .001$ .