

MINDFULNESS AND PARENTING IN MILITARY FAMILIES

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Dedication

For my husband, Joel Nerenberg, whose love and support have been the greatest gift throughout the last four years. I could not imagine a better collaborator with whom to (someday) conduct a case study on mindful co-parenting.

Abstract

With the growth of literature on mindfulness and more recently, mindful parenting, there is ample cause to suggest the importance of mindfulness in the context of parenting, along with an emerging body of evidence suggesting that mindfulness/mindful parenting may be related to parenting practices and children's functioning. However, a basic association between parent mindfulness and parenting practices has not yet been solidly established. The goal of this study was to examine the association between mindfulness and parenting practices, using a comprehensive measure of parents' mindfulness and observational measurement of parenting practices. Exploratory and confirmatory factor analysis techniques were employed to address ambiguities related to conceptualization and measurement of mindfulness apparent in the field of mindfulness research, and structural equation modeling (SEM) techniques were used to assess the associations between parent mindfulness, parent internalizing psychopathology, parenting practices, and children's behavior problems. Results of this study support the hypothesis that mindfulness in parents is multidimensional and relates to certain parent and family characteristics. However, results did not support the expected associations of mindfulness in parents with parenting practices or child functioning. Nevertheless, though the current study did not reveal clear links between parents' mindfulness and parenting practices, it may serve as a useful step in refining methods for studying mindfulness in parents for future research.

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Mindfulness and Parenting in Military Families

Brown, Ryan, and Creswell, (2007b) stated that interest in mindfulness and enhancing mindfulness has “quietly exploded in recent years.” (p. 211), citing exponential growth in related research and even presence in the popular media. Since 2007, it might be argued that growth has continued at an exponential rate such that the presence of mindfulness as an important psychological construct would be difficult to deny. Likewise, with the growth of interest in mindfulness more generally, along with evidence of its wide ranging salutary effects, interest has increased in a variety of potential applications of mindfulness. In particular, given growing evidence that mindfulness may impact interpersonal functioning, it is unsurprising that there would be interest in how mindfulness may impact parents and parenting practices. However, investigation into the association between mindfulness and parenting remains in its beginning stages, and much more research is needed to understand the nature of the association between mindfulness and parenting. This study seeks to examine the associations between mindfulness, parenting practices, and child outcomes in order to add to the growing body of research suggesting that mindfulness is a useful construct to consider within the domain of parenting and child development.

Mindfulness

Mindfulness is a construct that has been gaining traction in the psychological world more generally over the past two decades, and more recently as it relates to parenting skills and practices. While mindfulness has only recently emerged as an important area of inquiry in psychology, mindfulness practice has ancient roots in

Buddhism (Baer, 2003). Originally nested within the context of the spiritual practices of Buddhism, mindfulness as it has been introduced to the field of psychology and mental health practice most typically does not include religious aspects or references to Buddhism. Rather, the increase in interest in mindfulness may be related to the introduction of this concept independently of religion, and skills have now been taught in the context of clinical interventions to train mindfulness (Baer, 2003). Though there are various different methods of mindfulness practice, the unifying goals appear to be quite similar (Bishop et al., 2004). Regardless of similarity in goals, however, differing definitions of mindfulness have influenced the way we have studied mindfulness to date and make interpretation of the extant research difficult. To best interpret presently available evidence of the utility of mindfulness, it is important to outline the currently available definitions of mindfulness as well as the areas where continued growth and agreement are needed.

Definitional issues. Many contributors to the field of mindfulness research have lamented the inconsistency in definitions of mindfulness and lack of a unitary operationalization for mindfulness as a construct (Bishop et al., 2004; Brown & Cordon, 2009; Chambers, Gullone, & Allen, 2009; Didonna, 2009). Though there have been recent attempts within the scientific study of mindfulness to establish more clearly operationalized definitions of mindfulness, there remains no agreed upon definition of mindfulness. Fortunately, as observed by Baer, Walsh, and Lykins (2009) the methods and techniques utilized to teach mindfulness tend to appear consistent with the various definitions of mindfulness present in the literature despite the variability in definitions

that is also present. Notably, Chambers et al. (2009) characterized some definitions of mindfulness as more multifaceted in a ways that reflect activities involved in training. This suggests a distinction between what might be referred to as ‘pure’ mindfulness and activities associated with mindfulness practice. Some may consider many multifaceted models of mindfulness to reflect activities involved in mindfulness training (e.g. nonjudgment, acceptance, present awareness, and attention), while others may consider these processes to be part of a basic definition of mindfulness itself. Block-lerner, Salters-Pedneault, and Tull (2005) suggested that it is quite difficult to draw the distinction between the process of mindfulness and the outcomes of mindfulness and mention, as an example, that some researchers have pointed to an increase in psychological flexibility as an outcome of mindfulness and acceptance-based methods, while others might conceptualize this flexibility as part of mindfulness itself.

In order to best conceptualize the current understanding of mindfulness in the field, the following section describes the various aspects of mindfulness which have been incorporated in definitions and explanations of mindfulness. The following features of mindfulness have been highlighted: attention, purposeful regulation of attention, present moment focus, nonjudgment/acceptance, non-elaborative, dispassionate, nonstriving or nondoing, letting go, choice in responding, and focus on experience.

Attention. One of the most frequently cited definitions of mindfulness describes mindfulness as “paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally,” (Kabat-Zinn, 1994, p. 4). This definition begins with an emphasis on attention itself, which appears to be a universally accepted aspect of mindfulness. To

be mindful, one must pay attention. Additionally, though some authors integrate attention and awareness or do not mention awareness specifically, others describe awareness as an aspect of mindfulness separate from attention, though this distinction does not appear to be clearly elaborated or accepted by the field more generally (Brown et al., 2007b; Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007).

Purposeful regulation of attention. Mindfulness has been described as paying attention “on purpose” (Kabat-Zinn, 1994). Similarly, definitions refer to regulating attention with vigilance such that it is sustained over a prolonged period of time in a manner that demonstrates flexibility in terms of the focus of attention (Bishop et al., 2004). Though some simply refer to the ability to regulate attention more generally (Feldman et al., 2007), others emphasize the voluntary, fluid nature of this regulation (Brown & Cordon, 2009) with the ability to move between a larger perspective on what is taking place more generally, and a focus of attention on smaller situational details (Brown et al., 2007b). Bishop (2002) also described mindfulness as investigative awareness, which captures the intentional effort to observe and gain greater understanding.

Present moment focus. Though humans have the capacity to direct attention to events of the past or anticipation of the future, mindfulness entails attention to the present moment. This present moment focus, like attention more generally, is another element that appears to be agreed upon across various definitions of mindfulness. Emphasis on attention to the present moment within definitions of mindfulness has been described variously as a particular way to pay attention (Kabat-Zinn, 1994), the ability to anchor

attention to what is occurring (Keng, Smoski, & Robins, 2011), orientation or attention toward present or immediate events or experience (Bishop, 2002; Bishop et al., 2004; Brown & Cordon, 2009; Brown & Ryan, 2003; Feldman et al., 2007), and present-oriented consciousness (Brown et al., 2007b). This focus on the present has been contrasted with other forms of present-time orientation, such as hedonism, in terms of the quality of this present moment focus. Namely, hedonism has been described as reflecting an inability or unwillingness to truly come in contact with situational realities, unlike the present moment attention associated with mindfulness (Brown et al., 2007b).

Nonjudgment/acceptance. Many have also described mindful attention as nonjudgmental (Bishop et al., 2004; Kabat-Zinn, 1994), with acceptance (Bishop, 2002; Bishop et al., 2004; Keng et al., 2011), with both nonjudgment and acceptance (Dimidjian & Linehan, 2003; Feldman et al., 2007; Kabat-Zinn, 2009), or simply describe mindful attention as without comparisons, categorizations, or evaluations (Brown et al., 2007b) or through a “nonevaluative lens” (Leary & Tate, 2007, p. 252), appearing to capture the qualities of nonjudgment and acceptance. This attitude towards what is attended to emphasizes acknowledgement of whatever is present, rather than rejection or negative evaluation of what is found as a result of directed attention (Bishop et al., 2004). Acceptance as it relates to mindfulness has been described as the ability to experience events fully without resorting to preoccupation with or suppression of emotion, and without a sense of passivity or resignation that might be associated with certain definitions of acceptance (Keng et al., 2011). In this way, acceptance can be defined as “seeing things as they actually are in the present” or “willingness to see things

as they are” (Kabat-Zinn, 2009, p. 38-39). Along with acceptance and nonjudgment, the terms openness, curiosity, and allowing have also been mentioned as attitudinal stances to attention that overlap with or describe nonjudgment or acceptance (Bishop et al., 2004; Dimidjian & Linehan, 2003; Keng et al., 2011).

Non-elaborative. Mindful attention has also often been discussed as non-elaborative attention, or “bare” attention or registering of experience (Brown et al., 2007b). Though this aspect of mindfulness is often described as part of other dimensions of mindfulness, in particular as part of regulation of attention, it is often described as a key aspect of attention that differentiates mindfulness from other types of directed attention (e.g. rumination) and thus warrants further attention (Bishop et al., 2004; Keng et al., 2011). The non-elaborative nature of attention entails a focus on direct experiencing of anything present in one’s field of experience itself, which might include sensations, thoughts, or feelings as events in the mind and body (Bishop, 2002; Bishop et al., 2004; Keng et al., 2011).

Though thoughts themselves could be considered elaborations about experience, there seems to be a general consensus that the presence of thoughts and emotions need not be counter to a mindful stance. Rather, it is when individuals get caught up in streams of thought that would suggest a lack of mindfulness (Bishop, 2002; Bishop et al., 2004). As described by Brown and Cordon (2009), “Even the usual psychological reactions that may occur when our attention is engaged – thoughts, images, verbalizations, emotions, impulses to act, and so on – can be observed as part of the ongoing stream of consciousness” (p. 213). Thus, though non-elaboration may be associated with processing

that does not include comparisons, categorizations, or evaluations (i.e. elaborations *about* what one finds in present experience), there is recognition that thoughts may still arise into experience without being counter to a mindful stance if thoughts are seen for what they are. As described by Brown et al., (2007b), thoughts can be seen as nothing more than thoughts, and corresponding emotions can be seen simply as reactions to the thoughts that have arisen, allowing observation of thoughts and emotions as mental events and parts of experience itself and decreasing the likelihood that these thoughts will bias attention.

Both Kabat-Zinn (2009) and Dimidjian and Linehan (2003) also mentioned what they refer to as beginner's mind as an element of mindfulness. Kabat-Zinn (2009) mentioned beginner's mind as one of his attitudinal foundations of mindfulness practice and described it as a willingness to see everything as if for the first time, while Dimidjian and Linehan (2003) mentioned beginner's mind in conjunction with the present focused nature of mindfulness. Beginner's mind bears mentioning in discussion of the non-elaborative nature of mindfulness given the impact of elaboration on the ability to see present experience with new eyes, or as if for the first time. Elaboration frequently entails calling upon memories of previous experience, interpretation of the implications of this previous experience to present experience and potential future experience, in so doing perhaps with the desire to avoid or achieve certain elements of future experience. In this way, elaboration runs counter to this concept of beginner's mind, while the non-elaborative stance of mindfulness seems to reflect the ability to see elements of present

experience for what they are, to see them with fresh eyes simply as elements present at this particular moment in time, for the first time in this present moment.

Dispassionate. It has also been observed that a mindful stance entails taking the stance of an impartial witness of one's own experience, described by some as dispassionate observation (Bishop et al., 2004; Kabat-Zinn, 2009). This dispassionate stance is likely closely related to the nonjudgmental and non-elaborative nature of attention, perhaps being fostered by, and in turn fostering these two aspects of mindfulness. When an individual is able to step back and observe present experience, including thoughts and emotions as mental events that are themselves a part of present experience, without getting caught up in that experience, that individual is in a mode of observation or attention appears more similar to the stance of an outside observer who is able to maintain some sense of objectivity about the meaning of the mental events that have arisen. Bishop et al. (2004) mentioned this dispassionate stance as indicating a lack of over-identification with mental events, and without the need to automatically react to them, describing mindfulness as a process by which individuals can gain insight into their own minds and adopt a de-centered perspective on thoughts and feelings "so that they can be experienced in terms of their subjectivity (versus their necessary validity) and transient nature (versus their permanence)" (p. 234).

Nonstriving or nondoing. Though not frequently mentioned as a separate quality or facet of mindfulness, some authors mention the nature of attention in mindfulness as "nonstriving" or "nondoing" (Kabat-Zinn, 2009; Leary & Tate, 2007). Nonstriving can perhaps be best understood as lacking a need to be, do, or experience anything other than

what is available in the present moment. As described by Kabat-Zinn (2009), non-striving is not cultivated when “you have introduced an idea into your mind of where you should be, and along with it comes the notion that you are not okay right now.” (p. 37). Non-striving can thus be seen as overlapping substantially with nonjudgment, as it is often through judgment of present experience that individuals strive for something other than present reality. It is possible that non-striving is described less frequently as an aspect of mindfulness because though non-striving is an attitudinal stance congruent with mindfulness, it may be explicitly discussed most often in regards to teaching mindfulness as a manner of understanding and cultivating nonjudgment, rather than in attempts to capture the definition of mindfulness.

Letting go. Similarly, letting go may be discussed most in conjunction with efforts to teach mindfulness, and overlaps with other elements of mindfulness discussed here including nonjudgment, nonevaluation, dispassionate observation, and nonstriving. Kabat-Zinn (2009) describes letting go as an attitudinal foundation of mindfulness practice that serves as a way to accept things as they are, resisting the urge to grasp or push away elements of experience. Leary and Tate (2007) mentioned that mindfulness involves experiencing the present “without clinging to it or rejecting it” (p. 252). Letting go seems worth noting for a full understanding of mindfulness, as it can be seen as in conjunction with nonstriving to fully understand how mindfulness entails holding experience lightly, neither grasping for things to be different than they are or tightly gripping what one finds in the process of observation.

Choice in responding. It has been suggested that mindfulness allows time to pass between perceptions and responses to those perceptions, by allowing notice of the time that lies between an event (external events or internal events such as thoughts, evaluations, or emotional withdrawal) and an individual's response to that event (Bishop et al., 2004; Leary & Tate, 2007). The nonjudgmental, nonelaborative nature of mindful attention and receptivity to the present moment allows for consideration of available options for responding to internal or external events without being drawn into automatic response patterns based upon getting caught up in elaborative or judgmental thought.

Focus on experience. As has been previously mentioned, across definitions of mindfulness there is a consensus that mindfulness entails attention and a present moment focus. This focus is often described as attention to present moment experience, and there is a general understanding that attending to one's experience is a key aspect of mindfulness. Some writers have also specified what is entailed within the scope of present moment experience. In general, both internal and external stimuli are included in the basket of experience, though as noted by Leary and Tate (2007), some tend to focus on directing attention to the external environment while some tend to focus on attention to internal stimuli including sensations, thoughts and feelings. Brown and Cordon (2009) described attention to present experience as an aspect of mindfulness "whether that experience arises from within the body-mind or through the senses" (p. 65). Similarly, Brown, Ryan, and Creswell (2007a) suggested that the emphasis that some tend to place on cognitive (or internal) experience is likely related to the utility of focusing attention on

this aspect of experience in terms of therapeutic change, but that mindfulness regards all aspects of experience, not simply mindful attention to thought.

Other components. In addition to these aspects of mindfulness mentioned above, some definitions of mindfulness include other elements that appear consistent with the components of mindfulness listed above, but do not appear to be widespread in terms of inclusion in definitions or conceptualizations of mindfulness. Dimidjian and Linehan (2003) included elements of what one does when practicing mindfulness (often referred to in the literature as “whats”) as well as the way one does these activities (often referred to in the literature as “hows”) as part of their definition. Though many of their “whats” and “hows” overlap with the elements of mindfulness mentioned above, two additional activities (whats) not otherwise cited in the literature are also included, namely (1) participating and (2) describing, labeling, or noting, as well as effectiveness as an additional quality (how) by which these activities should be undertaken. In his description of the attitudinal foundations of mindfulness practice, Kabat-Zinn (2009) described seven different attitudes, two of which do not appear to clearly overlap with the components of mindfulness described above. Specifically, he described trust and patience as attitudinal foundations, though he defined patience as being “completely open to each moment, accepting it in its fullness” (Kabat-Zinn, 2009, p. 35), which is reminiscent of many definitions of acceptance. Leary and Tate (2007) also included diminished self-talk as an element of mindfulness, suggesting that “mindful attention is achieved by reducing one’s inner self-talk. Only by quieting self-chatter—the running flow of mental commentary, thoughts about the past and future, self-evaluations, judgments, and other

extraneous reactions—can people remain highly attuned to their present experience” (p. 251-252). However, it should be noted that inclusion of this element in their definition was particularly criticized by Brown et al. (2007a) as demonstrating confusion between “attitudinal supports for mindful presence” and outcomes of mindfulness itself (p. 275).

It should be noted that the aspects that have been described here are not intended to be understood as distinct from one another, as they have often been described in a way that suggests their overlap within the various definitions of mindfulness from which they originate. The presence of overlap and the interconnectedness of these elements of mindfulness both suggest a compelling argument for an overall definition of mindfulness, and also contribute to the difficulty of gaining consensus on such a definition in the field. In particular, the broadness or specificity of definitions of mindfulness as they are presented throughout the extant literature tends to be related to the overlap of these aspects of mindfulness and how distinct each author acknowledges each of these elements to be. For example, despite the universality of inclusion of a present moment focus, not all who provide definitions of mindfulness include present moment focus as a distinct aspect or facet of mindfulness. Some mention the focus on the present moment as a separate component of mindfulness, others as part of a component that also contains other elements mentioned above, and still others mention present moment focus only in explanation of another component of mindfulness but without explicitly stating present moment focus as part of the definition of mindfulness itself. This is true for many of the elements of mindfulness presented here, and may be associated with some of the definitional confusion present in the literature. Not only is there variability as to what

aspects of mindfulness are included in definitions more generally, but also in whether or not these aspects, such as present moment focus, constitute a separate ‘facet’ of mindfulness or whether they are incorporated more generally under attention or regulation of attention, as in the definitions of mindfulness presented by Keng et al. (2011) and Bishop et al. (2004). It is no wonder that definitions of mindfulness range from unidimensional models (Brown & Ryan, 2004) to multidimensional models with varying numbers of dimensions (Baer et al., 2009; Bishop et al., 2004; Dimidjian & Linehan, 2003; Feldman et al., 2007; Kabat-Zinn, 2009; Kohls, Sauer, & Walach, 2009; Leary & Tate, 2007).

Recognizing each of the elements of mindfulness presented here as either as stand-alone or nested under another element determines whether mindfulness is conceptualized as unitary or multifaceted, as well as how many facets should be included in a multifaceted conceptual definition or operational assessment of mindfulness. However, when expanding the content under consideration beyond the specific definitions of mindfulness available to the descriptions and explanations available in the literature of each ‘facet’ of mindfulness, much more overlap is apparent in regards to a general understanding of what attitudes are associated with mindfulness and mindful attention. However, confusion remains as to whether certain elements described here and in the literature should be considered to be components of mindfulness or whether they can be best understood as outcomes or results of acquiring the skills of mindfulness.

For example, Baer et al. (2009) mentioned debate about acceptance, which may be understood as either an element of mindfulness, an outcome of practicing mindfulness,

or a skill that aids in the fostering of mindfulness. However, despite drawing attention to the problems associated with such discrepancies in the literature, in the same article they included acceptance as a quality of mindfulness in their definition, listed acceptance as a closely related construct to mindfulness, and went on to describe the Acceptance and Action Questionnaire (AAQ), which can be used to measure acceptance, separately from the other measures of mindfulness included in the article. Unfortunately, this sort of discrepancy is common in the literature on mindfulness. Frequently, despite acknowledgement of the ambiguity in the definition of mindfulness by authors, no clear stance is made in order to resolve this ambiguity, nor frequently is the acknowledgement of this ambiguity extended beyond discussions of definitions to the descriptions of measures. Perhaps there is this tendency to ignore measurement ambiguity as addressing ambiguity in relation to the measurement of related constructs requires the adoption of a clear stance on whether constructs are overlapping or not and if so, in what manner they overlap. Within discussions of definitions, it is indeed possible to list acceptance as an aspect of mindfulness and to list acceptance as a related construct independent of mindfulness, whereas in terms of measurement, it would be more difficult to argue that a measure of acceptance addresses one facet of mindfulness while simultaneously serving as a related measure by which to assess divergent validity. However, ignoring this discrepancy in regards to measurement likely perpetuates the difficulty in clarifying the nature of mindfulness and of studying it in a unified manner that increases our ability to draw conclusions about findings.

I would argue that it is important to consider whether it is reasonable or useful to make a distinction between mindfulness ‘itself’ and elements of practicing or behaving mindfully. A broader definition of mindfulness may be most useful for our understanding of the impact of mindfulness on individual functioning, as this is more likely to fully capture the variance associated with level of trait mindfulness or changes based on mindfulness practice. Indeed, it may make little sense to distinguish between *mindfulness* and *mindful behaviors* given that all cognitive events can be considered to be behaviors in some sense. Additionally, willingness to break down mindfulness into specific processes is likely to allow for the most meaningful empirical investigations about the mechanisms by which mindfulness influences functioning, or the critical elements which must be included as part of mindfulness intervention programs. Though definitions that do not break down particular elements of the process of mindfulness are useful for promoting general agreement on the overarching construct of interest, they may obscure important elements of process by which mindfulness may positively impact functioning.

State/process or trait. In addition to confusion in regards to which elements should be included in an operationalization of mindfulness, defining how *state-like* or *trait-like* the construct is has also been a challenge in the field of mindfulness research. For example, Cassone (2013) commented on the state of the field by suggesting that disagreement continues in regards to whether mindfulness “should be primarily considered a state, trait, or both” and that it would therefore “be misleading to assume to present a definitive framework for mindfulness until there is unequivocal agreement on operationalization of the concept” (p. 4). However, he nevertheless suggested that

individuals do tend to vary in the levels of both state and trait mindfulness that they express.

Though mindful attention might be understood in terms of how attention is directed on a moment to moment basis, the emphasis on cultivation of the skills to successfully direct attention in a mindful way might suggest a more stable conceptualization. This remains an area of debate, but recent attempts to solidify this conceptualization seem to describe the construct in a more process oriented manner. For example, a model of mindfulness proposed by Bishop et al. (2004) emphasized this process nature of mindfulness, describing mindfulness as a practice: a state or psychological process which is generated when attention is regulated in a particular way. Mindfulness would thus be conceived as the *process* of self-observation in contrast with the *knowledge* of the self. This knowledge is gained through the process of observing oneself, but is not the knowledge itself (Bishop et al., 2004). They also described mindfulness as similar to a skill, given that mindfulness can be developed with practice, and mentioned that it is closer to a state than a trait as “its evocation and maintenance is dependent on the regulation of attention while cultivating an open orientation to experience. As long as attention is purposely brought to experience in the manner described, mindfulness will be maintained, and when attention is no longer regulated in this manner, mindfulness will cease” (Bishop et al., 2004, p. 234).

A single individual may therefore bring attention to an experience and demonstrate mindfulness at one point in time, while at another point in time demonstrate a lack of attention brought to experience, which would not be referred to as mindfulness.

The development of this skill may make it more likely that in any particular circumstance an individual does indeed direct their attention to experience in the particular manner that characterizes mindfulness, but it certainly does not suggest that this will occur in every situation. If skill in mindfulness is no longer cultivated, the likelihood of directing attention and awareness in this way may decrease in any particular situation. To conceptualize mindfulness as a process as opposed to a trait does not, however, seem to preclude the possibility that other individual characteristics (or situational influences) may influence how easily a particular individual may cultivate mindfulness or engage in the process of employing mindful attention. It is likely that akin to athletic ability, innate or developed characteristics may certainly influence the impact of training regimens, and it would be difficult to argue that the same amount of training should suit every individual to achieve the same sort of outcomes.

Thus, it can be argued that regardless of the semantic difference between a trait-like presentation of mindfulness and a trait-like ability to acquire mindfulness skills and engage in the process of functioning mindfully, that it is reasonable to refer to the likelihood of demonstrating mindful functioning as both a process and a trait in some sense. Indeed, other characteristics we refer to as traits are alterable through intervention, and a similar understanding of mindfulness would be reasonable. For no trait would we expect an individual to act in accordance with what might be predicted by that trait across every situation, setting, and opportunity. Even if mindfulness is viewed as inherently a process construct, trait-like mindfulness can be understood as a tendency to engage in this process, with the state of mindfulness being current engagement in this process. Indeed,

despite frequent conceptualization of the process like qualities of mindfulness, most currently available measures of mindfulness seek to measure this trait-like tendency to be mindful (Baer, Smith, & Allen, 2004; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006; Walach, Buchheld, Buttenmüller, Kleinknecht, & Schmidt, 2006).

Innate vs. trained. Mindfulness is also discussed both in the context of mindfulness training, as well as in regards with the innate disposition to be mindful. As mentioned by Brown et al. (2007a), the disposition to be mindful can occur and be measured outside of mindfulness training, and this disposition has demonstrated positive effects (Bowlin & Baer, 2012). There is evidence that there are meaningful differences in dispositional mindfulness that occur naturally in non-clinical, non-meditating samples, with some evidence also suggesting that without training, levels of dispositional mindfulness remain relatively stable over time (Baer et al., 2004; Baer, Smith, et al., 2006; Barnhofer, Duggan, & Griffith, 2011; Brown & Ryan, 2003). Brown and Cordon (2009) mentioned both inter- and intra-individual differences in mindfulness, describing the capacity for mindfulness as inherent to human functioning, but that “individuals may differ in the frequency with which mindful capacities are deployed, due to inherent capability, inclination, or discipline” (p. 66). Brown and Cordon (2009) also suggested the utility of viewing mindfulness in this way, as a “basic human capacity” rather than simply as a therapeutic practice (p. 60). Much evidence also demonstrates the utility of mindfulness training and the malleability of dispositional mindfulness with such training (Bergen-Cico & Cheon, 2013; Brown et al., 2007b; Shapiro, Brown, & Biegel, 2007). As such, many might suggest that the goal of mindfulness training is in fact to increase levels

of dispositional mindfulness, though not all literature that includes training elements actually assess whether training impacts the processes associated with trait or state mindfulness (i.e. whether the training actually increased mindfulness as expected).

Overall, a reasonable argument can be made for a definition of mindfulness that encapsulates ideas about state, trait, innate, and trained mindfulness. Such a definition would recognize the utility of understanding and measuring an individual's innate tendency toward acting mindfully across situations, as well as the benefits of acting mindfully in any *particular situation* (trait & state). This general tendency, or likelihood to employ mindfulness in a particular situation, does indeed seem to differ across individuals who have had no mindfulness training, but may also be increased by mindfulness training.

Mechanisms behind the salutary effects of mindfulness. A brief literature review will be presented in regards to the previously demonstrated associations between mindfulness and positive functioning, as well as the beneficial effects previously demonstrated in regards to the impact of mindfulness programs. Additionally, I will describe a variety of mechanisms by which mindfulness or mindfulness meditation may demonstrate its salutary effects.

First, though some meditation practices do have the goal of increasing relaxation or inducing a relaxed state for the meditator, this is not the stated goal of mindfulness meditation (Kabat-Zinn, 2006). However, though mindfulness is intended to promote a state of alert awareness of internal and external stimuli without focusing explicitly on any stated goal of relaxation, the practice of mindfulness meditation tends to result in a more

relaxed state of mind both after an episode of mindfulness meditation, as well as across situations, as indicated by reports of decreased stress (Brown et al., 2007b; Dunn, Hartigan, & Mikulas, 1999; Kabat-Zinn, 2009). This relaxation of the mind may be an important process by which mindfulness relates to psychological functioning and wellbeing more generally.

Next, mindfulness meditation may serve an important function in developing metacognitive insight about internal events, which may in turn facilitate cognitive defusion and increase cognitive flexibility (Chambers et al., 2009). Mindfulness meditation focuses on attention and awareness of both internal and external events; though there may be particular utility from increasing awareness of internal events (thoughts and emotions). Certainly, a lack of metacognitive insight has been associated with a host of general difficulties and psychopathology (Mason & Hargreaves, 2001; Teasdale, Segal, & Williams, 1995; Teasdale, 1999b), and the development of metacognitive insight might in turn result in a stance that allows for cognitive defusion, which refers to a change in the context and impact of cognitive events (Block-lerner et al., 2005; Chambers et al., 2009; Masuda, Hayes, Sackett, & Twohig, 2004; Roemer & Orsillo, 2003). For example, research that serves as a foundation for the mindfulness based Acceptance and Commitment Therapy (ACT) suggests that increased awareness may facilitate an individual's ability to respond to internal events in a way other than their natural automatic response, in other words, to *respond* rather than *react* to these internal events (Hayes & Shenk, 2004; Hayes & Wilson, 2003). Increases in the ability to choose a response rather than reacting in an automatic manner demonstrates what has

been referred to as cognitive or psychological flexibility, and is purported to be achieved in part at least by the use of mindfulness strategies and what might be considered a generally mindful stance towards internal events (Garland, Gaylord, & Park, 2009; Hayes, Feldman, & Gables, 2004; Hayes & Shenk, 2004; Moore & Malinowski, 2009). In particular, the metacognitive stance wherein individuals are able to step back from these internal events and perceive them within a broader context of awareness is sometimes referred to as ‘decentering’ and is thought to facilitate an individual’s ability to engage in cognitive defusion (Block-lerner et al., 2005; Garland et al., 2009; Teasdale et al., 1995). Additional evidence that metacognitive insight is associated with a mindful stance has also been growing out of the study of mindfulness within neuroscience. For example, individuals with high levels of dispositional mindfulness have been found to demonstrate an increase in the top-down regulatory mechanisms that are engaged through the labeling of affective states (Barnhofer et al., 2011).

In regards to this top-down regulatory processing, Siegel, Germer, and Olendzki (2009) mentioned that mindfulness may achieve this redirection of attention by directing attention to the “stream of sensory data” and information about internal events that is available to an individual in the current moment, and in so doing, steers attention away from “schemas, narratives, beliefs, and other conceptual maps we normally use to guide our way through a day’s experience” (p. 32). The redirection of attention in this way is suggestive of Chambers et al. (2009) reference to the influence of mindfulness meditation on a reduction in overgeneral autobiographical memory, or overly general memories of one’s past that are categorical rather than specific. This type of recall has been found to

be characteristic of depression and posttraumatic stress disorder and may be maintained in part by functional avoidance by way of truncated memory search (Gibbs & Rude, 2004; Kuyken & Dalgleish, 1995; Williams, Teasdale, Segal, & Soulsby, 2000). With increased attention to present moment experience, mindfulness may reduce overgeneral memory by impacting functional avoidance and bringing attention to specific experiences in the moment, perhaps reducing overgeneral encoding of memories (Williams et al., 2007, 2000).

In a similar vein, Chambers et al. (2009) mentioned a reduction in rumination as one of the processes by which mindfulness meditation may be associated with positive psychological functioning. Baer (2003) mentioned previous findings from Teasdale (1999a), suggesting that mindfulness promotes a decentered view of one's thoughts that may interfere with ruminative patterns of thinking by promoting awareness of those patterns. Teasdale et al. (2000) found that mindfulness based cognitive therapy targeting individuals between episodes of depression successfully reduced the occurrence of depressive relapse for patients with three or more episodes of depression. They suggested that depressive, ruminative thinking may be evoked between depressive episodes, potentially escalating self-perpetuating cycles of ruminative processing, and increasing the likelihood of onset of additional episodes of major depression (Teasdale, 1988; Teasdale et al., 2000, 1995). Following these studies, others have also found a reduction in rumination with the use of mindfulness based strategies (Kumar, Feldman, & Hayes, 2008; Ramel, Goldin, Carmona, & McQuaid, 2004). With increased mindfulness and associated attentional redirection, individuals may be able to notice these ruminative

patterns of thinking and come to understand these patterns in a decentered way that does not overly emphasize the truth of such thoughts, further reducing the individual's perpetuation of a ruminative pattern.

Next, mindfulness may impact psychological functioning due to the influence of mindful functioning on interpersonal relationships (Chambers et al., 2009). Given that mindfulness may influence the way emotional content is processed, it has important implications for interpersonal interactions where emotional content can play such an important role. Unsurprisingly, mindfulness in the context of interpersonal relationships has been a growing area of research as research on mindfulness more generally has increased (Barnes, Brown, Krusemark, Campbell, & Rogge, 2007; Carson, Carson, Gil, & Baucom, 2004; Wachs & Cordova, 2007). This area of inquiry will be further addressed in the discussion of potential implications for mindfulness in parent-child relationships.

Finally, mindfulness is associated with increased acceptance of one's own experience, and decreased experiential avoidance as potential processes by which mindfulness may impact psychological functioning and general wellbeing (Chambers et al., 2009). Baer (2003) discussed mindfulness training in terms of its utility for clinical intervention and in so doing described a variety of mindfulness based programs that all "include acceptance of pain, thoughts, feelings, urges, or other bodily, cognitive, and emotional phenomena, without trying to change, escape, or avoid them" (p. 130). Acceptance can also be thought of as the antithesis of experiential avoidance, which describes an unwillingness to experience these same sorts of internal events (feelings,

thoughts, sensations) along with attempts to alter these events (Hayes, Strosahl, et al., 2004). Thus, increased acceptance associated with, or promoted by increased mindfulness can be expected to promote decreased experiential avoidance, which has been suggested as a general vulnerability that may impact psychological functioning across a variety of diagnostic categories (Chawla & Ostafin, 2007; Hayes, Wilson, Gifford, & Follette, 1996; Kashdan, Barrios, Forsyth, & Steger, 2006).

Based on these processes suggested to influence psychological functioning, mindfulness may alter individuals' relationships toward their mental processes, individuals' ability to act in accordance with their own interests or values, and individuals' ability to experience emotions in an appropriate, adaptive manner. Though these changes can be seen as potential outcomes of participating in mindfulness based intervention programs or engaging in regular practice of mindfulness meditation, they may also be seen as the characteristics that define 'state mindfulness,' or individuals' current tendencies in terms of their relationships with their own mental processes. As described by Baer (2003), mindfulness training may lead to cognitive change wherein individuals learn to view thoughts as simply mental events that do not need to be escaped or responded to in a particular way. Individuals may be able to disengage from automatic thoughts and behavioral patterns that were previously prominent, or may otherwise dominate an individual's mental life (Brown & Ryan, 2003). Similarly, Chambers et al. (2009) mentioned that nonjudgmental awareness, thought of as genuine experiencing and expression of emotions without underengagement (e.g. experiential avoidance; Hayes et al., 1996) or overengagement (e.g. rumination; Nolen-Hoeksema,

1998) of internal events, may allow for a change in individuals' relationships with their experiences. Though over time, the content of cognitive events may be influenced by an individual's reaction or response to the thoughts and emotions that tend to be present, mindfulness can be seen as impacting the relationship an individual has with *whatever* content appears. Even without changing the content of thoughts and emotions, individuals may experience benefit from mindfulness based on their relationship with these events.

Along with this more adaptive relationship with mental events likely comes more adaptive or appropriate experiencing of emotions more generally (Brown & Cordon, 2009). With reduced underengagement or overengagement in response to internal events, individuals can be seen as exposing themselves to the true nature of the events, enabling the extinction of fear responses and avoidance behaviors that may have been previously brought on by certain thoughts or emotions. Indeed, research has demonstrated that mindfulness may influence the meaning of emotional content by impacting the process of appraisal of stimuli, thereby increasing individuals' willingness to experience stimuli by reducing negative appraisals (Brown & Cordon, 2009). With an increase in individuals' ability to tolerate negative emotional stimuli, the influence of these stimuli may further decrease and individuals may be better able to use more effective coping (Linehan, 1993a, 1993b). Additionally, it is likely a relationship with internal events as described above, wherein these events need not be escaped or responded to in any particular way, would promote willingness to experience and acknowledge these events. True experiencing may serve as exposure to the events themselves, increasing the likelihood

that future internal events continue to be viewed without the need to be escaped or responded to in any particular manner. As mentioned by Baer (2003), many authors have previously noted that improved self-observation may promote a wider range of coping skills and may allow for the use of these strategies earlier in the process of emotional dysregulation upon recognizing an increase of negative emotionality or problematic thoughts (e.g. ruminative thoughts).

Finally, those who are more mindful in general or who have experienced an increase in mindfulness as a result of mindfulness practice likely have a greater ability to act in accordance with their own interests or values. With an increase in awareness of thoughts and emotions, this information can be considered in terms of its utility for decision making. The thoughts and emotions may be important clues as to what the individual most cares about or values, and in addition, without awareness of these mental events, individuals are also more likely to react in a habitual and potentially maladaptive pattern without being able to fully consider the options for choosing a different response (Brown et al., 2007b; Kabat-Zinn, 2009). As described by Kabat-Zinn (2009), all individuals' minds constantly offer a stream of automatic judgments about thoughts and experience, and mindfulness allows us to "be aware of these automatic judgments so that we can see through our own prejudices and fears and liberate ourselves from their tyranny" (p. 34). Bishop et al. (2004) mentioned that a release from elaborative thinking frees up additional resources to process information related to current experience. By increasing awareness, Brown and Ryan (2003) suggested that "mindfulness may facilitate the creation of an interval of time or gap wherein one is able to view one's mental

landscape, including one's behavioral options rather than simply reacting to interpersonal events" (p. 844). In regards to this process, they also mentioned Self Determination Theory (Ryan & Deci, 2000), which suggests that awareness and attention may be important in promoting an individual's ability to make choices that are consistent with his or her own values, needs, and interests. Indeed, Brown and Ryan (2003) found that self-reported mindfulness predicts higher levels of autonomy in daily life.

Mindfulness interventions. As previously indicated, though mindfulness and mindfulness based meditation are quite old, their growth within the field of psychology has expanded over the past few decades. Much of our current understanding of mindfulness has come from intervention studies that provide direct training in mindfulness meditation or are based on the principles of mindfulness. As described by Baer (2003), the literature includes mindfulness based interventions that address chronic pain, a variety of DSM IV-TR Axis I disorders including depression and relapse of depression (Hofmann, Sawyer, Witt, & Oh, 2010; Kumar et al., 2008; Ma & Teasdale, 2004; Segal, Williams, & Teasdale, 2012; Teasdale et al., 2000), eating disorders (Baer, Fischer, & Huss, 2006; Kabat-Zinn, 2009; Telch, Agras, & Linehan, 2001; Wanden-Berghe, Sanz-Valero, & Wanden-Berghe, 2011; Wisniewski & Kelly, 2003), anxiety disorders (Block-lerner et al., 2005; Evans et al., 2008; Hofmann et al., 2010; Kabat-Zinn, 2009; Roemer, Salters-Pedneault, & Orsillo, 2006), trauma (Follette & Vijay, 2009; Kearney, McDermott, Malte, Martinez, & Simpson, 2013; Lang et al., 2012; Tyler Boden et al., 2012), and substance abuse (Brewer et al., 2009; Hayes, Wilson, et al., 2004; Witkiewitz, Marlatt, & Walker, 2005; Zgierska et al., 2009), as well as other medical

disorders, and mixed clinical and non-clinical populations. Mindfulness based interventions incorporate differing levels of time spent in direct practice of mindfulness meditation, but the principles associated with meditation practice are incorporated in all of these mindfulness based treatment protocols. There are four main treatment protocols incorporating mindfulness practices that have been studied extensively to date, though there has recently been growing interest in incorporating some elements of mindfulness practice into other treatment protocols in order to enhance efficacy. The main forms of treatment that have received attention are Mindfulness Based Stress Reduction (MBSR; Grossman, Niemann, Schmidt, & Walach, 2004; Kabat-Zinn, 2009), Mindfulness Based Cognitive Therapy (MBCT; Segal et al., 2012; Teasdale et al., 1995), Dialectical Behavior Therapy (DBT; Linehan, 1993a, 1993b), and Acceptance and Commitment Therapy (ACT; Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Hayes, Strosahl, & Wilson, 1999; Hayes, 2004). Authors of treatment strategies have suggested various mechanisms by which programs may lead to improvements, including cognitive change, self-management (use of coping skills) and acceptance (Baer, 2003).

Positive associations. Aside from the many negative associations previously mentioned between mindfulness and a host of problematic characteristics and outcomes, mindfulness also demonstrates a variety of positive associations with beneficial or protective characteristics. Evidence about the positive outcomes and associations with mindfulness has come from intervention research on mindfulness based treatment programs, as well as from cross-sectional research that measures associations between mindfulness and other traits (Keng et al., 2011). Additionally, there have been growing

efforts to utilize laboratory based induction studies to examine state mindfulness as well (e.g. Arch & Craske, 2006). Mindfulness or increases in mindfulness have been associated with increased emotional intelligence and social connectedness (Cohen & Miller, 2009), relationship enhancement (Carson et al., 2004), decreased relationship stress (Duncan, Coatsworth, & Greenberg, 2009), positive affect (Brown et al., 2007b), empathy (Beitel, Ferrer, & Cecero, 2005; Brown et al., 2007b; Dekeyser, Raes, Leijssen, Leysen, & Dewulf, 2008), sense of autonomy (Brown & Ryan, 2003), and self-esteem (Rasmussen & Pidgeon, 2011), among other desirable outcomes. Many explanations have been offered for such associations. For example, Block-Lerner, Adair, Plumb, Rhatigan, and Orsillo (2007) suggested that mindfulness based approaches may increase empathic responding, suggesting that non-judgmental present-moment awareness should increase an individual's capacity for perspective taking and empathic concern.

Mindfulness and emotion regulation. Goodall, Trejnowska, and Darling (2012) suggested that the relation between mindfulness and emotion regulation may be bidirectional, with mindfulness training increasing emotion regulatory capacity, while individuals demonstrating more adaptive emotion regulation strategies also could be expected to show higher levels of dispositional mindfulness. Though such an association is interesting, it does little to distinguish the constructs from one another. Indeed, mindfulness and emotion regulation demonstrate significant overlap in the literature, but both remain useful constructs to measure and understand independently, regardless of this overlap. For example, Gross and Thompson (2007) described emotion regulation as encompassing five families of emotion regulatory processes including: situation

selection, situation modification, attentional deployment, cognitive change, and response modulation. Given this explanation of emotion regulation, mindfulness may overlap with the processes of attentional deployment and cognitive change. Within the context of broadly defined emotion regulation, however, attentional deployment and cognitive change may encompass a wide variety of processes beyond mindfulness. It would be useful to develop further understanding of these processes and their relation to mindfulness as a capacity, as mindfulness may account for important elements of emotion regulation by providing some ways to engage in attentional deployment and cognitive change in order to regulate emotions.

Likewise, the overlap of emotion regulation and mindfulness relates to some of the major areas discussed above in regards to the potential processes by which mindfulness has salutary effects on functioning, including for example, the changing of one's relationship with thoughts and emotions and appropriate experiencing of emotions. At least in regards to conscious emotion regulation, mindfulness may capture a portion of the mechanisms of emotion regulation. However, the presence of such overlap does not indicate that both mindfulness and emotion regulation are not useful constructs independently. In particular, the goal of mindfulness is not self-regulation, and therefore even the portions of emotion regulation which can be accounted for by the processes of mindfulness are still useful constructs in themselves. Though mindfulness may explain the process of self-regulation, it does not capture the goals and motivations associated with emotion regulation, and therefore likely cannot fill the same role in our understanding of such constructs. Similarly, as Gross and Thompson (2007) suggested

that emotion regulation can be seen as a continuum from more conscious effortful controlled regulation to more effortless, automatic regulation, and that it may be useful to consider mindfulness as one of or overlapping with some of the mechanisms by which conscious, effortful regulation occurs.

There have also been some attempts in the mindfulness literature to establish a clearer understanding of the overlap between mindfulness and emotion regulation, particularly by coming to understand mindfulness as a process by which emotions may be regulated. For example, through an experimental paradigm including a brief mindful breathing task, Arch and Craske (2006) found increased participant willingness to view more negative stimuli as well as lower self-reported negative affect in response to viewing negative material after engaging in this mindfulness induction. They conceptualized this responding as evidence that mindfulness may allow for engaging in more adaptive emotion regulatory efforts, even after participating in only a brief mindfulness task with for individuals with no particular mindfulness experience. Chambers et al. (2009) even more explicitly defined an area of overlap between mindfulness and emotion regulation by describing *mindful emotion regulation* as representing “the capacity to remain mindfully aware at all times, irrespective of the apparent valence or magnitude of any emotion that is experienced” (p. 569).

Measurement issues. The definitional issues discussed above as pertain to mindfulness cannot be separated from issues of measurement, where there is a similar lack of clarity and agreement in the field. Many researchers recognized the need for the field of mindfulness to develop measurement instruments to better allow for assessment

of mindfulness and changes in mindfulness (Baer, Smith, et al., 2006; Brown & Ryan, 2003; Dimidjian & Linehan, 2003). However, though several self-report inventories have been developed, the lack of a unified conceptual or operational definition of mindfulness has manifested in a great deal of variability in their content and factor structure and even what these inventories purport to assess (Brown et al., 2007b; Keng et al., 2011). The majority of the commonly utilized inventories assess dispositional mindfulness, and have been used in both meditating and non-meditating samples. Among the commonly cited and utilized inventories are: the Five Factor Mindfulness Questionnaire (FFMQ; Baer, Smith, et al., 2006), which is a 39-item instrument constructed using a factor analytic approach (that measures five factors (observing, describing, acting with awareness, openness to negative experience, and nonreactivity)); the Freiburg Mindfulness Inventory (FMI; Buchheld, Grossman, & Walach, 2001; Walach et al., 2006), which is a 30-item instrument assessing nonjudgmental present-moment observation and openness to negative experience that produces a single total score; the Kentucky Inventory of Mindfulness (KIMS; Baer et al., 2004), a 39-item instrument assessing four factors (observing, describing, acting with awareness, and openness to negative experience); the Cognitive and Affective Mindfulness Scale (CAMS and CAMS-R; Feldman et al., 2007; Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2004), a 12-item inventory meant to measure attention, awareness, present focus, and acceptance/nonjudgment; The Toronto Mindfulness Scale (TMS; Lau et al., 2006), a 13-item questionnaire that assesses two factors (curiosity and decentering), though a factor analysis yielded a single factor reflecting both elements; the Southampton Mindfulness Questionnaire (SMQ; Chadwick

et al., 2008) a 16-item unidimensional inventory that assesses the degree to which individuals respond to distressing thoughts and images utilizing observation, non-aversion, nonjudgment, and letting go; the Mindful Attention and Awareness Scale (MAAS; Brown & Ryan, 2003), a 15-item measure of the general tendency to be attentive and aware of present moment experience in daily life producing a total score; and the Philadelphia Mindfulness Scale (PHLMS; Cardaciotto, Herbert, Forman, Moitra, & Farrow, 2008), a 20-item measure that assesses two dimensions (present-centered awareness and acceptance).

Though the development of such measures demonstrates a significant advance in the field of mindfulness research, allowing for increased examination and understanding of the association between dispositional mindfulness and other constructs of interest as well as direct examination of how mindfulness changes with training, much work remains in the domain of measurement given the variability in what each of the current measures address. In addition, beyond the variability present between measures designed as measures of mindfulness that were created in the efforts to expand upon the literature on mindfulness, as mentioned previously, there are other measures which are often treated as measures of closely related constructs which purport to measure constructs that are conceptually overlapping with many definitions of mindfulness (e.g. the Acceptance and Action Questionnaire, or AAQ).

As discussed previously, the Acceptance and Action Questionnaire (AAQ) was designed to assess experiential avoidance (or acceptance, its conceptual counterpart) and has been vaguely mentioned as a measure of constructs related to mindfulness in the

literature, while authors simultaneously include a similar conceptualization of acceptance within their definitions of mindfulness. This designation as a measure of an overlapping construct is likely due to the differential origins of the AAQ from other measures of mindfulness. As suggested by Mitmansgruber, Beck, Höfer, and Schübler, (2009), “despite considerable overlap in underlying processes, the most salient differences in the constructs are the divergent theoretical contexts from which they are drawn” (p. 448). Namely, the AAQ and its successor the AAQ-2 were developed originally within the Acceptance and Commitment Therapy (ACT) framework, which draws on Relational Frame Theory and functioning contextualism and not simply theory relating to mindfulness, which has its basis in Eastern philosophy (Block-lerner et al., 2005). However, it may be of note that the creators of the AAQ-2 themselves indicated conceptual overlap between various concepts that seek to explain what they describe as a “key insight” informed by a growing body of evidence about mental health and behavioral effectiveness (Bond et al., 2011). Namely, this insight is about how people relate to their thoughts and feelings, rather than exclusively focusing on the form of these emotions (e.g. level of negativity). Of note, Bond et al., (2011) mentioned distress tolerance, thought suppression, and mindfulness as constructs that all reflect this type of insight. Additionally, within the body of literature that addresses mindfulness intervention, trials of ACT, which often utilize the AAQ or AAQ-2 as outcome measures, are frequently included alongside trials of MBCT, MBSR, or DBT.

Likewise, as suggested previously, elements of what may be considered emotion regulation are also conceptually overlapping with mindfulness, though the two constructs

do not appear to be entirely overlapping. Along this line of thought, Coffey, Hartman, and Fredrickson (2010) also suggested that “‘mindfulness’ and ‘emotion regulation’ subsume multiple sub-processes,” particularly as measured by the FFMQ, which may be the most frequently utilized measure of mindfulness, and the DERS (Difficulties in Emotion Regulation Scale), a measure of emotion regulation (p. 249). In particular, Coffey et al. (2010) noted that the literature base utilized to construct both the FFMQ (by way of the KIMS, which provides many of the items for the FFMQ) and the DERS is shared, as they both draw on the work of Linehan (1993a). And indeed, Coffey et al. (2010) noted that according to Linehan’s model, mindfulness is important in the facilitation of emotion regulation, and suggested that the line between these two constructs may have become blurred in order to model and measure both constructs in a comprehensive manner. It is therefore unsurprising that several of the subscales of the FFMQ and DERS appear to assess overlapping constructs.

In the construction of the FFMQ, Baer, Smith, et al. (2006) utilized factor analysis techniques to explore the components of mindfulness based on the current measures available for assessing mindfulness at the time in an attempt to explore whether mindfulness is best described as an overall capacity or whether it is better understood as a multifaceted construct (and what facets it would entail). They included a variety of additional measures for which correlations were predicted with mindfulness measures, including both the DERS and the AAQ. In regards to the DERS, they reported expecting negative correlations between the DERS and mindfulness measures, suggesting this association because mindfulness skills include the awareness and acceptance of emotions.

And indeed, they found significant correlations between the overall score for the DERS and each of the questionnaires included in their study. The DERS demonstrated a significant association with the MAAS $r(613) = -.34, p < .01$, the FMI $r(613) = -.46, p < .01$, the KIMS $r(613) = -.56, p < .01$, the CAMS $r(613) = -.63, p < .01$, and the MQ $r(613) = -.58, p < .01$. Additionally, they reported significant associations with the overall DERS score and four of the five facets on their final version of the FFMQ. The DERS was significantly correlated with describe ($r = -.38, p < .001$), act with awareness ($r = -.40, p < .001$), nonjudge ($r = -.52, p < .001$), and nonreact ($r = -.36, p < .001$), though it was not significantly correlated with the observe facet ($r = -.02, p = \text{n.s.}$) (sample size unknown for these associations, ranging from 300 to 538).

Likewise, Baer, Smith, et al. (2006) also predicted significant negative associations between the mindfulness measures and the AAQ, suggesting this association because mindfulness includes observation and nonjudgmental acceptance of internal experiences. They found significant associations in the expected direction with all of the mindfulness measures included in their study MAAS $r(613) = -.32, p < .01$, the FMI $r(613) = -.54, p < .01$, the KIMS $r(613) = -.44, p < .01$, the CAMS $r(613) = -.51, p < .01$, and the MQ $r(613) = -.60, p < .01$. They also reported significant associations with the AAQ and four of the five facets on their final version of the FFMQ. The AAQ was significantly correlated with describe ($r = -.23, p < .001$), act with awareness ($r = -.30, p < .001$), nonjudge ($r = -.49, p < .001$), and nonreact ($r = -.39, p < .001$), though it was not significantly correlated with the observe facet ($r = .12, p = \text{n.s.}$) (sample size unknown for these associations, ranging from 300 to 538).

Despite high associations between both the AAQ and DERS and the mindfulness measures incorporated in the study, along with acknowledgement of conceptual overlap, Baer, Smith, et al.(2006) provided no clear explanation as to why items from these measures were not included in this factor analysis. However, the conceptual overlap between both mindfulness and certain elements of emotion regulation, along with the high correlations between each of the mindfulness measures and scores on both the DERS and AAQ suggest that these measures may be capturing elements of mindfulness directly, and should be considered for inclusion as measures of mindfulness.

Given the persistent issues associated with measurement, as the field of mindfulness continues to receive extensive research attention, it will be important to continue to clarify how mindfulness might best be measured in order to increase our understanding of its utility as a construct.

Parenting

Parenting practices. There is much research to support the influence of parenting and parenting practices on child development and children's outcomes (Collins et al., 2000). In particular, there is a body of evidence that suggests that parenting practices are associated with both children's internalizing problems (DeGarmo, Patterson, & Forgatch, 2004; Ge, Best, Conger, & Simons, 1996; Ge, Lorenz, Conger, & Elder, 1994; Gelfand & Teti, 1990; Muris, Schmidt, Lambrichs, & Meesters, 2001; Rapee, 1997; Sanders, Dadds, Johnston, & Cash, 1992) and externalizing problems (Conger et al., 1992; DeGarmo et al., 2004; Galambos, Barker, & Almeida, 2011; Ge et al., 1996; Patterson, DeBaryshe, & Ramsey, 1989).

Various efforts have been made to characterize parenting, though it is important to note that the field of parenting research does not have a single agreed upon understanding of influential parenting behaviors or styles. However, there have been some particularly robust characterizations of parenting in the sense that they show up frequently in the literature and have demonstrated much support in regards to demonstrations that they have explanatory power in regards to child outcomes.

One of the well-known and researched characterizations of parenting was developed by Diana Baumrind (Baumrind & Black, 1967; Baumrind, 1966). This characterization describes three parenting styles: authoritative parenting, authoritarian parenting, and permissive parenting. However, despite the emphasis on parenting prototypes, these categories of parenting were defined based upon two dimensions of parenting, namely warmth/responsiveness and control/demandingness.

Another stance in defining and measuring parenting practices has been to focus exclusively on dimensions, rather than typologies or prototypes. Though there are a variety of dimensions that have been previously measured in the literature, many of them demonstrate much overlap and focus on positive interactions and responsiveness, as well as discipline practices. In particular, I will focus here on addressing the model of parenting behaviors that is derived from work on Social Interaction Learning (SIL) and the development of coercive cycles between parents and children (Forgatch & Patterson, 2010; Forgatch & DeGarmo, 1999; Granic & Patterson, 2006; Patterson et al., 1989; Patterson, 2005a, 2005b). The premise of the SIL perspective is that children are socialized each day by important social figures, including parents, and that these

interactions shape their further development. Coercion theory and the SIL literature describe the process by which coercive cycles of interaction can arise between parents and children. It posits that these cycles of interaction are maintained by a specified set of inept parenting practices that have implications for short and long term adjustment for children, given previous work suggesting that families of antisocial children demonstrate harsh and inconsistent discipline, poor monitoring and supervision, and little positive involvement with the child (Patterson et al., 1989). In particular, the SIL model refers to two primary parenting dimensions: coercive and effective parenting, with coercive parenting contributing to negative behavioral outcomes for children, and effective parenting contributing to healthy adjustment (Forgatch & DeGarmo, 2002). The model and the literature that has proliferated utilizing this model specifies two main dimensions of parenting practices; however, parenting practices are further characterized as encompassing several more specific parenting behaviors, namely skill encouragement (contingent positive reinforcement to teach specific behaviors), limit setting (particularly contingent and consistent use thereof), monitoring (supervision and tracking of children's daily lives), problem solving (utilizing skills in order to effectively resolve conflicts, establish rules, etc.), and positive involvement (warmth and attention) (Gewirtz et al., 2008). Measurement of parenting practices is most frequently comprised by scores in five domains: appropriate skill encouragement, monitoring, problem solving, positive involvement, and ineffective/harsh discipline (recoded in the opposite direction for an overall positive/effective parenting composite). Although this concept of parenting was originally developed to explain the influence of parenting practices on the development

of externalizing behaviors, much evidence now suggests that this model is also useful for explaining some of the parental contributions to the children's internalizing problems as well (DeGarmo et al., 2004; Gewirtz et al., 2008; Rapee, 1997).

Both correlational and intervention studies have demonstrated the association between parenting practices as conceptualized with this model and child externalizing and internalizing problems, and in many cases, parenting practices have been examined as mediating factors between intervention effects and positive child outcomes (Bullard et al., 2010; Forgatch & DeGarmo, 1999; Ogden & Hagen, 2008; Patterson, Forgatch, & DeGarmo, 2010; Patterson, 2005; Sigmarisdóttir, Degarmo, Forgatch, & Guðmundsdóttir, 2013). Indeed, parenting programs that utilize this perspective and teach strategies for effective discipline and setting firm limits have demonstrated positive effects on children's competence and behavior problems by impacting the parenting practices suggested as important for SIL. Namely, these programs tend to increased positive parenting and decreased coercive discipline, with these changes serving as mediators for child outcomes (Snyder et al., 2013). Current examination of the impact of parenting practices on child outcomes continues to contribute to increases in our understanding of how parents impact children's development and functioning, as various topics of interest such as timing of effects, direct and indirect effects, specificity of impact, and cascading effects across domains can be studied using this research paradigm (Patterson et al., 2010).

Snyder et al. (2013) described the extensive overlap between Baumrind's descriptions of effective (authoritative) and ineffective (authoritarian and permissive)

parenting styles and those specified by SIL. This overlap is particularly apparent when considering the use of Baumrind's dimensions of parenting (warmth/responsiveness and control/demandingness). Snyder et al.'s (2013) recognition of this overlap suggests even more consensus about basic effective parenting practices despite the lack of a unitary definition for parenting practices. It should be noted that though these models of parenting practices have significant support, this does not mean the models claim to capture all aspects of parenting that may influence child functioning. Indeed, as noted by Caron, Weiss, Harris, and Catron (2006), the field of parenting still lacks consensus of whether parenting dimensions should be considered categorically, as in Baumrind's parenting styles, or as continuous independent dimensions. Despite the lack of agreement in this area, studies of parenting practices continue to inform our understanding of the nature of parenting as well as how parenting practices might be changed to positively impact child outcomes.

Determinants of parenting. Belsky (1984) called for systematic examination of the influences on parenting behavior, providing a model of parenting as multiply determined and influenced by personal psychological resources of parents, contextual sources of stress and support, and child characteristics. Abidin (1992) extended this model, suggesting that parent personality, appraisals, and belief systems should be particularly considered as part of the process of determining parenting practices. Given the impact of parenting behavior on child functioning, understanding what influences parent behavior is an important step for informing prevention and intervention efforts, and has indeed received increased attention since Belsky's (1984) emphasis on parenting

determinants. Available research on parenting and children's functioning in high stress contexts has confirmed the importance of contextual stressors and supports as one of the determinants of parenting behaviors. Indeed, research in the areas of economic hardship and family transitions suggest that children's adjustment may be impacted by contextual stressors due at least in part to the impact of these stressors on parenting practices (Conger et al., 2002; Conger, Ge, Elder, Lorenz, & Simons, 1994; Elder & Caspi, 1988; Ge, Conger, Lorenz, & Simons, 1994). Parenting practices have also been suggested as a protective factor for children in response to mass trauma as a stressor (Gewirtz et al., 2008; Masten & Narayan, 2012).

Additionally, the original work from the SIL literature also suggested that the primary pathway to coercion may begin with exposure to stressful life circumstances that can include poverty, health problems, and family transitions (Gewirtz et al., 2008). Likewise, there is also much support in regards to parents' individual characteristics and their impact on parenting practices. In particular, there is extensive research on the impact of parent's psychopathology on parenting practices and subsequently on children's functioning. For example, Cummings, Keller, and Davies (2005) found that parental depressive symptomatology was related to problematic parenting behaviors (less warmth, more psychological control) and multiple child problems (including children's internalizing and externalizing problems). Indeed, Lovejoy, Graczyk, O'Hare, and Neuman (2000) reported that observational studies have revealed that parental depression is associated with a variety of parenting difficulties including increased hostility, negative interactions, lowered responsiveness, and fewer positive interactions based on an

extensive review of the literature. Of note, these findings reflect clinical diagnoses as well as sub clinical symptomatology as well as sub-clinical difficulties in functioning.

Association between mindfulness and parenting

Kabat-Zinn and Kabat-Zinn (1997) were the first to focus directly on the importance of mindfulness in the context of parenting, describing three principles that they laid out as the basis for mindful parenting: empathy, acceptance, and sovereignty. This initial effort to incorporate mindfulness as an important parenting construct was not a scientific examination of mindful parenting, but rather an effort to engage parents. However, since the publication of their book “Everyday Blessings: The Inner Work of Mindful Parenting,” there has been steadily increasing interest in the potential utility of considering mindfulness in regards to parenting. Indeed, there are many reasons to suggest that mindfulness may be a useful construct to consider in the context of parenting (Benn, Akiva, Arel, & Roeser, 2012).

For example, Bögels, Lehtonen, and Restifo (2010) described the utility of considering mindfulness in relation to parenting by suggesting that mindfulness-based parenting interventions may target six different domains in relation to parenting, namely parents’ stress, parental preoccupation that results from psychopathology (of either parents or children), parents’ executive functioning capacities, repetition of dysfunctional schemes and habits from one’s own childhood, increasing attention that is self-nourishing for parents, and marital functioning and co-parenting. Below, I will discuss a variety of explanations for why it may be particularly useful to consider mindfulness as it relates to parenting.

As discussed previously, the characteristics associated with mindfulness to date suggest general utility, with many associations with positive characteristics or measures of functioning. Many of these associations suggest that mindfulness may have particular relevance for parenting based on the unique demands of relationships more generally, as well as parenting in particular. For example, mindfulness may be particularly useful for addressing issues around parental emotional awareness, as the strong emotions that may be evoked by parenting can bring on automatic cognitive processes that may undermine parenting and may make it more difficult to be truly present with one's child (Dumas, 2005). Mindfulness may help foster an awareness that works against automatic patterns of interaction that have been in place for long periods of time, working to draw awareness to thoughts and feelings in the moment, with potential for particular relevance within the context of entrenched parent-child interaction patterns. For example, Cassone (2013) suggested that mindfulness training might be a useful method for promoting behavioral change by "assisting parents in altering the automatic, habitual, and dysfunctional parenting patterns they have internalized from their own childhood experiences, and are liable to continue enacting with their own children" (p. 1). Maliken and Katz (2013) also described the importance of awareness of emotions in decreasing overlearned, ineffective parenting strategies, and mentioned that with such awareness, parents may instead view negative emotions as opportunities for closeness or instruction around emotions. They suggested that this stance might allow for more validation and labeling of children's emotions, which has been found to predict lower levels of children's behavior problems in middle childhood and adolescence.

Also in regards to automatic responding, as mentioned previously, parental depression poses a challenge to parenting quality, as it is associated with parenting behaviors and interactions that are less positive and more negative, disengaged, and reflecting decreased sensitivity. Mindfulness, with its emphasis on present-focused attention, conscious awareness, and a nonjudgmental attitude, can help parents disengage from habitual dysfunctional routines, addressing challenges to parenting by counteracting some of the negative automaticity associated with parenting in challenging contexts such as maternal depression (Sawyer Cohen & Semple, 2009). Along the same line of thought, Stein, Lehtonen, Harvey, Nicol-Harper, and Craske (2009) discussed the possibility that what they refer to as “preoccupation,” defined as narrowed self-focused attention dominated by recurrent negative intrusive thoughts, may be one mechanism by which maternal post-natal psychopathology impacts child development by reducing sensitivity and responsiveness. A mindful stance is counter to such preoccupation, and may allow parents to maintain a more engaged, sensitive style of responding to their children.

The non-elaborative nature of mindfulness may also have important implications for parenting. Bishop et al. (2006) suggested that when released from elaborative thinking, including attention to thoughts such as beliefs, assumptions, and desires, there may be more processing capacity to consider other information, which is likely to be particularly important in cases of parental mental health concerns (e.g. depression), but also more generally high stress contexts of parenting. They also suggested that the acceptance entailed by mindfulness should allow individuals to draw different subjective interpretations of stimuli, leading to decreases in how threatening some of these stimuli

may be. An example of this process in parenting may be how a parent views a child's anger. If automatic interpretation of this emotion evokes defensiveness on the part of the parent, who fears having caused the sort of anger in her child that she remembers to be characteristic of her own childhood interactions with her own mother, anger may be a particularly emotionally arousing stimulus. However, acceptance of this emotional state in the child may allow the parent time to reflect upon the meaning, recognizing her child's frustration is not directed at herself but rather on situational causes of frustration. Bögels et al. (2010) also suggested the importance of considering the impact of elaborative thinking on parenting behaviors, suggesting that with the reduction in this sort of thinking that is associated with a mindful stance, parents may have more attention to allocate to children during interactions, and decreasing the likelihood of attending only to negative or biased cues about the child's behavior.

Research in mindfulness has also emphasized the associations with self-regulation and non-reactivity, which may be quite critical in the context of parenting (Slade, 2005). As suggested by Bishop et al. (2006), mindfulness techniques can be thought of as "mental training" to reduce the vulnerability of mental reactivity that may be associated with increased stress and emotional distress. Dumas (2005) also emphasized the importance of non-reactivity and the non-judgmental nature of mindfulness, with the concept of acceptance as central to mindfulness practice. He suggested the potential implications of non-reactivity and non-judgment in the building of parental self-efficacy, which has been found to be an important variable associated with parenting quality and parenting practices (Gewirtz, DeGarmo, Plowman, August, & Realmuto, 2009; Sandler,

Schoenfelder, Wolchik, & MacKinnon, 2011). As mentioned previously, the non-reactive stance associated with mindfulness may engender increased awareness of thoughts and emotions associated with children's behavior, allowing for a reduction in irritable or otherwise impulsive responding to such behavior (Bögels et al., 2010).

The stress that can be associated with parenting has also been a major theme in regards to the potential utility of considering mindfulness in conjunction with parenting. Bluth, Roberson, Billen, and Sams (2013) examined a model of stress for parents and couples caring for children with ASD, and added to a previous model in the field by incorporating mindfulness as a component and conceptualizing mindfulness as impacting individual resources, couple resources, and formal social support by way of intervention. MacDonald, Hastings, and Fitzsimons (2010) studied elements of mindfulness in parents of children with intellectual disabilities and found that greater acceptance of difficult thoughts and emotions associated with their children and their children's disabilities were associated with lower levels of stress. Similarly, Bluth and Wahler (2011b) found that perceptions of the effort required for parenting was negatively correlated with mindfulness, suggesting that mindfulness may impact the subjective experience of parent stress and distress associated with parenting in particular. Bögels et al. (2010), also noted the potential influence of mindfulness on parenting practices as mediated by parenting stress, citing Belsky's (1984) determinants of parenting model in describing the potential impact of parenting stress on parenting skills and behaviors.

As suggested previously, mindfulness may promote taking a decentered stance, where one is able to stand back and evaluate the current situation in a more objective

manner. Such a stance relates strikingly to Belsky's (1984) suggestion that "the sensitive individual, one might argue, is able to decenter and to appraise accurately the perspective of others, is able to empathize with them," (p. 85). Empathy too has been suggested by many as an important influence on relationship quality that is likely impacted by a mindful stance. For example, Benn et al. (2012) found that mindfulness training was associated with an increase in participants' self-reported empathic concern, suggesting that mindfulness increases the likelihood of perceiving another individual without the "veil of clouded judgments," and suggested further examination of the impact on changes in relationships as a result of increased mindfulness (p. 1484). Block-Lerner et al. (2007) also suggested that empathy often leads to a greater sense of intimacy and satisfaction in relationships among two or more individuals based on the influence that comprehension and conveying the understanding of another's emotional experience may have on relationships. They mentioned that acceptance may be a key part of the association between mindfulness, empathy, and empathic responding, as by increasing acceptance of one's own experience may foster an increase in acceptance of the experience of another.

In addition to providing useful information in regards to the impact of mindfulness on empathy and its potential influence on close relationships, the literature on mindfulness in romantic relationships also suggests the possible influence of mindfulness on the moment to moment interactions that occur in relationships and which may be quite relevant to parenting. Brown and Cordon (2009) mentioned that the attentiveness that characterizes mindfulness may allow individuals to be more attentive to partners' thoughts and emotions as well as subtle elements of communication including

affective tone and non-verbal behavior. Similarly, they also suggested the importance of mindfulness on awareness of an individual's own responses to communication and on the avoidance of impulsive or destructive reactions that might otherwise negatively impact relationships. Indeed, Barnes et al. (2007) found that mindfulness was associated with relationship satisfaction, constructive responding to relationship stress, and better communication during discussions, and Wachs and Cordova (2007) found that mindfulness was related to marital adjustment, and that this association was mediated by individual's abilities to identify and communicate emotions.

Finally, Snyder et al. (2013) described the importance of considering parents' mindfulness as it relates to the ability to engage in effective emotion socialization (emotion coaching) as opposed to ineffective emotion socialization (emotion dismissing). They described emotion coaching as including parents' modeling of awareness, recognition, expression, and regulation of their own emotions to provide models for children to be able to do the same and suggested that "when parents are aware and mindful of their emotions, they create a constructive and emotionally supportive caregiving environment characterized by positive emotion, engagement, and well-regulated parent negative affective displays" (p. 193-194).

Definitions. The lack of consensus around a single definition of mindfulness impacts the conceptualization of mindfulness as it applies to parenting as well. However, there have been some efforts to operationalize mindful parenting in particular beyond simply suggesting that mindful parenting is mindfulness in the context of parenting. Some suggest that such efforts are necessary to more clearly understand and integrate the

elements of parental cognitions, attitudes, and reactivity in parenting interactions influenced by a mindful stance and in order to guide research on mechanisms of change (Duncan, 2007; Harnett & Dawe, 2012).

To address such need, Duncan et al. (2009) proposed a model of mindful parenting, which they described as consisting of present moment parenting experience, within the context of a long term relationship, in which parents attend to the child's needs and exercise self-regulation. Their model included five proposed dimensions of mindful parenting including: (a) listening with full attention, (b) nonjudgmental acceptance of self and child, (c) emotional awareness of self and child, (d) self-regulation in the parenting relationship, and (e) compassion for self and child. Within these dimensions, they also propose specific parenting behaviors which would be expected to be associated with each of these aspects of mindful parenting. Duncan, Coatsworth, and Greenberg (2009b) utilized this model in a pilot study the same year and suggested that mindful parenting as represented by this model was "hypothesized to represent qualities of the cognitive-affective interface occurring for parents during moment-to-moment parenting interactions with their children," (p. 609) and in so doing, extended mindfulness to the interpersonal interactions occurring in the context of parenting.

Elements of this model also suggest particular parenting behaviors that may be associated with each dimension of mindful parenting proposed. Namely, Duncan et al., (2009a) suggested that listening with full attention likely allows for an increase in parents' abilities to correctly discern their children's behavior cues and accurately perceive their children's verbal communication while decreasing the use and influence of

cognitive constructions and expectations. Nonjudgmental acceptance of self and child was suggested to improve the healthy balance between child-oriented, parent-oriented, and relationship-oriented goals, and increase parenting self-efficacy and appreciation of children's traits while decreasing self-directed concerns and unrealistic expectations of children's attributes. Emotional awareness of self and child was suggested to increase responsiveness to children's needs and emotions, as well as to increase accuracy in attributions of responsibility while decreasing the dismissal of children's emotions and discipline that results from strong negative emotions on the part of the parent. Self-regulation in the parenting relationship is suggested to relate to an increase in emotion regulation in the context of parenting, as well as parenting that is in accordance with goals and values, while decreasing over-reactive automatic discipline and dependence on children's emotions. Finally, compassion for self and child was suggested to relate to increased positive affection in the parent-child relationship and fostering a more forgiving view of parenting efforts, while decreasing negative affect displayed by parents in the parent-child relationship as well as self-blame at times when parenting goals are not achieved.

The distinction between mindfulness more generally and how it may impact parenting and Duncan's conceptualization of mindful parenting is of particular importance given its influence on the study of how mindfulness may be related to parenting practices or may change with intervention. Namely, the extant empirical literature utilizes both measures of parents' mindfulness drawn from the general mindfulness literature previously reviewed, as well as measures of 'mindful parenting,'

the most common of which was designed to represent Duncan's model of mindful parenting (Bruin et al., 2012; Duncan et al., 2009b; Duncan, 2007). Similarly, intervention programs have demonstrated a focus either on changing parents' mindfulness more generally, as congruent with the mindfulness literature reviewed previously, or on changing mindful parenting (conceptualized either via Duncan's model or by individual researchers) in efforts to deliver programs that focus on taking or training a mindful stance particularly as pertains to parenting, rather than a more general mindful stance.

Previous literature. As suggested previously, there has been a burgeoning of work that suggests the theoretical relevance of mindfulness to parenting. However, the field of mindfulness as it relates to parenting is still in early stages of growth. To date, there have been some studies of association between parenting practices and other variables relevant to the study of parenting in conjunction with mindfulness, as well as studies that assess the utility of mindfulness programs for parents. The majority of this work falls into the second category, with intervention programs that target either parents' mindfulness more generally, or programs that target mindfulness thought to be associated with parenting in particular (i.e. mindful parenting). Additionally, it should be noted that the literature is heterogeneous in terms of what sorts of problems these programs sought to address, with studies focusing on parents of children with ASD, developmental delays, ADHD, chronic illnesses, families undergoing divorce, as well as in families where parents might be experiencing distress without particular child risk factors.

Several programs sought to address the mindfulness of parents as individuals, rather than focusing particularly on mindfulness in the context of parenting. For example, Bailie, Kuyken, and Sonnenberg (2011) assessed parents one year after the completion of Mindfulness-Based Cognitive Therapy (MBCT), which seeks to impact individual mental health, particularly difficulties with anxiety and depression. They sought to qualitatively assess whether and how the program as delivered in the standardized manner had effect on parenting and the parent child relationship by conducting a thematic analysis of parents' perceived impact of the program. Of particular note were themes of empathy and acceptance in parental responses, with parents reporting experiencing an increased ability to see that there were a number of reasons for their children's behavior. They described changes in attributions of child blame, self-blame, and children's intent, and reported being able to more easily attribute behavior to different factors. Minor, Carlson, Mackenzie, Zernicke, and Jones (2006) and Neece (2014) each conducted MBSR programs for parents of children with special needs (chronically ill or with developmental delays, respectively) and found these programs to impact a variety of areas, including parental stress, mood disturbance, life satisfaction, and even reductions in children's behavior problems in the study by Neece (2014). Blackledge and Hayes (2006) conducted Acceptance and Commitment Therapy (ACT) with parents of children with ASD and demonstrated treatment effects in terms of parental functioning but did not include specific measures of parenting or child outcomes, suggesting the potential utility for such programs but highlighting the relative lack of empirical information by which to examine the association between mindfulness and parenting.

As suggested above, programs have also been developed that seek to target mindfulness as it applies to parenting in particular. One example of such a program was conducted by Altmaier and Maloney (2007), who examined a program for families going through divorce, attempting to target parent self-awareness and intentionality in responding to children's needs. Though no changes in the parent-child relationship were found, there were significant changes in mindfulness itself, and efforts of this type remain promising. Other studies that directly target mindfulness in the context of parenting have also found such increases in general mindfulness as well as increases in self-compassion, decreases in stress, anxiety, and general distress (Benn et al., 2012; Perez-Blasco, Viguier, & Rodrigo, 2013), in addition to higher parenting self-efficacy as compared to a control group (Perez-Blasco et al., 2013). Additionally, Benn et al. (2012) found that mindfulness, as opposed to self-compassion, mediated the treatment effect on stress, anxiety, negative affect, and personal growth at follow up. Finally, it should be noted that there is initial evidence that mindful parenting programs may directly impact children's behavioral outcomes. For example, Bögels, Hellemans, Deursen, Römer, and Meulen (2013) found improvements in children's internalizing and externalizing symptoms, parents' own internalizing and externalizing symptoms, decreases in parental stress, and changes in parenting style (including changes in autonomy encouragement, overprotection, and rejection) as a result of their mindful parenting program.

However, many of the studies documenting associations between training in mindful parenting and significant changes in terms of children's functioning have been based on a very small number of participants. Singh's research group has produced much

of the currently cited literature in this regard, examining training in mindful parenting for parents of children with ASD, (Singh et al., 2006), developmental delays (Singh et al., 2007), and ADHD (Singh et al., 2010), with participant numbers ranging from two to four for these studies. However, despite the low number of participants, these studies have sparked interest based on findings that include increases in satisfaction about parenting and interactions with their children (Singh et al., 2006, 2007, 2010), decreases in parenting stress (Singh et al., 2007), along with decreases in children's aggression (Singh et al., 2006, 2007), noncompliance (Singh et al., 2006, 2010), and self-injury (Singh et al., 2006), and increases in children's social skills (Singh et al., 2007).

Mindful parenting interventions have also been conducted within the context of already existing parenting programs. Coatsworth, Duncan, Greenberg, and Nix (2010) and Duncan et al. (2009b) added mindfulness components to the Strengthening Families Program, first as a pilot then as a randomized control trial, with results suggesting that mindfulness has promise in terms of its ability to target interpersonal processes. They found similar effects for the typical and mindfulness enhanced versions of the program in terms of child management practices, but found that the modified program enhanced the parent child relationship to a greater extent than the original program (relationship measures included assessment of emotional style parenting, anger management, and positive and negative affective behavior towards children).

Studies have also examined mindful parenting programs in conjunction with intervention programs for children. For example, Bögels, Hoogstad, van Dun, de Schutter, and Restifo (2008) combined a mindful parenting program and a mindfulness

training program for adolescents with externalizing disorders using a quasi-experimental waitlist control design and demonstrated improvements in a variety of areas, including children's internalizing, externalizing, and attention problems, as well as improvement on measures of parents' attainment of their own goals, though they did not include any direct measures of parenting. Similarly, van der Oord, Bögels, and Peijnenburg (2012) also used a wait list control design of a mindful parenting program in conjunction with a mindfulness training program for families of children with ADHD and found significant reductions in inattention and hyperactivity/impulsivity for children and parents, as well as reductions in parental stress and overreactivity.

Though individual focus versus parenting focus of the mindfulness training may make a difference in terms of outcomes achieved, there is not yet evidence to answer this question (Bögels et al., 2013; Sawyer Cohen & Semple, 2009). Neither is there information as to the efficacy of mindfulness programs for parents alone, versus those that target both parents and children in efforts to address children's behavior problems. However, studies have demonstrated potential utility and promise of such programs despite the need for much additional intervention research both establishing the efficacy of mindfulness for parents more generally, as well as of mindful parenting in addressing parenting and children's behavior.

As mentioned previously, there has also been some limited examination of the association between parents' mindfulness and variables relevant to parenting outside of the context of intervention. In particular, such associational research has examined perceived parenting effort, parenting style, children's behavior problems, parent

depressive symptoms, and parenting stress, and seems to address questions about parents' mindfulness, rather than mindful parenting, at a greater frequency than intervention research.

Efforts to understand these associations have suggested that higher levels of mindful parenting may be associated with less avoidance in relation to children. Specifically, MacDonald and Hastings (2008) studied mindful parenting in fathers of children with intellectual disabilities and found that mindful parenting significantly predicted fathers' self-reported involvement in child-related parenting and socialization tasks. Mindful parenting also may be associated parental perceptions of the effort required for parenting, as Bluth and Wahler (2011a) found that mindfulness mediated the association between parents' perceived effort and youth internalizing and externalizing problems, with higher perceived effort being related to higher perceived problems.

There have also been initial attempts to understand the relationship between mindfulness or mindful parenting as it relates to parental psychopathology or parenting behaviors. Beer, Ward, and Moar (2013) found significant negative correlations between mindful parenting, depressive symptoms, and parenting stress, for parents of children with ASD, though they did not find a significant negative association between mindful parenting and parent anxiety as they had expected. Additionally, they also found mindful parenting to be negatively associated with levels of children's behavior problems, but found that mindful parenting did not mediate the association between parents' depressive symptoms and parenting stress as they had anticipated. Parent et al. (2010) examined parents' mindfulness, depressive symptoms, and children's behavior problems in

conjunction with direct measures of positive and negative parenting using an observational coding system (the Iowa Family Interaction Rating Skills, or IFIRS) that produces composites for positive parenting (including parental warmth, child centered behaviors, positive reinforcement, quality time, listener responsiveness, and child monitoring) and negative parenting (negative affect, hostility, intrusiveness, neglect/distancing, and externalize negative). However, their findings suggested that while parent mindfulness was associated with lower parent depressive symptoms and higher depressive symptoms were associated with poorer observed parenting (lower positive and higher negative parenting), mindfulness did not relate to positive or negative parenting in their study.

As in Parent et al.'s (2010) study, Geurtzen, Scholte, Engels, Tak, and Zundert (2014) examined the association with children's functioning, though they studied mindful parenting rather than parents' mindfulness in order to assess its relation to adolescents' internalizing problems. They were interested in the association between mindful parenting and adolescents' self-reported symptoms of depression and anxiety, while controlling for both parents' symptoms of depression and anxiety as well as what they referred to as "traditional parenting dimensions." These traditional dimensions of parenting included responsiveness, behavioral control, psychological control, and autonomy support, and were measured by self-report Likert scale. Though they found only weak or non-significant associations between adolescents' internalizing symptoms and either mindful parenting or traditional parenting dimensions, many of the associations between two forms of parenting dimensions revealed moderate correlations.

Additionally, regression analyses indicated that mindful parenting explained additional variance in predicting adolescents' internalizing symptoms even when controls were included in analyses; however the same was not true for traditional parenting practices. Follow up analyses suggested that non-judgmental acceptance of parental functioning carried the significant effect, as no other dimensions of mindful parenting significantly predicted adolescents' internalizing symptoms with included controls.

Like Geurtzen et al. (2014), Snyder et al. (2013) suggested the utility of examining additional dimensions of parenting beyond what might be considered more traditional measures of parenting. To do this, they used structured interviews to assess parents' cognitive, affective, and behavioral responses to vignettes about challenging child behavior. Using these parental responses, they described an attribution-affective response set associated with mindful skilled parenting that includes acknowledging and having thoughts and feelings, as well as identifying valued parenting actions, child outcomes, and congruent goals and parenting behaviors. They suggested that such a response set should relate to parenting that is intentional, planful, attentive, aware, flexible, balanced, reflective, and engaged, allowing parents to set clear limits and rules, use good tracking, contingent attention, scaffolding, consistent discipline, joy, interest, empathy, validation of emotions, problem solving, emotional expressiveness, and invitation of verbal exchanges. As part of the same study, they conducted a factor analysis that indicated three response sets related to discipline that included firm/contingent, harsh/hostile, and give in/give up, with the firm/contingent most closely associated with their description of mindful parenting practices, while the other two

response sets reflecting their descriptions of sets they would expect to find as a result of cognitive fusion, labeling these response sets as hostile/angry/reactive and worrying/distressed/distracted-disengaged. Finally, they examined the correlation between each approach/response set and observation of SIL parenting practices (as previously described in the review on parenting practices), and found various significant associations including a positive correlation between harsh/hostile parenting and harsh discipline, and an inverse correlation with teaching skill, positive parenting, and problem solving. They also found give in/give up to be inversely associated with teaching skill and the firm/contingent approach to be positively associated with positive parenting and problem solving. Additionally, they found that calm/firm and harsh/hostile approaches to discipline were predictive of child externalizing behavior problems even after accounting for SIL parenting practices with an interaction between harsh discipline and the harsh/hostile approach in predicting children's externalizing problems.

Need for future research. Studies about parents' mindfulness and mindful parenting have grown significantly over the last several years, yet much about the association between mindfulness and parent and child wellbeing is still poorly understood. The need for further research is related to the need for robust studies with sufficient numbers of participants, increased consistency in findings across studies, increased assessment that addresses processes or mechanisms of influence or change, and strong measurement of operationalized constructs across samples of parents and children that may experience very different types of contextual influences and stressors.

Perez-Blasco et al. (2013) mentioned that, given the association between parental stress and problematic parenting practices “it comes as no surprise that researchers are interested in finding effective ways to manage parental stress to benefit mothers and fathers, as well as their children” (p. 227) and have therefore begun to examine the utility of mindfulness based intervention programs for this very purpose. Indeed, the positive effects of mindfulness programs are striking for a variety of different problem areas, and based on the theoretical associations between mindfulness and interpersonal relationships and parenting in particular, developing and executing mindfulness programs for parents is a worthwhile endeavor. However, intervention studies often require a much greater investment in terms of time and resources, and thus often include a smaller number of participants. This is very much the case in the study of mindfulness and parenting, with many of the most frequently cited studies (e.g. those conducted by Singh) demonstrating participant pools as small as two, three, or four individuals. Even when quasi-random assignment or wait list control designs have been employed, participant ranges have often fallen between 10 and 30 total. A notable exception to this lack of power was the study by Bögels et al. (2013), with 86 parents eventually engaging in their program. Though research in this area is compelling, studies will need to include larger numbers of participants for continued advancement of this area of research.

The use of measurement of both parenting practices and mindfulness also serves as a limitation to interpretation in many of the extant studies. Many of the studies described did not include any measures of parenting practices, simply focusing on acceptability of the programs implemented or on variables pertaining to children’s

outcomes or parent stress only, without examining parenting practices in particular (e.g. Bögels et al., 2008; Minor et al., 2006). This does not appear to be due to a lack of interest in examination of parenting practices, as much of the theoretical background suggesting that mindfulness may be important for parenting relates to parenting behaviors as mechanisms by which mindfulness may influence children's functioning. Regardless, a lack of measurement of parenting practices limits the interpretability of expected associations when they are found, for example between parent mindfulness and children's behavioral outcomes. Further, many of these intervention studies fail to measure either parent mindfulness or mindful parenting under the assumption that mindfulness or mindful parenting interventions will indeed increase either parent mindfulness or mindful parenting, respectively. However, it is possible that the benefit of these programs, particularly the less studied mindful parenting programs (rather than the more well established general mindfulness programs) on children's outcomes or parent stress is established through some mechanism other than increasing parent mindfulness or mindful parenting. Thus, studies examine changes in children's functioning, without assessing whether changes in parenting practices serve as a mediator for such outcomes (or what other mechanism by which changing parent's mindfulness may impact children's functioning). Some of these studies that report effects also include training elements for children themselves, further decreasing the ability to draw any causal conclusions about the impact of changing parents' mindfulness (e.g. van der Oord et al., 2012).

Additionally, when parenting practices have been measured, observational measures of parenting, the gold standard for parenting practices, have rarely been used

and the measures of parenting that have been collected vary greatly from study to study, though they overlap in their reliance on parent-report. For example, Williams and Wahler (2010) utilized a self-report measure of parenting style, MacDonald and Hastings (2008) included parent reported involvement in parenting tasks, Neece (2014) included self-reported overreactivity and laxness/permissiveness of parenting, and Coatsworth et al. (2010) included self-reported child management practices including inductive reasoning, monitoring, and consistency in discipline and what they referred to as measures of relationship quality including emotional style parenting, expression of positive affective behavior, and negative affective behavior. Coatsworth et al. (2010) themselves suggested that “direct observations of parenting and parent–youth interactions would instill greater confidence in our finding” (p. 215). The use of self-report parenting practices may be particularly problematic in efforts to examine the relation between mindfulness or mindful parenting, as current measures of these constructs are also self-report, making it difficult to rule out the influence of reporter bias if significant associations are found.

However, there are some exceptions in terms of studies utilizing observational measures of parenting practices. To the best of my knowledge, Altmaier and Maloney (2007), Parent et al. (2010), and Snyder et al. (2013) have conducted the only studies that have utilized this measurement standard, with Altmaier and Maloney (2007) as the only intervention study that uses such measures. Altmaier and Maloney (2007) coded for dyadic process (positive engagement, mutual warmth, happy emotional tone, reciprocity, and mutual intimacy of topic) and parent behavior (responsiveness, reflecting, validation) using an established behavioral observation system, though findings did not suggest

improvement in parenting practices or parent-child connectedness as a result of treatment. As mentioned previously, Parent et al. (2010) also utilized an established observational coding system to assess positive and negative parenting practices, but did not find an association between parent mindfulness and observed parenting. Though Snyder et al., (2013) did find significant associations between parenting practices as assessed using an observational coding system that derives from the SIL literature, and behaviors associated with their set of attribution-affective response sets, it should be noted that they did not include either typical measures of parent mindfulness, or measures reflecting the conceptualization of mindful parenting that has been growing in popularity since the dissemination of Duncan et al.'s (2009a) model of mindful parenting.

Finally, in regards to measurement of mindfulness, there is a lack of consensus about whether it would be most useful to measure parent mindfulness, as captured by various self-report measures that assess either trait or state mindfulness, or mindful parenting (most frequently assessed using the Interpersonal Mindfulness in Parenting Scale [IEM-P; Bruin et al., 2012; Coatsworth et al., 2010; Duncan, 2007]). There may be additional utility in capturing the processes of mindful parenting in particular, and likewise, in continuing to study the development and utility of mindful parenting interventions, perhaps necessitating the need for measurement of mindful parenting as opposed to mindfulness in order to most clearly capture mechanisms of change. However, it may also be important to understand how established mindfulness programs and measures of mindfulness may be applied to populations of parents in order to assess and impact change in parenting practices and children's outcomes, given the much larger

research base from which to draw for such programs and measures. If either basic mindfulness or mindful parenting programs demonstrate changes in parent mindfulness without direct translation of mindfulness to parenting practices through the use of mindful parenting measures, this will be a robust test of the various theoretical mechanisms linking mindfulness to relationship functioning generally and to parenting as a relationship context in particular. At the very least, further evidence is needed to determine the differential utility of mindfulness and mindful parenting as constructs in regards to the parent child relationship and children's functioning.

Furthermore, in spite of the utility of testing theory in the context of intervention (Cowan & Cowan, 2002), the field of mindfulness as it relates to parenting may particularly benefit from additional studies of the association between mindfulness or mindful parenting, parenting practices, and children's functioning outside of the intervention context. In particular, as mentioned previously, many of the currently available intervention studies have very small numbers of participants, limiting the interpretability of findings. Indeed, to the best of my knowledge, the largest studies of parent mindfulness or mindful parenting currently available are correlational in nature, conducted by Geurtzen et al. (2014), who were able to study 901 adolescents and their parents, Snyder et al. (2013), who were able to study 267 parents in an at-risk community sample, and Duncan (2007), who was able to study 801 rural families of early adolescents as part of the construction of the IEM-P. Indeed, though studies of baseline associations between mindfulness and parenting practices will not allow for causal conclusions to be drawn, larger scale measurement of these constructs will likely be an important part of

the process to establish empirical evidence for the theoretical association between mindfulness and parenting. Additionally, continued examination of baseline associations between parent mindfulness and parenting practices and children's functioning provides insight to the context, or determinants of parenting prior to any efforts to change this context. Such information may later serve as compelling argument for the adoption of prevention programs even prior to the appearance of child or parent psychopathology.

Better yet, if both correlational and intervention studies conducted can employ high quality measures of both mindfulness and parenting practices. As suggested by Bögels et al. (2013), "multiple informants (e.g., child, teacher, and nonparticipating parent) and objective assessments (e.g., observed parenting behavior) are recommended in order to evaluate whether the subjectively reported effects also translate into objective changes" (p. 12).

Parenting in Military Families

Given the influence of contextual challenges as determinants of parenting practices, it is not a surprise that parenting behavior has been shown to be impacted by the military deployment cycle and the stresses associated with it. As mentioned by Gewirtz, Pinna, Hanson, and Brockberg (2014), there is increasing evidence that parental deployment takes a "psychosocial toll" on military families. Palmer (2008) cited several stressors associated with military involvement and the deployment cycle, including presence of PTSD, the periods of deployment, and post deployment reunions. Indeed, there is also evidence that service members experience a variety of stressors throughout the deployment cycle that may significantly impact service members themselves, other

family members, as well as various aspects of family functioning (Chandra, Burns, Tanielian, Jaycox, & Scott, 2008). The deployment cycle may significantly impact the well-being of service members. For example, Hoge et al. (2004) found significant post deployment increases in the number of individuals meeting screening criteria for mental health problems including depression, anxiety, and PTSD.

Various findings also suggest the impact of the deployment cycle on non-deployed partners (Gewirtz, Erbes, Polusny, Forgatch, & Degarmo, 2011; Solomon et al., 1992). As suggested by Palmer (2008), heightened stress and associated pathology, in conjunction with the stress of parenting without the deployed partner likely also negatively impacts the quality of parent-child interactions during deployment. Palmer (2008) reported that the presence of PTSD symptoms, which have been shown to increase following return from deployment (Milliken, Auchterlonie, & Hoge, 2007), seem to be associated with negative impacts on family members and family relationships, in addition to the implications for the service member him or herself. Additionally, PTSD symptoms in veterans have been found to be associated with poor attachment, lower parental satisfaction, problems with marital and family adjustment, parenting skills, and violent behaviors (Gewirtz, Polusny, DeGarmo, Khaylis, & Erbes, 2010; Palmer, 2008; Samper, Taft, King, & King, 2004). Overall, Palmer (2008) suggested that military children may be at greater risk for a variety of negative outcomes in part because of how PTSD symptoms and impairment impact parenting skills, attachment and hostility, leading to more negative parent-child interactions.

Similarly, there is evidence that deployment of parents can impact children's physical health, academic performance, externalizing problems, and internalizing problems (Chandra et al., 2008; Chandra, Martin, Hawkins, & Richardson, 2010; Park, 2011). Flake, Davis, Johnson, and Middleton (2009) found parenting stress during deployment to be the most significant predictor of children's psychosocial functioning and Palmer (2008) suggested that it is likely that parent-child interactions may serve as a mechanism by which influential risk factors associated with military involvement impact children in military families. Gewirtz et al. (2011) expanded on this idea by suggesting that the SIL model may provide a useful way to conceptualize the impact of the deployment cycle on children's functioning through mediation by parenting practices. Such mediation would be congruent with previous research suggesting that parenting practices have a mediational role between family stressors and children's problem behaviors, as described above.

Additionally, as noted by Sheppard, Malatras, and Israel (2010), it is important to consider the implications of deployment based on the understanding of deployment as a cycle that includes several stages, each of which may have implications on family functioning, not simply during the period of deployment itself. Each of these stages may include challenges to the maintenance of effective parenting practices, and given the importance of parenting for promoting children's resilience in the context of stressful situations (Masten, 2001), continued inquiry around the maintenance of effective strategies for military families is critical. Further, as suggested by Gewirtz et al. (2011), there is a need for the development and application of strategies and programs to support

parenting for returning service members. With continued demands on military families based on current military conflict, efforts to increase our understanding of the determinants of parenting in the context of the military deployment cycle will be critical for informing such strategies and programs.

The Present Study: Aims and Hypotheses

Overview. The goal of this study is to examine the association between mindfulness and parenting practices, using a comprehensive measure of parents' mindfulness. As previously suggested, there is ample cause to suggest the importance of mindfulness in the context of parenting along with an emerging body of evidence suggesting that mindfulness, or mindful parenting in particular may be related to parenting practices and children's functioning. However, a basic association between parent mindfulness and parenting practices as not yet been solidly established. In particular, the current study is an effort to remedy the relative lack of studies on the association between mindfulness and parenting outside of the context of interventions and the lack of almost any observational parenting data in studies of parents' mindfulness.

In terms of research addressing both parenting and mindfulness, military families hold particular interest. Associations between mindfulness and internalizing psychopathology may be particularly fruitful and important to examine in this population given the prevalence of PTSD symptomatology, its impact on parenting and child adjustment, and the likely effectiveness of mindfulness programs for addressing these symptoms (Gewirtz et al., 2010; Vujanovic, Niles, Pietrefesa, Schmertz, & Potter, 2011).

In addition, understanding parenting practices in military families is particularly relevant given the additional challenges these families face. The data for this study were drawn from a larger effort to support parenting in families reintegrating after deployment (Gewirtz et al., 2011, 2014) by utilizing a modified version of Parent Management Training—Oregon (PMTO) model (Forgatch & DeGarmo, 1999; Patterson, 2005) designed by applying the SIL model to prevention/intervention strategies. Modification efforts included incorporation of mindfulness strategies into the program content, based on the hypothesis that parents' abilities to implement effective strategies may be impacted by their ability to regulate their own emotions (Gewirtz et al., 2014). Considering the baseline associations between parent mindfulness and parenting practices will further inform such prevention efforts as applied to military families.

Aim 1: Examine the factor structure of mindfulness. Given the difficulty cited above in regards to agreement about definitions of mindfulness, as well as in regards to measures of mindfulness, prior to establishing a link between mindfulness and parenting practices, the current study sought to examine the nature of mindfulness as assessed by several self-report measures. In particular, this examination sought to address the conceptual overlap of mindfulness with acceptance, as well as with various aspects of emotion regulation in order to develop a measure that captures a broad swath of the elements that fall under mindfulness in order to have the most explanatory power in predicting outcomes and mechanisms by which those outcomes might occur.

The creation of the FFMQ was done with the understanding that it is important to have a more clear, unified, operationalized definition of mindfulness that takes into

account the various understandings of mindfulness that were available at the time, as manifest in different measures of mindfulness. This is an important endeavor to try to come to a generally accepted understanding of mindfulness and measure that captures various facets of interest. However, though measures like the AAQ and DERS do not explicitly state that they are designed to measure mindfulness, they (or subscales thereof) measure constructs that have been understood either as closely related conceptually while under close examination also have been described as components of mindfulness itself. With the same spirit of empirical exploration as was harnessed in the creation of the FFMQ, the current examination of mindfulness measures aimed to expand the examination of mindfulness to include measures that do not mention mindfulness explicitly as they originate from a different literature base, but can be argued to overlap conceptually nevertheless.

As suggested by Baer et al. (2009), “given the difficulty of translating mindfulness and acceptance into the concrete operational definitions required by scientific methods of assessment and the importance of understanding of how mindfulness-based treatments work, it is essential that we continue to strive for the most productive combination of critical thinking and open mindedness about how to assess these constructs” (p. 163). It is with this sentiment of open mindedness that I chose to include other measures to attempt to more fully capture all elements of mindfulness that have been acknowledged in the previous literature. To this end, the first aim of this study was to examine the relations between the item level content of the FFMQ, the AAQ-2 (the most recent validated update of the AAQ), and four scales of the DERS that are

conceptually related to mindfulness (Nonacceptance, Impulse, Awareness, and Clarity). It was hypothesized that that exploratory and follow-up confirmatory factor analyses would be consistent with a multi-faceted structure of mindfulness, such that distinct though related dimensions would include content from each of these measures. These dimensions were expected to have both shared and unique predictive power for understanding associations with constructs thought to be associated with or impacted by mindfulness.

Aim 2: Examine the association between parental mindfulness and parenting practices. As indicated above, though there is growing evidence that changing parents' mindfulness may change their parenting practices, there is relatively little evidence to this effect that includes direct measurement of both parents' mindfulness and parenting practices in the same study. Additionally, with the three exceptions mentioned, parenting practices have not been measured observationally in studies examining or seeking to change parents' mindfulness and in none of these three studies was multi-faceted, dispositional mindfulness measured.

As noted by Snyder et al. (2013) though many recognize the overlapping set of parenting practices identified in both the SIL literature and the literature that originates from Baumrind's work, it is widely acknowledged that these practices in themselves may not fully capture effective parenting, but rather some nonlinear combination of these practices may add additional explanatory power, or additional dimensions of parenting not captured may be important for understanding effective parenting more fully. Mindfulness may be an important determinant of parenting practices, or may help to

address additional aspects of parenting practices in order to more fully capture what might be considered *effective* parenting.

Thus, the second aim of this study was to examine the association between parents' mindfulness and their observed parenting practices and to do so by examining mindfulness rather than mindful parenting in an effort to capitalize on the vast extant literature on mindfulness (as compared to the small body of literature on mindful parenting). Thus, in this study, I aimed to establish links between parental mindfulness and the quality of parenting behavior by assessing multiple aspects of parenting. Measurement of parenting included an observational coding system that utilized coder ratings of parenting behavior during participation in the Family Interaction Task (FIT; Gewirtz, Degarmo, Plowman, August, & Realmuto, 2009), and yielded ratings of positive parenting, comprised of family problem-solving, skill encouragement, positive involvement, monitoring, and harsh discipline. I hypothesized that mindfulness would be positively associated with effective parenting practices in the current sample.

If this expected association were found between parents' mindfulness and use of effective parenting practices, it would serve as a robust test of the various theoretical mechanisms previously discussed by which mindfulness may influence parenting practices, without directly measuring what can be considered a manifestation of the influence of mindfulness on parenting practices as represented by measures of mindful parenting. Additionally, examining parenting practices and parents' mindfulness in conjunction might provide additional information that will be useful for understanding

the newly developing construct of mindful parenting by addressing the potential influence of mindfulness on the execution of parenting practices.

Aim 3: Examine the association between parent psychopathology, mindfulness, and parenting practices. Parent and colleagues' (2010) examination of the associations between parent mindfulness, depression, parenting behaviors, and children's problem behavior, represents one of the first attempts to connect parental mindfulness, parenting behavior, and other parental characteristics. Recognizing the association between depression and parenting behaviors, that between mindfulness and depression, and that between mindfulness and parenting, their attempt to examine potential associations between the three variables demonstrates an important avenue that requires further research.

Indeed, though there has been research relating both internalizing psychopathology to mindfulness as well as parent psychopathology (particularly internalizing in nature) to parenting practices, little work has empirically addressed these practices simultaneously. However, given the likelihood that mindfulness may impact parenting practices at least in part by counteracting processes by which psychopathology likely influences parenting practices, it is critical that the associations between mindfulness, psychopathology, and parenting practices be examined simultaneously. This work will seek to continue the investigations in this area, as initiated by Parent et al. (2010).

Therefore, the third aim of this study was to examine associations between parent psychopathology and measures of mindfulness and parenting practices. Given that

symptoms of PTSD, depression, and anxiety have all demonstrated associations with both mindfulness and parenting behavior, the current study provided an opportunity to further explore the associations between each of these variables simultaneously. It was hypothesized that parents' mindfulness will be negatively associated with internalizing psychopathology, which would also be negatively associated with effective parenting practices, and that mindfulness will predict parenting practices even when parent internalizing psychopathology is also included in the analysis.

Aim 4: Examine the association between parent mindfulness and child functioning. In the current literature on mindfulness and parenting, much of the interest in changing mindfulness in parents seems to be related to the potential benefits in regards to child outcomes. The third aim of this study was to contribute additional support for the existence of an association between parent mindfulness and child outcomes. Of the areas under examination in the current study, this relation has received the most previous support; the current literature base demonstrating the success of interventions seeking to alter parent mindfulness have for the most part utilized assessments of change in child outcomes to measure program success. However, given the early stage of development currently demonstrated the field of mindfulness based parenting programs, even the most well addressed connections need further support, particularly in groups of parents with particular needs or challenges. Therefore, the current study utilized assessments of children's internalizing and externalizing psychopathology in order to provide further support for the links between parents' mindfulness and children's positive functioning while accounting for the influence of parenting practices and parent psychopathology.

Additionally, most previous reports of changes in child functioning were assessed by parent report and may have simply been measuring changes in how parents view children after engaging in a mindfulness training program. The current study utilized teacher report for measures of child functioning in order to reduce the likelihood that any association found between mindfulness and children's functioning is simply a measurement of parent perceptions of their children.

Thus, the fourth aim of this study was to consider parents' mindfulness, psychopathology, and child outcomes simultaneously, utilizing methodology that limits shared variance based on reporter in order to provide additional clarity about these associations. It was hypothesized that mindfulness would be negatively associated with children's internalizing and externalizing problems, and would demonstrate explanatory power even while parent internalizing psychopathology and parenting practices were included in the model.

Methods

The current data were drawn from the After Deployment, Adaptive Parenting Tools (ADAPT) program, a longitudinal prevention study of deployed National Guard and Reserve families. Military families living in Minnesota or Wisconsin (within the Twin Cities metro area) were recruited for participation if they had at least one child living with them between the ages of 4 and 13, and at least one parent who had been deployed to Operation Enduring Freedom (OEF) or Operation Iraqi Freedom (OIF). After completing a baseline assessments, families were randomized to services as usual or to participation in the ADAPT prevention program (60% randomized to prevention

program), which is based on the Parenting Through Change program (Forgatch & DeGarmo, 1999). Services as usual consisted of access to web and print materials on parenting. Follow up assessments are ongoing; however, the current study only utilizes measures collected as part of the baseline assessment.

Participants

Overall, 608 individual parents participated in at least a portion of the baseline assessment (online measures, in-home self-report questionnaires, or observational data). These parents were drawn from 336 families with the same number of target children. For 272 of these families (81.0%), two parents participated in the study, while for the remaining 64 families (19%), only one parent participated. The target child's age ranged from 4 to 13 years of age ($M = 7.87$, $SD = 2.54$) with 180 female children (53.6%) and 156 male children (46.4%). Parent ages ranged from 23 to 58 ($M = 36.17$, $SD = 6.35$) with 314 female parents (51.6%) and 294 male parents (48.4%). Ages were missing for 15% of parents due to a complication with administration of this question.

Both ethnicity and racial identity were collected as part of the demographic variables. This sample was primarily Caucasian (88.8%), with 3.0% identifying as African-American/Black, 1.5% as Asian or Asian-American, 0.2% as Native American or Alaska Native, 0.3% as Native Hawaiian or Pacific Islanders, and 2.6% as multiracial. Additionally, the majority of the sample identified as non-Hispanic in terms of ethnicity (91.1%), with only 3.3% of the sample identifying as Hispanic. For the purpose of analyses, minority status was calculated using both reports of race and ethnicity. If parents identified as Caucasian and non-Hispanic, they were designated as non-minority

(85.4%). If parents identified as African-American/Black, Asian or Asian-American, Native American or Alaska Native, Native Hawaiian or Pacific Islanders, or multiracial in terms of their racial identity or if they identified as Hispanic in terms of their ethnic identity, they were designated as minority status (9.0%). Information to make this designation was not available for an additional 5.6% of participants.

In terms of education, the majority of the sample reported earning at least a 4-year college degree. Specifically, 36.2% of participants reported earning a 4-year college degree, and 12.7% reported earning a graduate degree. An additional 17.3% reported earning an Associate's degree, 24% reported attending some college, and 7.9% reported completing some high school, earning a high school diploma, or earning a GED.

Household income ranged from less than \$10,000 to more than \$150,000, with 41.3% of the participants reporting an income between \$40,000 and \$79,999 and an additional 28.0% earning between \$80,000 and \$119,999. Number of marriages ranged from never married to 8 marriages reported ($M = 1.16$, $SD = 0.590$). The majority of the sample reported that they were currently married (87.3%).

In terms of military deployment, 55.4% of the sample reported deployments, participants most frequently reporting a total number of months deployed that fell in the 7 to 12 month range (16.3%) and the 19 to 24 month range (10.7%). Of the male participants in the sample, 95.6% reported deployments, while only 17.8% of the female participants in the sample reported deployments. For additional details about participants, see Table 1.

Procedures

Recruitment utilized a variety of strategies including mailings from the local VA Medical Center and presentations at pre-deployment and reintegration events for National Guard and Reserve personnel and their spouses. Participants completed initial screenings through the study website, though they were given the option to participate in this screening process over the phone. Each participant was then directed to complete an online assessment through a HIPAA-compliant site, and were then contacted by project staff to schedule an in-home assessment. During this in-home assessment, self-report, observational, and physiological data were gathered from available parents and the target child. For their participation, parents earned \$25 for completing the online assessment, families received \$50 for completing the in-home assessment, and children received a small gift. Teachers were also contacted via secure, encrypted email including a copy of the parent's consent to contact teachers, and were directed the study website to complete questionnaires about the target child. Follow up calls and measures delivered by mail ensured the best response possible for teacher reports. At the time of these analyses, 258 teacher reports were available describing the functioning of target children (77% of the total sample), though teacher data collection is ongoing.

Measures

In the current study, efforts were made to avoid methodological overlap as much as possible. To this end, independent methods were utilized, including parent report for measures of mindfulness and psychopathology, observer report for measures of parenting practices, and teacher report for measures of child functioning.

Mindfulness. As described in Aim 1, multiple measures of mindfulness or measures suggested here to measure mindfulness were collected and will be described below.

Five Factor Mindfulness Questionnaire (FFMQ). The FFMQ is a 39-item self-report measure of mindfulness developed using a factor analytic approach (Baer, Smith, et al., 2006). To construct this scale, Baer et al., (2006) had participants complete a variety of previously developed mindfulness scales, namely the Mindfulness Attention Awareness Scale (MAAS; Brown & Ryan, 2003), the Freiburg Mindfulness Inventory (FMI; Buchheld, Grossman, & Walach, 2001; Walach, Buchheld, Buttenmüller, Kleinknecht, & Schmidt, 2006) the Kentucky Inventory of Mindfulness Skills (KIMS; Baer, Smith, & Allen, 2004), the Cognitive and Affective Mindfulness Scale (CAMS; Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2004), and the Mindfulness Questionnaire (MQ; Chadwick et al., 2008). This measure was developed through an exploratory factor analysis and a confirmatory factor analysis in two large samples of undergraduate students.

The initial exploratory factor analysis indicated a five-factor solution, with four of the factors generated appearing to reflect the four factors identified in the development of the KIMS (observing, describing, acting with awareness, and accepting without judgment), as well as an additional factor that appeared to reflect a non-reactive stance towards internal experience (nonreact). Baer et al., (2004) developed the KIMS subscales based primarily on a conceptualization of mindfulness skills from Dialectical Behavior Therapy (DBT; Dimidjian & Linehan, 2003; Linehan, 1993a, 1993b). Items were all

converted to 5-point Likert scale ratings. Examples from the nonreactivity scale are “I perceive my feelings and emotions without having to react to them,” and “When I have distressing thoughts or images, I can feel calm soon after.” Examples from the observing scale are “When I’m walking, I deliberately notice the sensations of my body moving,” and “I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.” Examples from the acting with awareness scale are “I find it difficult to stay focused on what’s happening in the present (reversed)” and “I rush through activities without being really attentive to them (reversed).” Examples from the describing scale are “My natural tendency is to put my experiences into words,” and “When I have a sensation in my body, it’s difficult for me to describe because I can’t find the right words (reversed).” Finally, examples from the nonjudging scale are “I tell myself I shouldn’t be feeling the way I’m feeling (reversed)” and “I make judgments about whether my thoughts are good or bad.”

The measure was reduced to 39 items with adequate alpha coefficients for each scale (nonreactivity = .75, observing = .83, acting with awareness = .87, describing = .91, and nonjudging = .87; Baer et al., 2006). A confirmatory factor analysis was then conducted using item parcels and supported a hierarchical structure of mindfulness with the describe, act with awareness, nonjudge, and nonreact scales loading onto an overall mindfulness construct, while the observe factor was found not to load significantly onto an overall construct. Additionally, observe demonstrated a nonsignificant (negative) correlation with the nonjudge facet. Based on these findings, as well on findings from the development of the KIMS (Baer et al., 2004), Baer et al., (2006) hypothesized that the meaning of observation might be different in meditators and non-meditators and went on

to test the CFA model in a combined sample of participants who reported some degree of meditation experience. They found that in meditators, all five facets did load significantly onto an overall mindfulness construct. Typically, however, no overall mindfulness score is computed for this measure, but rather each of the subscales tends to be used separately for analysis. Subscale level alphas in the current sample are as follows: observe (8 items; $\alpha = .82$), describe (8 items; $\alpha = .90$), act with awareness (8 items; $\alpha = .90$), nonjudge (8 items; $\alpha = .90$), and nonreact (7 items; $\alpha = .75$). For additional information about descriptive properties, see Table 2.

Difficulties in Emotion Regulation Scale (DERS). The DERS is a self-report measure was developed by Gratz and Roemer (2004). This scale was developed to measure several elements of emotion regulation in order to reflect an integrative conceptualization of emotion regulation as involving awareness and understanding of emotions, acceptance of emotions, the ability to control impulsive behaviors and act in accordance with desired goals regardless of emotional state, and the ability to use situationally appropriate emotion regulation strategies flexibly. Their measure of emotion dysregulation was designed to provide a more comprehensive measure of emotion dysregulation than those available at the time, with a particular emphasis on capturing a broader conceptualization of emotion regulation/dysregulation. They mentioned that many previous conceptualizations of emotion regulation tended to be dominated by a focus on ‘control’ of emotional experience and expression. However, Gratz and Roemer (2004) described an increase in descriptions of emotion regulation that emphasized the importance of monitoring and evaluating emotional experience as well as acceptance of

emotional responses and the ability to inhibit inappropriate or impulsive behaviors that would conflict with desired goals while experiencing negative emotions (Linehan, 1993a). Thus, they sought to develop a scale that assesses awareness and understanding of emotions, acceptance of emotions, the ability to refrain from impulsive behavior and engage in goal directed behavior, regardless of emotional state, and perceived access to effective emotion regulation strategies (Gratz & Roemer, 2004).

Factor analytic strategies were utilized in two samples of undergraduate students in order to assess the factor structure and psychometric properties of the DERS. This resulted in a six factor structure including Nonacceptance of Emotional Responses (6 items; $\alpha = .85$), Difficulties Engaging in Goal-Directed Behavior (5 items; $\alpha = .89$), Impulse Control Difficulties (6 items; $\alpha = .86$), Lack of Emotional Awareness (6 items; $\alpha = .80$), Limited Access to Emotion Regulation Strategies (8 items; $\alpha = .88$), and Lack of Emotional Clarity (5 items; $\alpha = .84$). The overall DERS scale also demonstrated adequate internal consistency ($\alpha = .93$) in their initial sample. Examples from the Nonacceptance of Emotional Responses subscale are “When I’m upset, I become embarrassed for feeling that way,” and “When I’m upset, I become irritated with myself for feeling that way.” Examples of items from the Difficulties Engaging in Goal-Directed Behavior subscale are “When I’m upset, I can still get things done,” and “When I’m upset, I have difficulty concentrating.” Examples of items from the Impulse Control Difficulties subscale are “When I’m upset, I become out of control” and “When I’m upset, I lose control over my behaviors.” Examples from the Lack of Emotional Awareness subscale are “When I’m upset, I acknowledge my emotions (reversed)” and “I pay attention to how I feel

(reversed).” Examples of items from the Limited Access to Emotion Regulation Strategies subscale are “When I’m upset, I believe that there is nothing I can do to make myself feel better,” and “When I’m upset, it takes me a long time to feel better.” Finally, examples from the Lack of Emotional Clarity subscale are “I have difficulty making sense out of my feelings” and “I have no idea how I am feeling.”

The following alphas were obtained in the current sample (overall scale not used in the current study): Nonacceptance of Emotional Responses ($\alpha = .92$), Difficulties Engaging in Goal-Directed Behavior ($\alpha = .84$), Impulse Control Difficulties ($\alpha = .85$), Lack of Emotional Awareness ($\alpha = .86$), Limited Access to Emotion Regulation Strategies ($\alpha = .87$), and Lack of Emotional Clarity (5 items; $\alpha = .81$). For additional information about descriptive properties, see Table 2.

Acceptance and Action Questionnaire—II (AAQ-2). The AAQ-2 is an updated version of a measure designed to assess a construct which has been referred to as acceptance, experiential avoidance, and psychological inflexibility (Bond et al., 2011; Hayes, Strosahl, et al., 2004). The underlying theory driving the development of the AAQ and the AAQ-2 comes from Acceptance and Commitment Therapy (ACT), which conceptualizes experiential avoidance as an attempt to alter the form, frequency, or situational sensitivity of thoughts, feelings, and physiological sensations even when such avoidance makes it difficult to pursue goals and values (Hayes et al., 1996). Within this model, experiential avoidance is conceptualized as orthogonal to acceptance, which refers to the willingness to experience unwanted private events (thoughts, feelings, physiological sensations) in an effort to pursue values and goals. Items are rated on a 7-

point Likert scale. Examples include “I worry about not being able to control my worries and feelings” and “Emotions cause problems in my life.”

Based on a large sample ($N = 2,816$) that represented participants across six separate studies, the AAQ-2 was found to measure the same construct as the AAQ-I, but with an improvement in psychometric properties (Bond et al., 2011). This short 7-item measure indicated acceptable structure, reliability, and validity. The mean alpha coefficient in the samples assessed was .84 (Bond et al., 2011). The AAQ-2 demonstrated acceptable psychometric properties in the current sample (7 items; $\alpha = .93$). For additional information about descriptive properties, see Table 2.

Parent internalizing psychopathology. Parent internalizing psychopathology was measured using two self-report instruments administered to parents as part of the in-home assessment procedure.

Hopkins Symptom Checklist-25 (HSCL-25). The Hopkins Symptom Checklist is a 25-item self-report questionnaire that was derived from the longer 90-item Symptom Checklist (SCL-90; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974; Parloff, Kelman, & Frank, 1954). The 25-item version consists of 10 items assessing anxiety and 15 items assessing depressive symptoms. Typically, a total score is calculated by taking the average of all 25 items. Response options are “not at all”, “a little”, “quite a bit”, and “extremely” rated 1 to 4, respectively, with items such as “Blaming yourself for things” “Worrying too much about things” and “Blaming yourself for things.” The HSCL-25 has been widely used and has been translated into many languages (Al-Turkait, Ohaeri, El-Abbasi, & Naguy, 2011; Glaesmer et al., 2014; Mouanoutoua & Brown, 1995). Factor

analyses have demonstrated that though the items of the HSCL-25 in some ways best describe general distress, there is utility to be gained by considering the anxiety and depression items separately and a tripartite model with an anxiety factor (10 items, as previously indicated), a depressive factor (15 items, as previously indicated) and a total score are included in the model (Al-Turkait et al., 2011; Glaesmer et al., 2014). Given these findings, both the anxiety and depressive subscales were included in analyses. The HCL demonstrated acceptable psychometric properties in the current sample for the total score (25 items; $\alpha = .94$), the depression subscale (15 items; $\alpha = .91$), and the anxiety subscale (10 items; $\alpha = .87$). For additional information about descriptive properties, see Table 2.

PTSD Checklist (PCL). The PCL was used to assess symptoms of posttraumatic stress (Weathers, Litz, Herman, Huska, & Keane, 1994, 1993). The PCL has demonstrated utility as a screening instrument for PTSD, with good psychometric properties in both military and non-military samples (Blanchard, 1996; Ruggiero, Del Ben, Scotti, & Rabalais, 2003). The PCL consists of 17 questions that measure symptoms of posttraumatic stress that correspond to the diagnostic criteria for PTSD as defined by the DSM-IV. Items are rated on a 5-point Likert scale, from “Not at all” to “Extremely” and include items such as “repeated, disturbing memories, thoughts, or images of a stressful experience,” “feeling very upset when something reminded you of a stressful experience,” and “feeling as if your future will somehow be cut short.” Scores can be computed for symptoms of intrusion, avoidance, and arousal in addition to an overall severity score that can be calculated by averaging all 17 items. In the current study, the

total score will be used for the current analyses ($\alpha = .94$). For additional information about descriptive properties, see Table 2.

Parenting practices. Parenting behaviors were measured using a previously validated coding system assessing five indicators of parenting: (1) problem solving outcome, (2) harsh discipline, (3) positive involvement, (4) skill encouragement, and (5) monitoring. Families engaged in a set of structured interactions referred to as the Family Interaction Tasks (FITs) which have demonstrated ecological validity and sensitivity to change in previous samples (Forgatch & DeGarmo, 1999; Gewirtz et al., 2009). These interactions were videotaped for coding at a later time and included short problem-solving tasks around current conflict issues drawn from the Issues Checklist (Prinz, Foster, Kent, & O’Leary, 1979). Trained coders reviewed footage from each interaction task and scored the interactions based on the Coder Impressions system (Forgatch, Knutson, & Mayne, 1992). In families where two parents participated in the study, interactions included tasks with the target child and each parent alone, as well as tasks with the target child and both parents together. The observational coding system was used to produce scores that reflected parenting behaviors for each parent regarding interactions when they were alone with the target child, as well as interactions when the both parents were interacting together with the target child. For the purposes of the current analyses, only data reflecting each parent’s interactions with their target child alone will be included. Intraclass correlation coefficients (ICC) were used to assess inter-rater reliability for randomly selected coding teams. Problem solving assessed the extent of the resolution of the conflict issues discussed, satisfaction of the outcome of the discussion,

quality of the solution, and the likelihood that the family would put the solution into use. Problem solving was rated using a 5-point Likert scale ranging from 1, or “untrue” to 5, or “very true” (9 items; $\alpha=.88$, ICC = .88). Harsh discipline assessed overly strict, authoritarian, erratic, inconsistent, or haphazard parenting practices using ratings on a 6-point Likert scale with scores ranging from 1, or “never” to 6, or “always” (8 items; $\alpha=.76$, ICC = .78). Positive involvement assessed warmth, empathy, encouragement, and affection on a 6-point Likert scale ranging from 1, or “never” to 6, or “always” (10 items; $\alpha=.76$, ICC = .84). Skill encouragement measured parents’ ability to utilize encouragement and scaffolding strategies when a child was given challenging problems to complete and parents were asked to assist using ratings on a 5-point Likert scale ranging from 1, or “untrue” to 5, or “very true” (8 items; $\alpha=.84$, ICC = .72). Finally, monitoring assessed parents’ supervision of the child and demonstrated knowledge of the child’s activities on a daily bases using a five-point Likert scale ranging from 1, or “untrue” to 5, or “very true” (4 items; $\alpha=.72$, ICC = .74). For additional information about descriptive properties, see Table 2.

Child psychopathology. To assess child psychopathology, the Behavior Assessment System for Children (2nd Edition) (BASC-2) was administered (Reynolds & Kamphaus, 2004). The BASC consists of a series of standardized instruments that assess behaviors in children, adolescents, and young adults, and have been used for clinical practice as well as research. In the current study, the child and adolescent version were of the Teacher Rating Scales (TRS) were administered. Teachers of children ages 4 to 11 were administered the child version of the scale, while teachers of children age 12 and

over were administered the adolescent version. Items on the BASC-2 can be used to calculate a variety of scales and assess for adaptive functioning and symptoms of psychopathology. In the current study, scores will be utilized for two clinical composites; the Internalizing Problems composite is made up of Anxiety, Depression, and Somatization subscales, while the Externalizing Problems composite is made up of the Hyperactivity, Aggression, and Conduct Problems subscales. Subscales are each comprised of 7 to 11 items 4-point Likert items that ask the rater to report the frequency of a variety of behaviors for the target child from “Never Occurs” to “Almost Always Occurs.” Standardized Z-scores were calculated for scaled scores separately within the child and adolescent samples. Scale alphas ranged from .53 to .94. Composite scores were computed by taking an average of the scaled scores that contributed each composite. Reliabilities are as follows for child and adolescent data combined: externalizing (3 items; $\alpha=.89$) and internalizing (3 items; $\alpha=.75$). For additional information about descriptive properties, see Table 2.

Missing data

As is the case for any large multi-informant study, missing data were anticipated in the current sample. For correlational and descriptive data presented, missing data were excluded and pairwise deletion was utilized when applicable. Aside from a large portion of data missing for parent age (as described above), no systematic pattern of missing data was observed. Therefore, data are assumed to be missing at random (MAR; Schafer & Graham, 2002).

All model estimation was conducted using Mplus Version 6.1 (Muthén & Muthén, 1998-2010) using a full information maximum likelihood (FIML) approach to estimate values on dependent variables. FIML has been shown to be more efficient and less biased than some traditional approaches (Wang & Wang, 2012).

Participants who did not complete at least one of the measures under consideration in the factor analysis procedures (FFMQ, AAQ-2, or DERS) were excluded from the factor analysis portion of the data analysis procedures, but were included as part of the sample during SEM. In the EFA and CFA analyses, all variables included were considered to be dependent variables and could be estimated using the FIML approach.

For structural equation modeling, participants were excluded from the models if they were missing any independent variables other than age, for which distributional assumptions were made as part of model estimation.

Results

Analyses were conducted in IBM SPSS version 20 (IBM Corp., 2011) and Mplus version 6.12 (Muthén & Muthén, 1998-2010). Model fit was evaluated using various fit statistics including the Comparative Fit Index (CFI), the root mean square error of approximation (RMSEA), the standardized root mean-square residual (SRMR), and the chi squared test of model fit, based on recommendations from (Kline, 2005). The Akaike Information Criterion (AIC) will also be presented in order to allow for comparison between competing nonhierarchical estimation models using the same data (Kline, 2005). For the CFI, values of greater than .90 will be considered a reasonable fit, and greater than .95 for good fit (Hu & Bentler, 1999), for the RMSEA, values of less than .05 will

be considered a close fit, between .05 and .08 as a fair fit, .08 and .10 as mediocre fit, and greater than .10 as a poor fit (Wang & Wang, 2012), for the SRMR, values of less than .08 will be considered acceptable (Hu & Bentler, 1999). And finally, as the chi squared test of model fit is considered to be a measure of “badness of fit,” good model fit should provide an insignificant result (Kline, 2005). However, given the various limitations of the chi squared test of model fit, a significant chi squared will not by itself be considered a reason to reject a model in the following analyses (Wang & Wang, 2012).

Aim 1: Examining the structure of mindfulness

As described in the Aims section of the literature review, in efforts to better capture the multidimensional construct of mindfulness, items from three different measures (FFMQ, DERS, and AAQ-2) were included in analyses and examined using a sequence of exploratory and confirmatory factor analyses. The sample was split in half using random assignment to groups in a way that prevented two parents from the same family from being included in the same analysis. Males and females were approximately evenly distributed across the exploratory and confirmatory factor analysis samples, as were parents from families where only one parent participated in the study. Additionally, all participants were included in either the exploratory or confirmatory factor analysis if they had at least some data for one of the measures included in the factor analyses, which led to some missing data in this set of analyses. Demographic variables were compared across the exploratory (n = 295) and confirmatory (n = 296) samples, and no significant differences were found. Income and education were examined as both categorical and

continuous variables, neither of which revealed significant differences between samples. See Table 3 and Table 4 for additional details about comparisons between samples.

Exploratory factor analyses were run using Mplus and included all items from the FFMQ, the AAQ, and four of the scales from the DERS (Nonacceptance of Emotional Responses, Impulse Control Difficulties, Lack of Emotional Awareness, and Lack of Emotional Clarity). The final two subscales from the DERS were excluded (Difficulties Engaging in Goal-Directed Behavior and Limited Access to Emotion Regulation Strategies) for theoretical reasons, given the emphasis of mindfulness on non-goal directedness and acceptance based regulation rather than active control based emotion regulation strategies. The default Geomin rotation was used, given the theoretically informed prediction of oblique rather than orthogonal factors in the representation of mindfulness. The maximum likelihood estimation method was used, which allowed missing data to be estimated in the model. In order to determine accepted number of factors, the eigenvalues were calculated and the Scree plot was examined for the initial solution. See Table 5 and Figure 1 for more detail. Results suggested a five factor solution, replicating results of the EFA conducted as part of scale creation for the FFMQ itself. Fit statistics for the five factor model are as follows: $\chi^2(2011) = 4724.776$, $p < .0001$; CFI = .79; RMSEA = .068, 90% CI [.065, .070]; SRMR = 0.048. See Table 6 for item loadings.

Next, problematic items were excluded from further analyses based on loadings from the five factor solution. Based on recommendations from Costello and Osborne (2005), items were removed from the item pool if they did not load at least .32 on one of

the factors. Additionally, items were retained only if their highest loading was a minimum of .1 greater than their loadings on any of the other factors in order to reduce the interference of dual loading. Using these criteria, nine items were removed from the scales, with five of these items originating from the nonreact scale of the FFMQ. See Table 7 for additional details about items removed.

The factor analysis was then re-run with these problematic items removed, again using the Geomin rotation. See Table 8 for item loadings. Examination of the scree plot again suggested a five factor solution. See Table 5 and Figure 2 for additional details. Fit statistics for the five factor model are as follows: $\chi^2(1480) = 3442.168$, $p < .0001$; CFI = .83; RMSEA = .067, 90% CI [.064, .070]; SRMR = .044. The same selection criteria were used at this step to determine items to be maintained. One additional item did not meet selection criteria and was removed. See Table 7.

The EFA was then re-run with this item removed, again using the Geomin rotation. See Table 9. Examination of the scree plot again suggested a five factor solution. See Table 5 and Figure 3 for additional details. Fit statistics for the five factor model are as follows: $\chi^2(1426) = 3310.856$, $p < .0001$; CFI = .83; RMSEA = .067, 90% CI [.064, 0.070]; SRMR = .043. The same selection criteria were used at this step to determine items to be maintained; all items were found to meet the criteria.

Next, a confirmatory factor analysis was conducted in Mplus in order to confirm the structure found within the final iteration of the exploratory factor analysis. Given previous findings in the development of the FFMQ which demonstrated the utility of a hierarchical overarching mindfulness factor, several different models were tested as part

of the current CFA. For each of the models that will be described, associations between the factors developed through the EFA were fixed at zero. See Table 10 for a summary of fit statistics. First, a single factor model was tested where all items retained from the EFA were allowed to load onto a single latent variable. Model fit was poor (AIC = 42761.328; $\chi^2(1652) = 7393.374$, $p < .0001$; CFI = .43; RMSEA = .108, 90% CI [.106, .111]; SRMR = .120). Next, a five factor model was tested for which items were each assigned to load onto the single factor on to which they had been found to load most highly within the exploratory factor analysis. This model yielded somewhat improved fit indices for all fit indices other than the SRMR (AIC = 42761.328; $\chi^2(1652) = 5068.799$, $p < .0001$; CFI = .66; RMSEA = .084, 90% CI [.081, .086]; SRMR = .199). Given previous literature that suggests that mindfulness is best described as multidimensional with factors as components of an overall mindfulness construct, a hierarchical five factor model was tested, yielding better fit than either the one factor model or the five factor model that was not hierarchical (AIC = 42425.138; $\chi^2(1647) = 4722.609$, $p < .0001$; CFI = .69; RMSEA = .079, 90% CI [.077, .082]; SRMR = .103). See Figure 4. A chi squared difference test between the five factor hierarchical model and the five factor model without a higher order factor suggested that excluding the higher order factor results in a significant decrease in fit, $\chi^2_{diff}(5) = 346.19$, $p < .001$.

However, as has been found in previous samples of non-meditators, the factor including items from the observe subscale of the FFMQ did not load significantly onto an overarching mindfulness construct in the five factor hierarchical model with a loading of only -.054 ($p = n.s.$). Thus, another five factor hierarchical model was examined wherein

paths between all items to their associated factors were included, and all factors other than the observe factor (factor 4) were allowed to freely load onto the higher order mindfulness factor, with the loading of the observe factor fixed to 0. See Figure 5. Though this model could not be compared to the five factor hierarchical model using a chi squared difference test, model fit can be compared using the values of the AIC for these two models, as the same observed variables are included in each. Based on these comparisons, the five factor model hierarchical model with observe fixed at zero appeared to be a better fit ($AIC = 41054.211$; $\chi^2 (1648) = 4121.240$, $p < .0001$; $CFI = .78$; $TLI = .77$; $RMSEA = .071$, 90% CI [.069, .074]; $SRMR = 0.90$).

Given the lack of strong model fits generated by the confirmatory factor analysis of the factors generated through the exploratory factor analysis, an additional confirmatory factor analysis was undertaken to explore the functioning of the FFMQ itself in the current sample. Within the same sample of participants utilized for the previous confirmatory factor analysis, three different models were tested that represent parallel models to those tested with the factors developed through EFA: a five factor nonhierarchical model, a five factor hierarchical model (See Figure 6), and a five factor model with a path from the observe factor to the overarching mindfulness construct fixed at zero (See Figure 7). Results were similar to those in model comparisons with the factors created through EFA and confirmed through CFA (See Table 10).

The five factor model with the path from the observe factor fixed at zero demonstrated the best fit based on comparisons of AIC ($AIC = 27433.950$; $\chi^2 (698) = 1815.294$, $p < .0001$; $CFI = .80$; $RMSEA = .074$, (90% CI [.070, .078]; $SRMR = 0.98$).

Similar to results with the newly developed factors, the five factor hierarchical model demonstrated significantly better fit than the nonhierarchical model based on a chi squared difference test ($\chi^2_{\text{diff}}(5) = 108.58, p < .001$).

Given similar fit statistics in this sample for the CFA of the FFMQ (which is a well validated measure), as compared to the fits associated with the newly developed factors, despite the significantly smaller item pool included in FFMQ analyses, it was determined that it would be appropriate to continue to utilize the factors generated through the EFA. Additionally, it should be noted that Marsh, Hau, and Wen (2004), suggested that it is quite difficult to achieve acceptable fits based on conventional rules for multifactor rating instruments when analyses are done at item levels and there are multiple factors measured by at least 5 items per scale. Thus, additional analyses presented here will utilize the newly created mindfulness factors rather than the scales of the FFMQ, given that the FFMQ did not demonstrate significantly better functioning in the current sample and given the theoretical utility that could be gained by including factors that may better capture mindfulness in more stressful or demanding contexts.

In particular, it was decided that the four newly created factors that loaded significantly onto the higher order mindfulness construct would be included in subsequent modeling, though the psychometric properties of all five factors will be described below.

These factors developed through the exploratory and confirmatory factor analysis were examined for their content and psychometric properties. All alphas presented here represent scale reliability in the entire sample with available values, rather than for either

the EFA or CFA samples alone. The first factor consisted of the seven items from the AAQ-2 along with five items from the DERS Impulse Control Difficulties scale (12 items; $\alpha = .92$). The content of this factor suggests it can be considered to reflect a “Lack of Interference of Negative Emotions” in one’s life (negatively worded items reversed scored). The second factor consisted of four items from the DERS Lack of Emotional Clarity scale, six items from the DERS Lack of Emotional Awareness scale, and eight items from the FFMQ describe scale (18 items; $\alpha = .93$). The content of this factor suggests it can be considered to reflect “Attention to and Awareness of Emotions” (negatively worded items reverse scored). The third factor was made up exclusively of the eight original items from the FFMQ Acting with Awareness scale (8 items; $\alpha = .90$) with all items reverse scored. The fourth factor was made up of seven items from the FFMQ observe scale along with one item from the FFMQ Nonreact scale (8 items; $\alpha = .81$). For this factor, the original FFMQ label of observe was retained based on the content. The final factor was made up of six items from the FFMQ nonjudge scale, six items from the DERS Nonacceptance scale, and one item from the DERS Lack of Emotional Clarity scale (13 items; $\alpha = .92$). The content of this factor suggests that it can be considered to reflect “Nonjudgment/Acceptance” (negatively worded items reverse scored).

Scores for each factor were computed by taking the mean value of all items on each scale (as long as at least one item was present) and multiplying this value by the number of items on the scale. This method creates pro-rated scores that accounts for individually missing items. Additionally, it is important to note that items from the AAQ-

2 use a different scale (1-7) than items from the FFMQ or the DERS (1-5). To account for this difference and to prevent weighting the AAQ-2 items more strongly, items included from the AAQ-2 on the final scale were adjusted to fall on a 5 point scale. For additional details about the content of items included for each factor, see Table 11. For additional details about descriptives for each factor, see Table 2. Also see Figures 8 through 12 for histograms depicting the distributions of each factor.

The majority of the correlational associations between the newly created factors were significant; however, the Observe (Factor 4) failed to correlate significantly with Lack of Interference of Negative Emotions (Factor 1) ($r(587) = .03, p = \text{n.s.}$), Acting with Awareness (Factor 3) ($r(587) = .01, p = \text{n.s.}$), or Nonjudgment/Acceptance (Factor 5) ($r(587) = -.07, p = \text{n.s.}$). Of note, the correlation between Observe and Nonjudgment/Acceptance was in a negative direction. This finding is consistent with a findings from Baer, Smith, et al. (2006) and Baer et al. (2004) associated with the creation of the FFMQ and KIMS scales, which suggest that observing and nonjudgment tend to be negatively related in nonmeditators, while this association is reversed for individuals with meditation experience. For additional details about associations between these newly created scales as well as with the original FFMQ scales, please see Table 12.

Aim 2: Examining the association between parental mindfulness and parenting practices

Next, the mindfulness factors created through factor analysis were utilized in structural equation models assessing the association between mindfulness and observed parenting practices. A structural equation modeling approach (SEM) enabled examination

of mindfulness and parenting practices as latent constructs. Latent mindfulness was measured using the four factors generated through factor analysis that loaded significantly onto the latent mindfulness construct examined in CFA models (Lack of Interference of Negative Emotions; Attention to and Awareness of Emotions; Acting with Awareness; and Nonjudgment/Acceptance). Each of these factors was treated as an observed indicator of mindfulness by creating a summed score for each item scale, rather than including each item as individual indicators due to the computational demands of such a method. Each of the five indicators of parenting behaviors mentioned above (i.e. problem solving, harsh discipline, positive involvement, skill encouragement, and monitoring) were included as observed indicators for the latent parenting practices variable.

Several controls were also included in each structural equation model, with paths included from each control to each latent variable. Control variables included a measure of number of months deployed, parent age, highest education (treated as continuous), marital status (treated as dichotomous), minority status (treated as dichotomous), child age, and child gender. Paths between the covariates were not specified; however the default in Mplus is to allow all covariates to correlate as part of model estimation. For all models that will be described, paths were drawn between all control variables and all latent variables, as well as to the two dependent variables representing children's internalizing and externalizing behavior, which are include for models under Aim 4.

All models were run separately for mothers and fathers, so parent gender was not included as a control variable. Running analyses separately allowed for examination of

effects for mothers and fathers separately and also prevented difficulties in interpretation of results associated with modeling that includes two parents from some families in a single analysis. One additional participant was excluded from all SEM analyses in order to prevent the inclusion of two parents from the same family in a single model. This participant was part of a two-mother household, and was selected at random for exclusion from among the two mothers. See Table 13 for correlations between all non-control variables included in the models. See Table 20 for an overview of fit statistics for all models addressed by Aims 2, 3 and 4.

It should also be noted that problems with model estimation initially arose in regards to the latent variable for parenting practices, which demonstrated a negative residual error variance for Positive Involvement (i.e. a Heywood case) in estimation of male models. In order to address this problem, the residual variance of Positive involvement was fixed at .05 for all model estimation (for both males and females) based on recommended solutions for addressing Heywood cases and based on the known psychometric properties of the FIT coding scheme (Dillon, Kumar, & Mulani, 1987; D. DeGarmo, personal communication, June 19, 2014).

Results are shown in Figures 13 and 14 for the SEM path model regressing parenting practices on parents' mindfulness (Model 1). The model demonstrated fair or acceptable fit for females, though the CFI was somewhat low and the chi squared test of model fit was significant: (χ^2 (82) = 229.16, $p < .0001$; CFI = .81; RMSEA = .077, 90% CI [.066, .089]; SRMR = .066). The model demonstrated acceptable or mediocre fit for males, though the CFI and chi squared test of model fit demonstrated the same

difficulties as with the female model: $\chi^2(82) = 238.50, p < .0001$; CFI = .76; RMSEA = .084, 90% CI [.072, .097]; SRMR = .070). Fits were determined to be acceptable for model interpretation, particularly as this is a new area of research. Results suggest that parents' mindfulness did not significantly predict parenting practices, as had been hypothesized for either females ($\beta = .02, p = \text{n.s.}$), or males ($\beta = .04, p = \text{n.s.}$). For females, mindfulness was significantly related to the number of months mothers were deployed ($\beta = -.25, p < .001$), mothers' highest level of education attained ($\beta = .21, p < .01$), and child age ($\beta = .14, p < .05$), while parenting practices were also significantly associated with highest level of education ($\beta = .14, p < .05$), and whether or not mothers were currently married ($\beta = .71, p < .01$). For males, no control variables were associated with mindfulness, but highest education was significantly associated with parenting practices ($\beta = .19, p < .01$).

Aim 3: Examining the associations between parent psychopathology, mindfulness, and parenting practices

Despite the lack of an association between mindfulness and parenting practices found in Model 1 for both males and females, all planned models were examined. Two models were compared (Model 2 and Model 2.1) for both males and females, which examined the associations between parent psychopathology and measures of mindfulness and parenting practices. Results for Model 2 for males and females are shown in Figures 15 and 16. In order to best understand the independent contributions of internalizing psychopathology and mindfulness in the prediction of parenting practices, paths between both variables and the latent variable for parenting practices were included in Model 2.

Additionally, given the extensive previous literature addressing the association between mindfulness and internalizing psychopathology, these two variables were also allowed to associate in the models. Mindfulness and parenting practices were represented by the same observed variables as in Model 1. Internalizing psychopathology was represented by three indicators, namely the total scores on the PTSD Checklist (PCL) as well as the Anxiety and Depression subscale scores from the Hopkins Symptom Checklist-25 (HSCL).

Similar to Model 1, Model 2 demonstrated fair or acceptable fit for females, though the CFI was somewhat low and the chi squared test of model fit was significant: (χ^2 (121) = 288.71, $p < .0001$; CFI = .88; RMSEA = .068, 90% CI [.058, .078]; SRMR = .062). Likewise, Model 2 demonstrated fair or acceptable fit for males, though the CFI and chi squared test of model fit demonstrated the same difficulties as with the female model: (χ^2 (121) = 314.51, $p < .0001$; CFI = .87; RMSEA = .077, 90% CI [.067, .087]; SRMR = .062).

Again for both females and males, mindfulness was not found to be associated with parenting practices. Also contrary to hypotheses, the path between internalizing psychopathology and parenting practices was also nonsignificant for females ($\beta = .08$, $p = n.s.$) and males ($\beta = .04$, $p = n.s.$). However, as expected, mindfulness and internalizing psychopathology were significantly negatively associated for females ($\beta = -.82$, $p < .001$) and for males ($\beta = -.89$, $p < .001$). As in Model 1, for females mindfulness was significantly associated with number of months deployed ($\beta = -.24$, $p < .001$), highest level of education ($\beta = .22$, $p < .001$), and child age ($\beta = .14$, $p < .05$) and parenting

practices was significantly associated with highest education ($\beta = .13, p < .05$) and whether or not mothers were married ($\beta = .72, p < .01$). Additionally, internalizing psychopathology was significantly associated with the same set of control variables as mindfulness (months deployed ($\beta = .21, p < .01$), highest level of education ($\beta = -.13, p < .05$), and child age ($\beta = -.13, p < .05$)). For males, as in Model 1, education was the only control variable with significant paths to latent variables. For Model 2, education was significantly associated with both parenting practices ($\beta = .19, p < .01$) and internalizing psychopathology ($\beta = -.17, p < .01$).

To determine whether mindfulness directly contributed to parenting practices even with internalizing psychopathology in the model, planned model comparison included the examination of Model 2.1, which mirrors Model 2 other than dropping the direct path between mindfulness and parenting practices (see Figures 17 and 18). Model fits were nearly unchanged for both females ($\chi^2(121) = 289.02, p < .0001$; CFI = .88; RMSEA = .068, 90% CI [.058, .078]; SRMR = .063), and males ($\chi^2(122) = 314.66, p < .0001$; CFI = .87; RMSEA = .076, 90% CI [.066, .087]; SRMR = .062), and indeed, chi squared difference tests did not suggest that the path between mindfulness and parenting practices significantly impacted fit for either females ($\chi^2_{\text{diff}}(1) = 0.31, p = \text{n.s.}$), or males ($\chi^2_{\text{diff}}(1) = 0.15, p = \text{n.s.}$). Likewise, all significant paths between control variables and latent variables remained significant for both males and females.

Given the high level of association between mindfulness and psychopathology, an additional model was examined to determine whether the two were best described with two separate constructs or as a single overarching construct (see Figures 19 through 22).

For both females and males, the two factor model demonstrated significantly better fit than the one factor model, and in both cases, chi square difference tests suggested that keeping factors separate in the model provided important explanatory power (females: $\chi^2_{\text{diff}}(1) = 59.22, p < .001$; males: $\chi^2_{\text{diff}}(1) = 40.84, p < .001$). Therefore, it was decided that remaining models would be estimated as planned with mindfulness and psychopathology considered separately.

Aim 4: Examining the association between parent mindfulness and child functioning

As the fourth aim of this study was to consider parents' mindfulness, psychopathology, and child outcomes simultaneously, children's internalizing and externalizing psychopathology were added to previous models. Model 3 represents the full model, with paths present between all latent variables (mindfulness, psychopathology, and parenting practices) as well as children's internalizing and externalizing behavior (which were also allowed to associate with each other). See Figures 23 and 24. In order to determine the importance of direct paths between mindfulness and children's internalizing and externalizing on model fit, Model 3.1 was estimated by dropping these two paths (See Figures 25 and 26), and finally, Model 3.2 was estimated by again dropping the path between mindfulness and parenting practices as in model 2.1 (See Figures 27 and 28). No chi square difference tests revealed the necessity of including the direct paths from mindfulness. Specifically, the chi squared difference test between Model 3 and Model 3.1 was not significant for females ($\chi^2_{\text{diff}}(2) = 4.03, p = \text{n.s.}$) or males ($\chi^2_{\text{diff}}(2) = 2.49, p = \text{n.s.}$), nor was the difference between Model 3.1 and Model 3.2 for females ($\chi^2_{\text{diff}}(1) = 0.38, p = \text{n.s.}$) or males ($\chi^2_{\text{diff}}(1) = 0.15,$

$p = n.s.$). In addition, none of the paths dropped were significant in either female or male models. Therefore, for parsimony, only Model 3.2 will be described in depth here.

In terms of model fit, like previous models described, Model 3.2 demonstrated fair or acceptable fit for females, though the CFI was somewhat low and the chi squared test of model fit was significant: $\chi^2(142) = 319.11, p < .0001$; CFI = .88; RMSEA = .064, 90% CI [.055, .074]; SRMR = .060. Likewise, Model 3.2 demonstrated fair or acceptable fit for males, though the CFI and chi squared test of model fit demonstrated the same difficulties as with the female model: $\chi^2(142) = 339.07, p < .0001$; CFI = .87; RMSEA = .072, 90% CI [.062, .082]; SRMR = .060).

For females, as in previous models, internalizing psychopathology was not significantly associated with parenting practices, though mindfulness and internalizing psychopathology continued to be significantly associated ($\beta = -.82, p < .001$). Additionally, as in previous models, internalizing psychopathology continued to be significantly associated with number of months deployed ($\beta = .21, p < .01$), parent education ($\beta = -.13, p < .05$), and child age ($\beta = -.13, p < .05$), while parenting practices continued to be significantly associated with parent education ($\beta = .14, p < .05$) and whether mothers were married ($\beta = .71, p < .01$), and mindfulness continued to be significantly associated with months deployed ($\beta = -.24, p < .001$), parent education ($\beta = .21, p < .001$), and child age ($\beta = .14, p < .05$). Examination of children's internalizing problems in Model 3.2 suggested that children's internalizing problems were significantly associated with mothers' internalizing problems ($\beta = .21, p < .01$), but not with parenting practices ($\beta = .09, p = n.s.$) or any of the control variables. Children's

externalizing problems were not significantly associated with mothers' internalizing psychopathology ($\beta = -.01, p = \text{n.s.}$) or parenting practices ($\beta = -.02, p = \text{n.s.}$), but were associated with whether mothers were married ($\beta = -.72, p < .01$) and whether children were female ($\beta = -.38, p < .01$). Children's internalizing and externalizing problems were significantly related to each other ($\beta = .43, p < .001$).

For males, as in previous models, internalizing psychopathology was not significantly associated with parenting practices, though mindfulness and internalizing psychopathology continued to be significantly associated ($\beta = -.89, p < .001$). Additionally, as in previous models, internalizing psychopathology continued to be significantly associated with parent education ($\beta = -.17, p < .001$), as did parenting practices ($\beta = .18, p < .001$), with no significant associations between mindfulness and any of the control variables. Examination of children's internalizing problems in Model 3.2 suggested that children's internalizing problems were not significantly associated with fathers' internalizing problems ($\beta = .09, p = \text{n.s.}$), or parenting practices ($\beta = .01, p = \text{n.s.}$), but were associated with whether fathers were identified as a minority ($\beta = .48, p < .05$). Children's externalizing problems were also not significantly associated with fathers' internalizing psychopathology ($\beta = .01, p = \text{n.s.}$) or parenting practices ($\beta = .03, p = \text{n.s.}$), but was associated with parent education ($\beta = -.18, p < .05$), whether fathers were identified as a minority ($\beta = .37, p < .05$) and whether children were female ($\beta = -.52, p < .001$). Children's internalizing and externalizing problems were also significantly related to each other ($\beta = .41, p < .001$).

Discussion

Results of this study support the hypothesis that mindfulness in parents is multidimensional and relates to certain parent and family characteristics. However, results did not support the expected associations of mindfulness in parents with parenting practices or child functioning. Nevertheless, though the current study did not reveal clear links between parents' mindfulness and parenting practices, it may serve as a useful step in refining methods for studying mindfulness in parents for future research. In particular, this study examined the association between a multifaceted conceptualization of trait mindfulness and how it relates to observed parenting practices, representing a first effort to examine this association in the literature. Additionally, this examination was conducted with special care to addressing the ambiguities that plague the field of mindfulness research more generally, by utilizing EFA and CFA techniques to include what may represent a more comprehensive representation of mindfulness.

Measurement of Mindfulness

Aim 1 of the study sought to address the conceptual overlap between what is assessed by the FFMQ, one of the standard measures of mindfulness in the field, the AAQ-2, a measure of acceptance (or experiential avoidance), and several subscales of the DERS, a measure of emotion regulation. By seeking to construct a measure that more fully assesses aspects of mindfulness, the goal was to allow for the greatest explanatory power for understanding how mindfulness may relate to parenting practices and children's outcomes. It was hypothesized that exploratory and follow-up confirmatory factor analyses would yield a multi-faceted conceptualization of mindfulness that is

described by content from each of the measures included, and it was expected that the resulting facets would demonstrate the aforementioned conceptual overlap.

As expected, EFA and follow-up CFA analyses suggested utility in including items that seek to tap into acceptance as understood from an Acceptance and Commitment Therapy or functional contextualism framework, as well as items that assess nonacceptance of emotional responses, impulse control difficulties, lack of emotional awareness, and lack of emotional clarity as understood from an emotion regulation framework. The resulting five factors suggested that content from each of the measures did indeed overlap with content from other measures, and yielded theoretically interesting factors that fit well with current understanding of mindfulness.

The first factor, which I termed Lack of Interference of Negative Emotions, is made up of items from the AAQ-2 and the DERS Impulse scale. This factor appears to be the most applied of these newly created factors, capturing the impact of mindfulness on an individual's ability to sustain engagement in life and goal directed activities regardless of whatever internal events (thoughts and emotions) arise. It appears to describe engagement in processes by which mindfulness may have its salutary effect on individuals' lives, preventing the interference of a variety of patterns of reactivity to emotions that can impact individuals' functioning. The rather applied nature of this factor in terms of describing actual impact on the life of an individual, rather than simply basic characteristics and abilities associated with mindfulness, seems related to the way the AAQ-2 was written to describe acceptance/experiential avoidance. Given a growing literature of the impact of experiential avoidance or nonacceptance of internal events on

functioning, the scale appears to be written with a bent toward how an attitude of experiential avoidance would impact people's lives if it is present. It is likely that incorporating the concept of experiential avoidance is particularly important when assessing mindfulness in samples with high rates of PTSD, as is known to be the case for individuals who have previously been through the cycle of deployment (Hoge et al., 2004). In fact, Orsillo and Batten (2005) suggested that the development and maintenance of PTSD can be conceptualized as resulting from "excessive, ineffective attempts to control unwanted thoughts, feelings and memories, especially those related to the traumatic event(s)" (p. 95). Such attempts represent the experiential avoidance that the AAQ-2 was designed to measure, and there is growing evidence that experiential avoidance is associated with psychological functioning and symptoms of PTSD after exposure to traumatic events (Chawla & Ostafin, 2007; Marx & Sloan, 2005; Plumb, Orsillo, & Luterek, 2004; Thompson, Arnkoff, & Glass, 2011). Further, it has been suggested that mindfulness based programs may serve to decrease symptoms of PTSD, including in veteran samples (Kearney, McDermott, Malte, Martinez, & Simpson, 2012; Kearney et al., 2013; Vujanovic et al., 2011).

Additionally, this first newly created factor, particularly with the addition of the DERS Impulse items, also seems to capture the ability to choose a response, rather than to react in what might be a habitual manner. Indeed, such an ability is congruent with a mindful stance, and can be thought of as an important mechanism by which mindfulness may decrease a host of problematic behaviors. Interestingly, however, though the AAQ-2 was designed to measure experiential avoidance or acceptance, the EFA/CFA revealed a

separate factor that describes Nonjudgment/Acceptance (Factor 5), with which the Lack of Interference of Negative Emotions factor is most highly correlated with among the newly created factors ($r = .67, p < .001$). Similarly, of the original factors of the FFMQ, the Lack of Interference of Negative Emotions is most highly correlated with the Nonjudge factor ($r = .62, p < .001$), suggesting that this newly created factor may capture an important additional aspect of mindfulness that is related to, but not entirely overlapping with nonjudgment/acceptance.

The second factor, Attention and Awareness of Emotions, made up of items from the FFMQ Describe scale, the DERS Clarity scale, and the DERS Awareness scale, seems to capture individuals' ability to attend to and accurately perceive their emotions (and other internal events) with some sense of willingness. This relates to the mindful stance of attending to present moment experience, with a particular emphasis on internal experience. Though the FFMQ Describe subscale sought to capture such a stance with similar content, the overreliance of the items from the FFMQ Describe subscale on verbal descriptions of experience misses important aspects of mindful focus on experience. A mindful stance, as currently conceptualized by most in the field, does not require verbal descriptions of experience, but rather would seek to move away from such verbal representations of experiencing in lieu of experiencing itself. Based on inclusion of the FFMQ Describe items alongside additional DERS items in a single factor, the factor analysis revealed conceptual overlap between using words to describe what one is thinking or feeling and overall attention to emotions and thoughts. However, overall, the items included in the Attention to and Awareness of Emotions factor capture a broader

conceptualization of attending and noticing internal events (particularly emotions) than the FFMQ Describe scale alone, while including additional emphasis on this ability even while upset. This broader emphasis may increase the utility of such a measure to assess functioning in high stress contexts (like parenting at times). In terms of associations with other facets of mindfulness, this factor is unsurprisingly most highly related to the Describe subscale of the FFMQ ($r = .89, p < .001$), as a portion of the items are directly drawn from this scale. Of the newly created factors, the Attention to and Awareness of Emotions factor is most highly associated with the Lack of Interference of Negative Emotions factor ($r = .47, p < .001$). This association may be reflective of the importance of recognizing and allowing one's emotions in order to achieve a different relationship with one's mental processes, which in turn lose some measure of influence to interfere with an individual's functioning.

The third newly created factor, Acting with Awareness, exactly reproduces FFMQ factor with the same name, suggesting that really attending to actions in daily life, without reverting to autopilot, is not addressed by any of the items on the AAQ-2 or the DERS. In particular, it should be noted that these items make no reference to difficult emotions or stress, and the factor seems to capture more of an ability to remain attentive throughout the experiences most common in everyday life, rather than in stressful or emotionally arousing situations. This factor may complement Lack of Interference of Negative Emotions by describing the maintenance of purposeful action, not driven by either reactivity to negative emotions or by the ease of falling into autopilot on a day to day basis. The new Acting with Awareness factor was perfectly correlated with the

FFMQ Acting with Awareness factor ($r = 1.00, p < .001$), as all of the same items were included. Of the new items created, it was most highly associated with the Nonjudgment/Acceptance factor ($r = .52, p < .001$).

The fourth newly created factor, Observe, pulls most items from the original FFMQ Observe scale, though not all items from the original scale were included, and one FFMQ Nonreact item was included as well. Unsurprisingly, this factor was most highly correlated with the original FFMQ Observe scale ($r = .98, p < .001$), though it was also significantly correlated with the FFMQ Describe ($r = .21, p < .001$), FFMQ Nonjudge ($r = -.12, p < .01$), and FFMQ Nonreact ($r = .34, p < .001$) scales as well. It should be noted that though the correlation with the FFMQ Nonjudge scale is negative, this result is expected based on previous findings with non-meditating samples. Interestingly, however, despite the significant associations with four of the five original FFMQ scales, the newly created Observe factor was significantly correlated only with the Attention to and Awareness of Emotions factor ($r = .29, p < .001$) of all the newly created factors. This discrepancy in the presence of significant associations may be related to the added emotional content of the newly created factors. The Observe factor is particularly non-emotional in content, focusing on general observation of primarily sensory experiences in everyday life, and may relate less to an individual's mindfulness in regards to stressful situations or the presence of strong emotional content. The added emotional context included in many of the items pulled from the AAQ-2 and the DERS, particularly by inclusion of the phrase "when I'm upset," may explain why the Observe facet is less related to the newly created factors than the original FFMQ. However, though the newly

created Observe factor appeared more dissimilar from the other newly created factors, this behavior may be seen as congruent with historical findings that the Observe factor has not behaved in the same way as the other FFMQ factors in non-meditating samples. In particular, in the original validation study of the FFMQ, it was found that the original Observe factor did not load significantly onto a higher order latent mindfulness variable for non-meditators, with similar results found here with the newly created factors in the CFA portion of the study. Though it was not appropriate to retain the newly created Observe factor in SEM analyses given that it did not contribute to latent mindfulness, it is important to retain such a factor given its differential functioning in meditating and non-meditating examples. In particular, examining this factor may be useful in the context of the longitudinal project from which this data was drawn in terms of assessing for change based on mindfulness training.

The fifth newly created factor, Nonjudgment/Acceptance, is composed of primarily items from the FFMQ Nonjudge scale and the DERS Nonacceptance scale, with one item from the DERS Clarity scale, and seems to capture a lack of judgment or acceptance of thoughts and emotions. In particular, as suggested earlier, the DERS items add the context of emotional distress, describing rejection (and with reverse scoring, acceptance) of reactions to emotional distress, while the basic FFMQ Nonjudge items address more broad judgments of thoughts and emotions. Though the high correlation between this newly created factor and the FFMQ Nonjudge scale is not surprising ($r = .90, p < .001$), the strength of the correlation is notable given the number of items included in the factor that were not drawn from the original FFMQ Nonjudge scale. Only

6 of the 13 items originate from the FFMQ Nonjudge scale, furthering the case that there is high conceptual overlap between some aspects of mindfulness as measured by the FFMQ and aspects of emotion regulation as measured by the DERS. Of the newly created factors, the Nonjudgment/Acceptance factor is most highly correlated with the Lack of Interference of Negative Emotions ($r = .67, p < .001$), which, as mentioned previously, includes all of the AAQ-2 items (originally designed to measure acceptance if reverse scored). As suggested earlier, it appears that the Lack of Interference of Negative Emotions and Nonjudgment/Acceptance are highly related, but not perfectly overlapping, and this association may be at least in part explained by the importance of nonjudgment and acceptance in the process of living a life that is not negatively impacted by emotions or the attempted avoidance or escape of emotions, though further study of this association is needed.

Overall, the exploration of the overlap between the AAQ-2, the FFMQ, and the four scales of the DERS conceptually related to mindfulness demonstrates the utility of critically examining the overlap in operationalization of the constructs of acceptance/experiential avoidance, certain aspects of emotion regulation, and mindfulness, regardless of their conceptual origins. Though this study has not solved the definitional and measurement problems pervasive in the field of mindfulness, it has attempted to shed light on some of these issues to encourage future examination of mindfulness in a way that may increase our ability to measure mindfulness in emotionally evocative situations or stressful life circumstances. By providing an initial demonstration that acceptance and elements of emotion regulation are conceptually and empirically

overlapping with the construct of mindfulness, the results of the current factor analyses provide additional clarity in a field where such overlap is often alluded to, but has not received much empirical examination.

Mindfulness, Parenting Practices, and Child Outcomes

In addition to efforts to improve upon the measurement of mindfulness, particularly in the context of emotional content and distress, this study sought to improve upon the field's understanding of parents' mindfulness and how mindfulness may relate to both parenting practices and children's outcomes. Though the field of mindfulness interventions targeting parents has grown significantly in the last several years, little effort has been paid to direct assessment of the association between mindfulness and parenting practices. This study contributed what is, to the best of my knowledge, the first examination of a multifaceted, trait-based measurement of mindfulness in conjunction with an observational measure of parenting practices. Other strengths of the study include efforts to reduce overlap in reporting, with parents reporting on their own mindfulness and internalizing psychopathology, while observers rated parenting practices, and teachers rated child psychopathology, as well as utilizing a much larger sample than many of the previous studies of mindfulness in relation to parenting. Given growing interest in efforts to change parenting behaviors through mindfulness based intervention programs, gaining further understanding of the baseline association between these variables may illuminate the utility of investing in such efforts on a larger scale.

Given the theoretical basis for an association between mindfulness and parenting behaviors, it was expected that parents' mindfulness would be positively associated with

observed parenting practices and negatively related to parents' internalizing psychopathology and children's internalizing and externalizing problems. Additionally, it was expected that direct paths between mindfulness and parenting practices and mindfulness and children's psychopathology would add important predictive power to models of the associations between these variables, even when paths from internalizing psychopathology to parenting practices and children's outcomes were also included. Contrary to hypotheses, however, mindfulness was not significantly associated with parenting practices or with children's internalizing or externalizing problems, nor did including these direct paths improve model fit in any of the models tested for males or females. However, aside from a significant association between mothers' internalizing psychopathology and children's internalizing psychopathology, none of the other expected associations between internalizing psychopathology and either parenting practices or children's outcomes were significant in these models. In addition, the expected negative association between parenting practices and children's internalizing and externalizing psychopathology was also not present for mothers or fathers.

Though these results are contrary to the hypotheses, there may be a variety of explanations as to why expected associations were not found in the current study. It is possible that though structural equation modeling is a powerful technique, examining both mindfulness and parenting practices as latent constructs may obscure detection of associations between particular aspects of mindfulness and more specific parenting practices. Indeed, examination of correlational results do indicate significant associations between the Lack of Interference of Negative Emotions aspect of mindfulness and harsh

discipline in the expected direction ($r = -.10, p < .05$), as well as significant correlations between the Attention to and Awareness aspect of mindfulness and both positive involvement ($r = .14, p < .01$) and monitoring ($r = .10, p < .05$). Additionally, the Lack of Interference of Negative Emotions aspect of mindfulness also correlated significantly with children's internalizing problems ($r = -.11, p < .05$). However, even examination of these relations at the bivariate level reveals these to be weak associations. In regards to parent internalizing psychopathology, only monitoring shows similarly weak, but significant associations with symptoms of PTSD ($r = -.11, p < .05$) and anxiety ($r = -.11, p < .05$), with no other significant correlations between parenting practices and parent internalizing psychopathology. These findings are similar to those of Gewirtz et al. (2009), who also found a non-significant association between parental mental health and parenting practices when using the same measurement strategy for assessment of parenting practices as employed in the current study, though they had also originally hypothesized this association to be significant. It should also be noted that these low associations represent values that reflect multi-method, multi-informant measurement, possibly reducing the strength of associations as compared to what might be found with single-method, single-informant derived variables.

As discussed previously, mindfulness may foster the awareness necessary to prevent or break free from automatic patterns of interaction, including the use of harsh discipline, especially in emotionally evocative situations like parent-child conflict. The coercive, often entrenched nature of harsh discipline may be reasonably viewed as an automatic pattern of interaction that has been developed over time, maintained by both

parent and child behavior. Thus, mindfulness may impact a parent's ability to view a current interaction with his or her child for what it is, free from the influence of previous patterns of interaction and failing to draw automatic and aversive conclusions about the child's emotions or behavior. In this way, mindfulness may serve as a determinant of harsh discipline practices in particular, among the parenting behaviors assessed in the current study. It should be noted, however, that harsh discipline demonstrates relatively restricted range in this sample, with a mean of 1.34 out of a possible 1 to 6, with no participants earning any higher than a 4. This restricted range may be the result of demand characteristics, given the videotaping of the tasks and the relatively structured nature of the interaction protocol, which may not give full opportunity for families to demonstrate harsh interaction patterns. However, an additional assessment of parenting including videotaped analogues of frustrating parenting vignettes and subsequent parent responding is currently being examined as part of the larger study from which this data is drawn. This additional measure appears to demonstrate a wider range of harsh and ineffective discipline, and may improve upon the measures of harsh discipline discussed here. Future studies should also seek to address this issue of restricted range, and in so doing, possibly improving the ability to detect an association between parent mindfulness and harsh discipline or overall parenting practices driven by harsh discipline.

Though current results suggest weak associations at best between parent mindfulness and parenting practices, it is also possible that mindfulness may indeed be more clearly associated with parenting practices that relate more directly to parents' responding to their own or their children's emotions. For example, as suggested by

Snyder et al. (2013), mindfulness may have particular implications in regards to parents' ability to provide effective emotion socialization, known as emotion coaching (Gottman, Katz, & Hooven, 1996), which includes appropriate parent modeling of their own emotions. Indeed, Snyder et al. (2013) mentioned that there has been relatively little attention paid to emotions and how parents model and respond to their children's emotions in the study of parenting practices in the SIL traditions, suggesting additional research to ascertain whether there is substantial overlap with these practices and emotion socialization, or whether emotion socialization may make a unique contribution to our understanding of parenting practices. They performed a preliminary test of this question and found modest associations between parents' emotion socialization behaviors and observed SIL parenting practices, suggesting there may indeed be added utility to considering emotion coaching as an aspect of competent parenting practices. Given their suggestions about the potential importance of mindfulness and acceptance for socialization of children's emotions, it is possible that the current study captures elements of parenting that are less associated with mindfulness, while other parenting practices may show stronger associations. Based on this recognition that the currently described SIL coding system may be supplemented by assessment of emotion socialization practices, coding for emotion socialization practices is currently underway within the larger study from which the current data were drawn. It should also be noted that emotion socialization will be coded based on parent-child interaction tasks wherein parents were asked to discuss the deployment related problem that is hardest to talk about. These tasks were designed to be more emotionally evocative than the tasks associated with the SIL

coding system in order to provide the best opportunity to measure emotion and emotion socialization practices.

Similarly, another system of assessing parent behavior was utilized in a subset of 60 two-parent families (all with fathers who had been deployed) pulled from the current sample. Findings indicated that fathers' responses to challenging social behaviors of other family members was related to experiential avoidance in a way that suggested that this parenting behavior may represent a tactic to minimize intra-personal arousal and distress evoked by the distress of others (Brockman, 2014). Thus, experiential avoidance and the broader construct of mindfulness, may be particularly applicable to parenting in the context of emotionally charged situations, especially if examining parenting behaviors that tap into modeling of emotions by parents or responding directly to children's emotions. Indeed, the conceptual overlap between mindfulness and aspects of emotion regulation, as described in this work and evidenced in the results of EFA and CFA analyses, highlight the potential importance of mindfulness on emotion expression and otherwise responding to emotional content.

The cross sectional nature of this data may also obscure relationships between parent mindfulness and either parenting practices or child behavior problems. Cross sectional data provides only one snapshot of the relations among variables, with longitudinal assessment better able to capture the dynamic associations that may much more closely reflect the way these variables relate to one another. The positive association between mothers' mindfulness and children's age, despite the lack of a direct association between mindfulness and parent age, suggests that parenting experience or

children's developmental stages may be associated with parent mindfulness. Mindfulness may become increasingly associated with parenting practices or children's outcomes over the course of development, or may have cascading effects across development in terms of patterns of parent-child interactions. The cross sectional nature does not allow for exploration of these possibilities, though this option should be considered for the development of future studies.

Another possible explanation for the lack of significant associations between parent mindfulness and parenting practices is that baseline levels of trait mindfulness are truly not associated with parenting practices prior to specific intervention strategies. Though research from the field of mindfulness suggests that individual differences exist in levels of mindfulness practice even prior to mindfulness training, and that such dispositional mindfulness is associated with positive effects (Bowlin & Baer, 2012; Brown et al., 2007b), the ability to utilize effective parenting practices may not be one such effect. However, even in such a case, it may be that in the context of prevention or intervention programs, parents' mindfulness may serve as a moderator of intervention strategies. It is possible that dispositional mindfulness may moderate parents' ability to acquire new strategies through traditional parent management training programs, by increasing the likelihood that parents will be able to be truly open to learning additional parenting strategies and/or able to employ such strategies even in highly arousing moments when strategies are most likely to be abandoned for previously relied upon patterns of interaction that may be less effective in the long term. Likewise, training in mindfulness, either in order to supplement parent management training programs, or independent of

such programs, may help parents make conscious shifts in their parenting behaviors and patterns of interaction with their children. Direct mindfulness training may serve as a turning point above and beyond any influence of dispositional mindfulness, particularly given the intentional attitude cultivated in mindfulness practice. As preliminary evidence from a subsample of participants suggesting changes in mindfulness as a result of participation in the prevention program from which this data is drawn (Gewirtz, 2013), future work will be able to test whether such increases in mindfulness influence change in parenting practices that results from program participation.

Finally, the lack of association between mindfulness and parenting practices found here may be related to differential use of mindfulness skills across contexts. Though most currently available measures of mindfulness seek to examine trait mindfulness, as was assessed in the current study, it is possible that such a practice misses important information about individuals' ability to apply mindfulness skills differentially across situations. If mindfulness skills are not consistent across situations, examination of general mindfulness may not necessarily yield clear associations with effective parenting practices. Individuals, regardless of their overall level of mindfulness, may be differentially able to apply those skills to the context of parenting. In the field of mindfulness as a whole, there has been little attention paid to whether trait mindfulness is associated with state mindfulness in any particular situation. Though some work has suggested that individuals higher in trait mindfulness are more likely to exhibit mindfulness in any particular moment (state mindfulness) in general (Brown & Ryan, 2003; Weinstein, Brown, & Ryan, 2009), these studies have not examined contextual

factors as predictors of whether or not individuals demonstrated state mindfulness, or whether concordance between trait mindfulness and state mindfulness across settings may be itself predicted by additional individual characteristics. In other words, without direct examination as to whether the association between trait and state mindfulness is similarly apparent across different types of situations, we have little information about whether individuals high on trait mindfulness are just as likely to demonstrate state mindfulness while at work, versus while doing household chores, versus while interacting with others (including their children). Perhaps the concordance between trait and state mindfulness across contexts with different situational demands should not be assumed, as there may be utility in coming to understand whether any other individual characteristics actually predict the likelihood of manifesting state mindfulness in one situation or another beyond one's level of trait mindfulness.

In addition to the hypothesized association with parenting practices, it was expected that parent mindfulness would also be significantly associated with child behavior problems, as would parent internalizing psychopathology and parenting practices. Parent internalizing psychopathology was found to be related to child internalizing psychopathology, as expected, but this association existed only for mothers. This difference is consistent with a previous review of the literature by Connell and Goodman (2002), which found that internalizing problems (particularly depression) in mothers was more related to children's internalizing problems than fathers' internalizing psychopathology. The lack of association between parent internalizing psychopathology and child internalizing problems for fathers may also be related to the nature of the

current sample. Namely, for the majority of families in the current sample, either the fathers had been deployed, or both parents had been deployed, with very few fathers in the sample having never experienced a deployment. Given this discrepancy between deployment and parent gender, what appears as a gender effect may truly be related to the impact of deployment on parenting roles. Based on deployment status, it is possible that the mothers in this sample had more practical responsibilities in terms of parenting roles, with more opportunity to influence child functioning over time. In cases with significant psychopathology for the service members, as discussed previously, there is likely impact on the functioning of other family members. However, in general, the fathers may have spent less time parenting due to previous deployments, with less opportunity for their own internalizing psychopathology to have impacted their children's functioning.

Though no significant associations between parent internalizing psychopathology and child externalizing psychopathology were present for either mothers or fathers, as had been expected, this may be explained by a variety of factors, including shared genetic influences on parent and child internalizing psychopathology and modeling of behavior patterns. Indeed, some studies have suggested that children of depressed parents may be particularly likely to develop depression themselves, with a greater risk of this outcome than externalizing psychopathology (Downey & Coyne, 1990). The lack of association between parenting practices and either child internalizing or externalizing behavior problems for mothers or fathers was also unexpected, though this may at least in part be an artifact of the multi-informant approach. In particular, teacher report may not fully capture children's symptoms, as they are less privy to child functioning in the home,

which may be most heavily or directly influenced by parenting practices. Similarly, basic measures of child behavior problems alone may not be comprehensive enough to demonstrate significant associations between parenting practices and child functioning for a non-clinical sample. Along these lines, in a preliminary examination of alternative data from the larger study from which this project's data were drawn, parenting practices did appear significantly associated with child functioning when represented by a latent child resilience construct made up of internalizing, school problems, and personal adjustment, as reported by children themselves (Gewirtz, DeGarmo, & Davis, 2013).

Expected associations between parent mindfulness and child outcomes were also lacking in the current study. However, the majority of the previous literature suggesting such associations has come from intervention literature that demonstrates changes in children's functioning resulting from parent participation in mindfulness or mindful parenting treatment protocols. Many of these previous findings may have been reflective of changes in parent perceptions of children, rather than actual changes in child behavior, as the impact of treatment may have increased parents' acceptance and empathy, with subsequent impact on their perceptions of their children's behavior. Additionally, many of these studies focused on parents of children with special needs (e.g. diagnoses of ASD, ADHD, etc.). Perhaps behavior at a more clinically significant level is needed in order to see an association between parent mindfulness and children's behavior problems, as mindfulness may only be related to children's functioning in situations with greater demands on parenting. In other words, the association between mindfulness and children's outcomes may be moderated by severity of children's behavior problems.

Finally, this study found various significant associations between control variables and target variables of interest in the models examined, though no specific hypotheses were included about such associations. In particular, for both mothers and fathers, highest level of education was positively associated with parenting practices and negatively associated with parent internalizing symptoms. These associations are not surprising, as educational attainment may be impacted by internalizing psychopathology and highest level of education is likely associated with parent income and associated with level of financial stress, which may impact both parent internalizing psychopathology and parenting practices. Also in both male and female models, child gender was significantly associated with children's externalizing problems, with females showing fewer problems in both models for mothers and fathers. This finding is also unsurprising, as the composites for internalizing and externalizing problems used in the current study did not control for child gender, which is known to be associated with children's externalizing behavior problems even prior to adolescence when gender differences become apparent for rates of internalizing problems (Deater-Deckard, Bates, & Pettit, 1998; Zahn-Waxler, Shirtcliff, & Marceau, 2008).

In addition to the associations found for both mothers and fathers, significant associations between control variables and target variables in the models for mothers only. For mothers, the number of months deployed was positively associated with parent internalizing symptoms and negatively associated with parent mindfulness. Both of these associations may be related to experiential avoidance that may develop in response to the demands of deployment. This association may not have been present in the sample of

fathers given the low number of men participating in the study who had not been previously deployed (only 4.1% of the current sample). This lack of never-deployed fathers may have limited the range of the length of deployment variable for males in a way that prevented detection of significant associations. In contrast, for women, the sample may have contained adequate numbers of previously deployed (17.8%) and never-deployed (81.2%) individuals. Additionally, there is some evidence that women may face unique stressors related to deployment (Rona, Fear, Hull, & Wessely, 2007; Street, Vogt, & Dutra, 2009) increasing the likelihood that deployments are experienced as quite stressful for women in a way that may not be true for men without exposure to specific deployment related stressors.

For mothers, highest level of education and child age were also both positively associated with parent mindfulness, and child age was also negatively associated with mothers' internalizing psychopathology. In particular, the association between education and mindfulness has been found previously (Baer et al., 2008), though there is no clear explanation as to why this association might be present for mothers but not for fathers. Finally, in the models for mothers, marital status was significantly associated with both parenting practices and children's externalizing behavior problems, with married mothers showing more effective parenting practices and their children demonstrating fewer externalizing behavior problems. These data are congruent with previous research that single status for mothers is associated with less positive parenting practices (Forehand, Thomas, Wierson, & Brody, 1990; Fox, Platz, & Bentley, 1995) and that change in

marital status is associated with somewhat more negative effects for women (Marks & Lambert, 1998).

For fathers, highest level of education and minority status were also significantly associated with children's externalizing behavior problems, as was minority status and children's internalizing problems. These variables may serve as a proxy for socioeconomic status and family stress. It is possible that for the minority status variable in particular, mothers did not have a large enough representation of minority individuals in the sample to detect these effects. For mothers, individuals with minority status made up only 6.7% of the sample, as opposed to 11.6% of the sample of fathers.

Limitations

Though this study includes a variety of methodological improvements over many of the previous studies of mindfulness and parenting, particularly given the small literature base, there remain several key limitations to the current study. First, there are limitations in terms of the sample. Mindfulness and interventions involving mindfulness may be especially important for military families given the high stress context of parenting at any point in the deployment cycle, the association of deployment on psychopathology for the service member, and the toll on other members of the family. However, restricting the diversity of the sample to families who had experienced deployment impacts the generalizability of the current findings to a broader population. Additionally, but perhaps related to involvement in the National Guard or Reserves, the current sample had relatively low economic diversity, educational diversity, ethnic diversity, and diversity of family constellations, as most families were middle class, Caucasian, and married.

Furthermore, though military involvement can impact psychological functioning, the current sample is likely more similar to a community based sample rather than a clinical sample in terms of the functioning of both parents and children, perhaps limiting detection of associations between trait mindfulness, parenting practices, and children's functioning that may be present in clinical samples. Though the sample size was reasonably large in general, several analyses required that the sample be split in half, particularly to protect against the impact of nested data that existed for families with two parents participating, possibly limiting the ability to detect significant effects due to insufficient power.

There are also some potential limitations associated with reporting of various constructs within this study. Though efforts to prevent spurious associations based on reporter bias also were a significant strength of the study, efforts to reduce such reporter bias may also serve as limitations. In particular, teacher, rather than parent report of children's internalizing and externalizing problems was included in order to prevent findings that truly reflect associations with parent perceptions of child problems rather than association with true levels of children's externalizing and internalizing problems. However, in particular, teachers may have less information about children's internalizing than children themselves, and may not have knowledge about children's behavior problems in the home, which may be more likely to be directly related to parenting practices or parent functioning. Future studies should use a combination of reports from teachers, children, and parents. Additionally, though overlap of reporter was limited,

parents did report on both their own mindfulness and internalizing psychopathology, possibly increasing the level of association between those two constructs.

Finally, there are several limitations in regards to the measurement of mindfulness. First, it should be noted that although this study made particular efforts to define and assess mindfulness carefully, current issues in defining and measuring mindfulness have implications for all studies which seek to establish an association between mindfulness and other constructs of interest. Also in regards to measurement of mindfulness, there are general limitations of using self-report, despite the use of self-report as standard practice in the field.

In this study, there was no initial assessment of mindfulness experience, so it was not feasible to control for mindfulness practice. It is possible that though this study purportedly measured innate trait mindfulness, some individuals may have had some previous experience with mindfulness based meditation.

Finally, the factors generated by the factor analysis relied heavily on reverse scoring of items that assess what mindfulness is not (e.g. “I tell myself I shouldn’t be feeling the way I’m feeling”). Including such items may artificially increase the observed overlap with psychopathology if individuals demonstrating psychopathology are more likely to admit to problems than endorse what might be perceived to be positive characteristics. However, standard measures of mindfulness frequently utilize such reverse-scored negatively worded items to capture mindfulness, and empirical studies have suggested no difference in the functioning of such items (Baer, Samuel, & Lykins, 2011) or even that such items more reliably assess some elements of mindfulness (Baer et

al., 2004), though these studies did not focused on differential item functioning based on psychopathological symptoms.

Conclusions and Future Directions

Results of this study corroborate the multidimensional nature of mindfulness as assessed in parents, while failing to find associations of mindfulness with parenting or child behavior. Despite its limitations, this study examined nearly uncharted areas of research in terms of mindfulness and parenting. Given that this work represents early stages of research in this area, lack of expected results should not preclude additional study of the association between mindfulness and parenting practices. Moreover, it is possible that mindfulness plays a role in response to intervention by parents, a possibility that was not addressed in this study.

Given that mindfulness in relation to parenting is a relatively novel area of study, it is no surprise that there are many directions for future study in order to increase our understanding of how mindfulness may be importantly associated with parenting and children's outcomes, and how this knowledge might be used in order to inform prevention or intervention strategies. Though the measurement of mindfulness outside the context of parenting has a broader base of previous research, operational and methodological ambiguity surrounding the construct of mindfulness warranted the current efforts at examining the construct of mindfulness through EFA and CFA, and will continue to require careful attention and empirical examination.

Further basic research is still needed in regards to the association between mindfulness and parenting practices, whether it is conducted in the context of

intervention (wherein both parenting practices and mindfulness should be measured prior to and post intervention, with use of control groups to effectively assess change), or in the context of correlational studies that use well validated and varied measures of different aspects of mindfulness and parenting practices.

In particular, more work examining how mindfulness may be related to different facets of parenting behavior is needed, particularly in regards to parenting behavior associated with responding to emotions. Such exploration is likely to yield the most fruitful information for understanding the mechanisms underlying mindfulness intervention strategies for parents. Additionally as suggested by, Kohls, Sauer, and Walach (2009), examination of multiple aspects of mindfulness may allow for increased understanding of the mechanisms behind the associations between constructs. Continuing to engage in studies that include multiple facets of both mindfulness and parenting will likely yield the most elucidating results in terms of understanding how mindfulness may relate to parenting practices and children's behaviors. For example, it may be particular aspects of mindfulness that influence release from automatic patterns or cycles of interaction mentioned previously as an important mechanism for the impact of mindfulness on interpersonal processes. For example, Greco and Eifert (2004) suggested that acceptance may be a particularly important process in regards to impacting parent-child conflict in adolescent relationships, and Geurtzen et al. (2014) found non-judgmental acceptance of parents' own functioning to be the driving force behind the predictive power of mindful parenting on children's internalizing problems.

Parenting behaviors are likewise complex and multifaceted, as is demonstrated by the SIL literature in particular, and it will be important to continue to consider a multifaceted understanding of parenting behaviors in order to determine the particular impact of mindfulness on each of these practices. Care should be taken to improve the measurement of harsh discipline in order to better determine whether harsh discipline may be reduced in the context of high levels of mindfulness. Similarly, additional aspects of parenting behavior should be explored, particularly those associated with emotions responses to the emotions of others, as the influence of emotions and emotion socialization may not be adequately addressed by the SIL parenting (Snyder et al., 2013).

Though it is possible that null results presented here reflect a reality in which innate mindfulness may not have implications for parenting without training, this does not preclude the utility of mindfulness intervention programs for parents. Indeed, active engagement in regular mindfulness practice may serve as a protective factor for stressors associated with daily parenting demands, particularly in higher risk parenting contexts like deployment/reintegration, or for parents of children with particular diagnoses, or even those with their own psychopathology that may compromise their ability to deal with the regular demands of parenting. It may require a particular threshold of engagement in mindfulness enhancing practices, be this completion of training program or ongoing engagement in mindfulness practice. Future intervention studies should continue to examine the necessary dose of mindfulness required to impart benefits to parents and children, either through impact on parenting practices, or simply through impact on parents' own functioning and responses to stress.

Additionally, further inquiry is needed in regards to the application of mindfulness across settings. As mentioned above, it is possible that individuals may be differentially able to bring a mindful stance to various areas of their lives (e.g. ease or ability to employ a mindful stance in the workplace versus in interactions with one's children). Thus, even if high levels of general mindfulness increase the likelihood that parents will manifest the cognitive and behavioral stance currently understood to represent mindful parenting, a lack of perfect congruence between these abilities may at least in part explain the lack of significant findings in the current study. Simultaneous examination of parents' mindfulness (trait or dispositional mindfulness) alongside mindful parenting (the manifestation of mindfulness in a particular situation of interest), may provide clues as to how general mindfulness is manifested within the parenting role and would allow for increased understanding of the characteristics or situational influences that allow parents to apply mindfulness skills in the parenting context. In studies that incorporate concurrent measurement of mindfulness and mindful parenting, other contextual influences (e.g. family stress or the co-parenting relationship) as well as individual parent characteristics (e.g. symptoms of psychopathology or parent education) can be examined to determine their ability to predict the association between trait mindfulness and mindful parenting. This understanding could then be used to inform interventions that sought to remove any barriers to applying mindfulness skills to parenting.

Likewise, studies could incorporate additional measures similar to the measure of mindful parenting that has been developed (IEM-P) that assess situational manifestations

of mindfulness (e.g. mindful work). Such measures would allow additional examination of variability in concordance of trait mindfulness and engaging a mindful stance across different situations people find themselves in regularly. Similarly, the same type of ecological momentary assessment strategies (EMA) used by Weinstein et al. (2009) to assess state mindfulness might be adapted to gather additional contextual information to increase understanding about the application of mindfulness across settings. Likewise, mindfulness induction methods such as those used by Arch and Craske (2006) could be employed in order to induce mindful states and determine participants' abilities to behave mindfully across various types of tasks (e.g. parenting discussion and individual problem solving tasks).

Further, examination of state mindfulness, rather than trait mindfulness, may also clarify how employment of a mindful stance impacts parenting practices at any particular moment. Future research could focus on the development of observational measures of mindful parenting or make the use of experimental induction paradigms just mentioned in order to generate mindful states prior to the use of observational parenting measures (e.g. SIL measures used here) in efforts to examine the association between state mindfulness and parenting practices. Such investigations might provide additional information as to how mindfulness impacts day to day functioning of parents within the parent-child relationship that may not be otherwise apparent by examining tendency toward trait mindfulness alone.

Finally, in regards to a more general understanding of mindfulness, the current study makes a particular contribution by acknowledging that various measures purported

to assess constructs other than mindfulness may appear theoretically different simply because they arose from a different area of study, rather than because they truly represent separate constructs. This acknowledgement, coupled with initial attempts to examine empirical overlap between multiple measures, may dispel some of the ambiguity that is perpetuated by the vague language used to describe mindfulness and conceptually related constructs by taking a clear stance as to what particular measures might assess.

Given current findings that inclusion of items from the AAQ-2 and the DERS in the measurement of mindfulness yielded factors that demonstrate conceptual overlap between the constructs measured, theoretically interesting factors, good scale reliability, conceptual overlap with the current FFMQ scales, and significant associations with internalizing psychopathology, future research should continue to consider the utility of including items that capture mindfulness in the context of emotional distress. The current factors can be further examined and refined in order to determine their general utility in the measurement of mindfulness; this may be accomplished through replication of the factor structure in additional larger samples, as well as in different populations (e.g. non-parents, non-military, clinical groups). Additionally, it would be useful to compare the current factors and the five scale scores generated on the FFMQ to determine differential ability to detect associations with psychological symptoms and measures of adaptive functioning as along with differential ability to detect change as a result of engagement in mindfulness training.

Table 1

Demographic Characteristics for Full Sample (N = 608)

| Characteristic | <i>n</i> | % | Characteristic | <i>n</i> | % |
|--------------------------------|----------|------|---------------------------|----------|------|
| Highest Education Level | | | Gender of Parent | | |
| High school/GED | 48 | 7.9 | Male | 294 | 48.4 |
| Some college | 146 | 24 | Female | 314 | 51.6 |
| AA degree | 105 | 17.3 | Marital Status | | |
| 4-year college degree | 220 | 36.2 | Married | 531 | 87.3 |
| Graduate degree | 77 | 12.7 | Divorced | 35 | 5.8 |
| Not reported | 12 | 2 | Separated | 12 | 2 |
| Ethnicity | | | Never married | 17 | 2.8 |
| Nonhispanic | 554 | 91.1 | Widowed | 1 | 0.2 |
| Hispanic | 20 | 3.3 | Not reported | 12 | 2 |
| Not reported | 34 | 5.6 | Number of Marriages | | |
| Race | | | 0 | 24 | 3.9 |
| Caucasian/White | 540 | 88.8 | 1 | 473 | 77.8 |
| African-American/Black | 18 | 3 | 2 | 88 | 14.5 |
| Asian/Asian-American | 9 | 1.5 | 3 or more | 11 | 1.83 |
| Multiracial | 16 | 2.6 | Not reported | 12 | 2 |
| Native American/Alaska Native | 1 | 0.2 | Number of Months Deployed | | |
| Native Hawaiian/Pacific Island | 2 | 0.3 | Never deployed | 247 | 43.9 |
| Unknown | 22 | 3.6 | 6 months or less | 27 | 4.4 |
| Household Income | | | 7-12 months | 99 | 16.3 |
| Less than \$39,999 | 91 | 15 | 13-18 months | 46 | 7.6 |
| \$40,000 - \$79,999 | 251 | 41.3 | 19-24 months | 65 | 10.7 |
| \$80,000 - \$119,999 | 170 | 28 | 25-30 months | 28 | 4.6 |
| \$120,000 or more | 79 | 13 | 31-36 months | 42 | 6.9 |
| Unknown | 17 | 2.7 | 37 months + | 30 | 4.9 |
| Gender of Target Child | | | Unknown | 4 | 0.7 |
| Male | 180 | 53.6 | | | |
| Female | 156 | 46.4 | | | |

Table 2

Psychometric Properties of the Major Study Variables

| Variable | <i>n</i> | <i>M</i> | <i>SD</i> | Range | Skewness | Kurtosis |
|-----------------------|----------|----------|-----------|-------------|----------|----------|
| FFMQ | | | | | | |
| Observe | 587 | 24.64 | 5.73 | 10.00-39.00 | -0.05 | -0.28 |
| Describe | 587 | 27.87 | 5.79 | 13.00-40.00 | -0.07 | -0.54 |
| Act with Awareness | 587 | 27.93 | 5.78 | 11.00-40.00 | -0.24 | -0.27 |
| Nonjudge | 587 | 28.95 | 6.30 | 8.00-40.00 | -0.34 | -0.31 |
| Nonreact | 587 | 22.39 | 4.17 | 8.00-34.00 | -0.12 | 0.18 |
| AAQ | 590 | 16.80 | 8.16 | 7.00-43.00 | 0.85 | 0.04 |
| DERS | | | | | | |
| DERS Nonaccept | 585 | 10.55 | 4.82 | 6.00-28.00 | 1.31 | 1.24 |
| DERS Impulse | 585 | 9.49 | 3.66 | 6.00-25.00 | 1.51 | 2.42 |
| DERS Nonaware | 585 | 15.83 | 5.28 | 6.00-30.00 | 0.24 | -0.68 |
| DERS Clarity | 584 | 9.55 | 3.32 | 5.00-22.00 | 0.71 | -0.09 |
| Newly created factors | | | | | | |
| Factor 1 | 591 | 50.02 | 8.01 | 21.00-60.00 | -0.97 | 0.33 |
| Factor 2 | 587 | 64.03 | 12.38 | 31.00-90.00 | -0.23 | -0.67 |
| Factor 3 | 587 | 27.93 | 5.78 | 11.00-40.00 | -0.24 | -0.27 |
| Factor 4 | 587 | 24.61 | 5.75 | 8.00-39.00 | -0.11 | -0.10 |
| Factor 5 | 587 | 51.60 | 9.11 | 19.00-65.00 | -0.78 | 0.13 |
| PCL Total | 559 | 28.74 | 11.23 | 7.00-79.00 | 1.51 | 2.21 |
| HSCL | | | | | | |
| Anxiety | 585 | 1.45 | 0.44 | 1.00-4.00 | 1.72 | 3.83 |
| Depression | 585 | 1.53 | 0.49 | 1.00-4.00 | 1.32 | 1.68 |
| Parenting practices | | | | | | |
| Problem Solving | 570 | 2.53 | 0.65 | 1.00-4.00 | 0.16 | -0.59 |
| Harsh Discipline | 568 | 1.34 | 0.40 | 1.00-4.00 | 1.98 | 5.62 |
| Positive Involvement | 570 | 3.44 | 0.50 | 2.00-5.00 | -0.24 | 0.40 |
| Skill Encouragement | 570 | 2.68 | 0.73 | 1.00-5.00 | 0.26 | -0.36 |
| Monitoring | 548 | 3.43 | 0.90 | 1.00-5.00 | -0.42 | -0.11 |
| BASC | | | | | | |
| Internalizing | 258 | 0.00 | 0.82 | -1.00-3.00 | 1.10 | 0.86 |
| Externalizing | 258 | 0.00 | 0.90 | -1.00-4.00 | 1.28 | 2.23 |

Table 3

Contrast of EFA and CFA Samples for Continuous Descriptives

| Characteristic | EFA | | CFA | | <i>t</i> |
|---------------------|---------------|----------|---------------|----------|----------|
| | <i>M (SD)</i> | <i>n</i> | <i>M (SD)</i> | <i>n</i> | |
| Parent age | 36.31 (6.50) | 248 | 36.12 (6.23) | 260 | 0.339 |
| Child age | 7.81 (2.48) | 294 | 7.90 (2.57) | 295 | -0.427 |
| Number of marriages | 1.13 (0.49) | 295 | 1.18 (0.67) | 295 | -0.912 |
| Months deployed | 2.01 (2.18) | 295 | 1.99 (2.29) | 294 | 0.092 |

Note. The variation in the sample size is due to the variation in the number of participants who had non-missing data for demographic variables.

* $p < .05$.

Table 4

Contrast of EFA and CFA Samples for Categorical Descriptives

| Characteristic | EFA (<i>n</i>) | CFA (<i>n</i>) | χ^2 | <i>Phi</i> |
|--------------------------|------------------|------------------|----------|------------|
| Parent Gender | | | 0.00 | 0.00 |
| Male | 141 | 142 | | |
| Female | 154 | 154 | | |
| Child Gender | | | 0.04 | 0.01 |
| Male | 134 | 132 | | |
| Female | 161 | 164 | | |
| Marital Status | | | 0.07 | -0.01 |
| Married | 264 | 262 | | |
| Unmarried/Separated | 31 | 33 | | |
| Minority Status | | | 1.28 | 0.05 |
| Minority | 261 | 254 | | |
| Non-minority | 23 | 31 | | |
| Study Participation | | | 0.30 | 0.02 |
| One parent participation | 34 | 30 | | |
| Two parent participation | 261 | 266 | | |

Note. The variation in the sample size is due to the variation in the number of participants who had non-missing data for demographic variables.

* $p < .05$.

Table 5

Eigenvalues for Sample Correlation Matrices for Each Round of Analysis

| # | Round of Analysis | | | # | Round of Analysis | | | # | Round of Analysis | | |
|----|-------------------|--------|-------|----|-------------------|--------|-------|----|-------------------|--------|-------|
| | First | Second | Third | | First | Second | Third | | First | Second | Third |
| 1 | 19.53 | 18.01 | 17.88 | 33 | 0.46 | 0.38 | 0.38 | 65 | 0.12 | | |
| 2 | 7.18 | 6.37 | 6.37 | 34 | 0.45 | 0.38 | 0.36 | 66 | 0.11 | | |
| 3 | 3.53 | 3.32 | 3.32 | 35 | 0.43 | 0.36 | 0.35 | 67 | 0.11 | | |
| 4 | 3.03 | 2.70 | 2.64 | 36 | 0.41 | 0.35 | 0.34 | 68 | 0.09 | | |
| 5 | 2.39 | 2.32 | 2.32 | 37 | 0.40 | 0.34 | 0.32 | 69 | 0.09 | | |
| 6 | 2.03 | 1.79 | 1.78 | 38 | 0.39 | 0.32 | 0.31 | | | | |
| 7 | 1.86 | 1.63 | 1.62 | 39 | 0.38 | 0.31 | 0.31 | | | | |
| 8 | 1.74 | 1.34 | 1.29 | 40 | 0.36 | 0.31 | 0.29 | | | | |
| 9 | 1.33 | 1.23 | 1.16 | 41 | 0.35 | 0.29 | 0.28 | | | | |
| 10 | 1.26 | 1.11 | 1.06 | 42 | 0.34 | 0.28 | 0.27 | | | | |
| 11 | 1.11 | 0.98 | 0.94 | 43 | 0.33 | 0.27 | 0.26 | | | | |
| 12 | 1.05 | 0.92 | 0.91 | 44 | 0.32 | 0.26 | 0.26 | | | | |
| 13 | 0.99 | 0.90 | 0.88 | 45 | 0.31 | 0.25 | 0.24 | | | | |
| 14 | 0.95 | 0.84 | 0.83 | 46 | 0.30 | 0.24 | 0.23 | | | | |
| 15 | 0.92 | 0.77 | 0.76 | 47 | 0.29 | 0.22 | 0.22 | | | | |
| 16 | 0.83 | 0.76 | 0.73 | 48 | 0.28 | 0.21 | 0.21 | | | | |
| 17 | 0.82 | 0.70 | 0.70 | 49 | 0.26 | 0.21 | 0.19 | | | | |
| 18 | 0.79 | 0.68 | 0.65 | 50 | 0.25 | 0.19 | 0.18 | | | | |
| 19 | 0.74 | 0.65 | 0.64 | 51 | 0.25 | 0.18 | 0.17 | | | | |
| 20 | 0.71 | 0.63 | 0.60 | 52 | 0.23 | 0.17 | 0.17 | | | | |
| 21 | 0.70 | 0.60 | 0.60 | 53 | 0.23 | 0.17 | 0.16 | | | | |
| 22 | 0.66 | 0.58 | 0.54 | 54 | 0.22 | 0.16 | 0.15 | | | | |
| 23 | 0.64 | 0.54 | 0.53 | 55 | 0.21 | 0.15 | 0.14 | | | | |
| 24 | 0.61 | 0.53 | 0.51 | 56 | 0.21 | 0.14 | 0.13 | | | | |
| 25 | 0.59 | 0.50 | 0.49 | 57 | 0.19 | 0.13 | 0.12 | | | | |
| 26 | 0.57 | 0.49 | 0.49 | 58 | 0.18 | 0.11 | 0.11 | | | | |
| 27 | 0.56 | 0.47 | 0.46 | 59 | 0.17 | 0.11 | 0.10 | | | | |
| 28 | 0.54 | 0.45 | 0.45 | 60 | 0.17 | 0.09 | | | | | |
| 29 | 0.50 | 0.44 | 0.44 | 61 | 0.15 | | | | | | |
| 30 | 0.50 | 0.43 | 0.41 | 62 | 0.14 | | | | | | |
| 31 | 0.47 | 0.40 | 0.39 | 63 | 0.13 | | | | | | |
| 32 | 0.46 | 0.39 | 0.39 | 64 | 0.13 | | | | | | |

Table 6

Geomin Rotated Loadings for Initial EFA Solution

| Scale and Item | Factors | | | | |
|------------------|-------------|-------------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 |
| Factor 1 | | | | | |
| AAQ 4 | .84 | .02 | .05 | .01 | -.04 |
| AAQ 1 | .78 | -.01 | .04 | .08 | -.04 |
| AAQ 5 | .76 | .03 | .16 | -.03 | .01 |
| AAQ 7 | .74 | .07 | .17 | .04 | .03 |
| AAQ 3 | .70 | .07 | .12 | .04 | .10 |
| AAQ 6 | .68 | -.08 | .13 | -.07 | .01 |
| AAQ 2 | .59 | -.16 | .05 | .01 | .11 |
| DERS Impulse 19 | .51 | .08 | -.07 | -.07 | .30 |
| DERS Impulse 24 | -.50 | .17 | .00 | -.03 | -.03 |
| DERS Impulse 14 | .49 | -.04 | -.15 | .02 | .23 |
| DERS Impulse 36 | .46 | -.03 | -.03 | -.07 | .16 |
| DERS Impulse 3 | .39 | .02 | .09 | .01 | .22 |
| DERS Impulse 27 | .36 | -.04 | -.06 | .06 | .31 |
| FFMQ Nonreact 33 | -.36 | .09 | .11 | .13 | -.11 |
| FFMQ Nonreact 29 | -.32 | .09 | .10 | .24 | -.01 |
| FFMQ Nonreact 24 | -.32 | .07 | .08 | .25 | -.02 |
| FFMQ Nonreact 21 | -.30 | .18 | .04 | .25 | -.03 |
| FFMQ Nonreact 9 | -.25 | .17 | -.09 | .21 | .05 |
| Factor 2 | | | | | |
| FFMQ Describe 2 | .07 | .85 | .05 | -.06 | .10 |
| FFMQ Describe 37 | .20 | .83 | .03 | -.02 | -.04 |
| DERS Clarity 7 | -.07 | .74 | -.10 | .05 | .04 |
| DERS Awareness 6 | .05 | .73 | .01 | .18 | -.04 |
| FFMQ Describe 7 | .02 | .72 | -.02 | .02 | .20 |
| DERS Awareness 2 | -.06 | .72 | -.09 | .14 | .02 |
| FFMQ Describe 27 | -.01 | .71 | .08 | -.04 | .02 |
| FFMQ Describe 16 | -.03 | -.70 | .20 | .20 | .01 |
| DERS Clarity 1 | -.05 | .69 | -.03 | .02 | -.04 |
| FFMQ Describe 12 | -.02 | -.67 | .10 | .27 | .01 |
| FFMQ Describe 32 | .13 | .66 | .15 | .14 | -.07 |

| | | | | | |
|----------------------------|------|-------------|------------|------------|------------|
| DERS Awareness 8 | -.01 | .66 | -.08 | .19 | .01 |
| FFMQ Describe 22 | .07 | -.56 | .07 | .24 | .09 |
| DERS Clarity 4 | .10 | -.55 | .00 | .00 | .14 |
| DERS Awareness 10 | -.06 | .52 | .01 | .13 | .04 |
| DERS Clarity 5 | .17 | -.47 | .05 | .09 | .22 |
| DERS Awareness 33 | -.05 | .46 | .06 | .26 | -.07 |
| FFMQ Observe 36 | -.08 | .44 | -.01 | .37 | .26 |
| DERS Awareness 17 | -.03 | .41 | -.06 | .12 | -.13 |
| FFMQ Nonreact 4 | -.08 | .23 | .05 | .16 | .10 |
| Factor 3 | | | | | |
| FFMQ Act with Awareness 13 | .02 | -.11 | .76 | -.01 | -.03 |
| FFMQ Act with Awareness 5 | -.07 | -.08 | .76 | -.03 | .02 |
| FFMQ Act with Awareness 38 | .02 | .11 | .73 | -.08 | .09 |
| FFMQ Act with Awareness 28 | .01 | .07 | .69 | -.14 | .05 |
| FFMQ Act with Awareness 8 | .24 | -.10 | .66 | .03 | -.10 |
| FFMQ Act with Awareness 18 | .09 | -.10 | .63 | -.02 | .18 |
| FFMQ Act with Awareness 34 | -.09 | .04 | .60 | -.07 | .11 |
| FFMQ Act with Awareness 23 | .06 | -.11 | .47 | -.05 | .17 |
| Factor 4 | | | | | |
| FFMQ Observe 15 | .04 | .02 | -.12 | .72 | .07 |
| FFMQ Observe 20 | .14 | -.16 | -.05 | .69 | .01 |
| FFMQ Observe 31 | .04 | .03 | -.04 | .62 | -.17 |
| FFMQ Observe 26 | .03 | .08 | -.05 | .61 | -.04 |
| FFMQ Observe 6 | .05 | -.05 | -.04 | .59 | .03 |
| FFMQ Observe 1 | .01 | .01 | .03 | .53 | .07 |
| FFMQ Observe 11 | -.08 | .02 | -.01 | .50 | .12 |
| FFMQ Nonreact 19 | -.14 | .12 | .12 | .43 | -.07 |
| Factor 5 | | | | | |
| DERS Nonacceptance 25 | -.09 | .02 | .00 | -.05 | .93 |
| DERS Nonacceptance 21 | .02 | .01 | .00 | -.02 | .90 |
| DERS Nonacceptance 29 | .04 | .04 | .04 | -.03 | .81 |
| DERS Nonacceptance 12 | .06 | .03 | .04 | -.03 | .78 |
| DERS Nonacceptance 11 | .01 | -.06 | -.04 | -.04 | .78 |
| DERS Nonacceptance 23 | .05 | -.01 | .00 | -.02 | .68 |
| FFMQ Nonjudge 39 | -.02 | -.01 | .25 | .08 | .58 |
| FFMQ Nonjudge 10 | .15 | .00 | .24 | .03 | .44 |
| FFMQ Nonjudge 25 | .08 | -.05 | .31 | .09 | .44 |

| | | | | | |
|------------------|------|------|-----|-----|------------|
| FFMQ Nonjudge 35 | -.01 | -.09 | .21 | .16 | .44 |
| FFMQ Nonjudge 30 | .15 | -.15 | .29 | .03 | .39 |
| FFMQ Nonjudge 17 | .01 | -.07 | .20 | .25 | .39 |
| FFMQ Nonjudge 3 | .12 | .04 | .29 | .17 | .36 |
| DERS Clarity 9 | .22 | -.20 | .03 | .01 | .35 |
| FFMQ Nonjudge 14 | .20 | -.04 | .31 | .09 | .34 |

Note. Factor loadings are bolded for the factor on which they load highest. Loadings are depicted in order of descending absolute value for the factor on which they load highest.

Table 7.

Items Removed Through Process of EFA

| Scale | Item | Content | Round Removed | Reason for Removal |
|---------------|------|---------------------------------------------------------------------------------------------------|---------------|--------------------------------------------------------------------------------------------------|
| FFMQ nonreact | 4 | <i>I perceive my feelings and emotions without having to react to them.</i> | 1 | Highest loading on Factor 2 at .230 |
| FFMQ nonreact | 9 | <i>I watch my feelings without getting lost in them.</i> | 1 | Highest loading on Factor 1 at -.250 |
| FFMQ nonreact | 21 | <i>In difficult situations, I can pause without immediately reacting.</i> | 1 | Highest loading on Factor 1 at -.297 |
| FFMQ nonreact | 24 | <i>When I have distressing thoughts or images, I feel calm soon after.</i> | 1 | Highest loading on Factor 1 at -.315 |
| FFMQ nonreact | 29 | <i>When I have distressing thoughts or images I am able just to notice them without reacting.</i> | 1 | Highest loading on Factor 1, but cross loaded on Factor 4 with a difference of .06 in magnitude |
| FFMQ nonreact | 33 | <i>When I have distressing thoughts or images, I just notice them and let them go.</i> | 2 | Highest loading on Factor 1 at -.303 |
| DERS impulse | 27 | <i>When I'm upset, I have difficulty controlling my behaviors.</i> | 1 | Highest loading on Factor 1, but cross loaded on Factor 5 with a difference of .05 in magnitude |
| FFMQ nonjudge | 14 | <i>I believe some of my thoughts are abnormal or bad and I shouldn't think that way.</i> | 1 | Highest loading on Factor 5, but cross loaded on Factor 3 with a difference of .03 in magnitude |
| FFMQ nonjudge | 3 | <i>I criticize myself for having irrational or inappropriate emotions.</i> | 1 | Highest loading on Factor 5, but cross loaded on Factor 3 with a difference of -.06 in magnitude |
| FFMQ observe | 36 | <i>I pay attention to how my emotions affect my thoughts and behavior.</i> | 1 | Highest loading on Factor 2, but cross loaded on Factor 5 with a difference of .07 in magnitude |

Table 8.

Geomin Rotated Loadings for Second EFA Solution

| Scale and Item | Factors | | | | |
|-------------------|-------------|-------------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 |
| Factor 1 | | | | | |
| AAQ 4 | .88 | .01 | -.03 | .00 | -.04 |
| AAQ 1 | .82 | -.02 | -.02 | .06 | -.04 |
| AAQ 5 | .77 | .02 | .11 | -.03 | .03 |
| AAQ 7 | .76 | .06 | .12 | .03 | .03 |
| AAQ 3 | .72 | .06 | .07 | .02 | .11 |
| AAQ 6 | .72 | -.10 | .08 | -.08 | .01 |
| AAQ 2 | .64 | -.16 | -.01 | -.02 | .11 |
| DERS Impulse 24 | -.46 | .18 | -.02 | -.05 | -.04 |
| DERS Impulse 19 | .43 | .06 | -.04 | -.03 | .31 |
| DERS Impulse 14 | .40 | -.06 | -.10 | .06 | .24 |
| DERS Impulse 36 | .39 | -.05 | .01 | -.05 | .16 |
| DERS Impulse 3 | .35 | .02 | .10 | .04 | .23 |
| FFMQ Nonreact 33 | -.30 | .11 | .10 | .08 | -.12 |
| Factor 2 | | | | | |
| FFMQ Describe 2 | .08 | .85 | .02 | -.05 | .10 |
| FFMQ Describe 37 | .22 | .82 | .00 | -.03 | -.04 |
| DERS Clarity 7 | -.08 | .74 | -.09 | .06 | .05 |
| DERS Awareness 6 | .01 | .73 | .04 | .21 | -.03 |
| DERS Awareness 2 | -.08 | .72 | -.07 | .16 | .03 |
| FFMQ Describe 7 | .04 | .72 | -.05 | .02 | .20 |
| FFMQ Describe 27 | .01 | .71 | .06 | -.06 | .01 |
| DERS Clarity 1 | -.08 | .70 | .00 | .05 | -.03 |
| FFMQ Describe 16 | -.03 | -.67 | .22 | .20 | .00 |
| FFMQ Describe 32 | .14 | .66 | .13 | .13 | -.06 |
| DERS Awareness 8 | -.07 | .66 | -.04 | .23 | .02 |
| FFMQ Describe 12 | -.02 | -.66 | .12 | .25 | .01 |
| FFMQ Describe 22 | .05 | -.55 | .08 | .25 | .10 |
| DERS Clarity 4 | .11 | -.55 | .00 | -.01 | .13 |
| DERS Awareness 10 | -.08 | .52 | .02 | .13 | .04 |
| DERS Awareness 33 | -.05 | .48 | .06 | .25 | -.06 |

| | | | | | |
|----------------------------|------|-------------|------------|------------|------------|
| DERS Clarity 5 | .19 | -.47 | .03 | .07 | .21 |
| DERS Awareness 17 | -.06 | .42 | -.03 | .12 | -.13 |
| Factor 3 | | | | | |
| FFMQ Act with Awareness 5 | -.09 | -.04 | .82 | .00 | .01 |
| FFMQ Act with Awareness 13 | .00 | -.07 | .82 | .02 | -.03 |
| FFMQ Act with Awareness 38 | .03 | .13 | .72 | -.06 | .10 |
| FFMQ Act with Awareness 8 | .24 | -.08 | .67 | .05 | -.10 |
| FFMQ Act with Awareness 28 | .03 | .09 | .67 | -.12 | .06 |
| FFMQ Act with Awareness 18 | .09 | -.08 | .65 | .00 | .18 |
| FFMQ Act with Awareness 34 | -.06 | .06 | .58 | -.06 | .12 |
| FFMQ Act with Awareness 23 | .09 | -.09 | .43 | -.05 | .19 |
| Factor 4 | | | | | |
| FFMQ Observe 15 | .02 | .04 | -.10 | .74 | .08 |
| FFMQ Observe 20 | .13 | -.14 | -.04 | .69 | .01 |
| FFMQ Observe 6 | .02 | -.04 | -.01 | .62 | .03 |
| FFMQ Observe 31 | .03 | .05 | -.02 | .61 | -.17 |
| FFMQ Observe 26 | .01 | .10 | -.03 | .61 | -.04 |
| FFMQ Observe 1 | -.01 | .03 | .04 | .55 | .07 |
| FFMQ Observe 11 | -.07 | .04 | -.01 | .49 | .13 |
| FFMQ Nonreact 19 | -.10 | .15 | .09 | .38 | -.07 |
| Factor 5 | | | | | |
| DERS Nonacceptance 25 | -.10 | .02 | -.01 | -.04 | .94 |
| DERS Nonacceptance 21 | .01 | .01 | -.02 | -.01 | .91 |
| DERS Nonacceptance 29 | .01 | .04 | .05 | -.02 | .82 |
| DERS Nonacceptance 12 | .04 | .03 | .05 | .00 | .79 |
| DERS Nonacceptance 11 | -.03 | -.06 | -.03 | -.01 | .78 |
| DERS Nonacceptance 23 | .05 | -.02 | -.02 | -.01 | .69 |
| FFMQ Nonjudge 39 | .00 | -.01 | .22 | .08 | .58 |
| FFMQ Nonjudge 25 | .12 | -.04 | .25 | .07 | .45 |
| FFMQ Nonjudge 35 | .03 | -.08 | .16 | .14 | .45 |
| FFMQ Nonjudge 10 | .20 | .00 | .17 | .00 | .44 |
| FFMQ Nonjudge 30 | .17 | -.14 | .23 | .02 | .39 |
| FFMQ Nonjudge 17 | .04 | -.05 | .15 | .22 | .39 |
| DERS Clarity 9 | .20 | -.21 | .05 | .02 | .35 |

Note. Factor loadings are bolded for the factor on which they load highest. Loadings are depicted in order of descending absolute value for the factor on which they load highest.

Table 9.

Geomin Rotated Loadings for Third (Final) EFA Solution

| Scale and Item | Factors | | | | |
|-------------------|-------------|-------------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 |
| Factor 1 | | | | | |
| AAQ 4 | .88 | .00 | -.03 | -.01 | -.04 |
| AAQ 1 | .81 | -.03 | -.02 | .06 | -.04 |
| AAQ 5 | .77 | .02 | .11 | -.03 | .03 |
| AAQ 7 | .76 | .06 | .11 | .03 | .04 |
| AAQ 6 | .72 | -.10 | .07 | -.09 | .01 |
| AAQ 3 | .72 | .06 | .06 | .02 | .12 |
| AAQ 2 | .64 | -.17 | -.02 | -.03 | .12 |
| DERS Impulse 24 | -.46 | .18 | -.02 | -.05 | -.04 |
| DERS Impulse 19 | .43 | .06 | -.04 | -.03 | .32 |
| DERS Impulse 14 | .40 | -.06 | -.10 | .06 | .24 |
| DERS Impulse 36 | .39 | -.05 | .01 | -.05 | .16 |
| DERS Impulse 3 | .34 | .02 | .11 | .04 | .23 |
| Factor 2 | | | | | |
| FFMQ Describe 2 | .09 | .85 | .02 | -.05 | .10 |
| FFMQ Describe 37 | .23 | .82 | .00 | -.03 | -.04 |
| DERS Clarity 7 | -.08 | .74 | -.09 | .06 | .05 |
| DERS Awareness 6 | .00 | .73 | .04 | .21 | -.03 |
| DERS Awareness 2 | -.08 | .72 | -.07 | .16 | .03 |
| FFMQ Describe 7 | .05 | .72 | -.06 | .02 | .20 |
| FFMQ Describe 27 | .01 | .71 | .06 | -.06 | .01 |
| DERS Clarity 1 | -.09 | .70 | .01 | .05 | -.03 |
| FFMQ Describe 16 | -.04 | -.67 | .22 | .20 | .00 |
| FFMQ Describe 32 | .15 | .66 | .12 | .13 | -.06 |
| DERS Awareness 8 | -.07 | .66 | -.03 | .23 | .02 |
| FFMQ Describe 12 | -.03 | -.65 | .12 | .25 | .01 |
| FFMQ Describe 22 | .05 | -.55 | .09 | .25 | .10 |
| DERS Clarity 4 | .11 | -.55 | -.01 | -.01 | .13 |
| DERS Awareness 10 | -.08 | .52 | .03 | .13 | .04 |
| DERS Awareness 33 | -.05 | .48 | .06 | .25 | -.06 |
| DERS Clarity 5 | .19 | -.47 | .03 | .07 | .21 |

| | | | | | |
|----------------------------|------|------------|------------|------------|------------|
| DERS Awareness 17 | -.06 | .42 | -.04 | .12 | -.13 |
| Factor 3 | | | | | |
| FFMQ Act with Awareness 13 | -.01 | -.07 | .82 | .02 | -.04 |
| FFMQ Act with Awareness 5 | -.09 | -.04 | .82 | .00 | .01 |
| FFMQ Act with Awareness 38 | .03 | .13 | .72 | -.06 | .10 |
| FFMQ Act with Awareness 8 | .24 | -.08 | .67 | .05 | -.10 |
| FFMQ Act with Awareness 28 | .03 | .10 | .67 | -.12 | .05 |
| FFMQ Act with Awareness 18 | .08 | -.07 | .65 | .00 | .18 |
| FFMQ Act with Awareness 34 | -.06 | .06 | .58 | -.06 | .12 |
| FFMQ Act with Awareness 23 | .09 | -.09 | .43 | -.05 | .18 |
| Factor 4 | | | | | |
| FFMQ Observe 15 | .03 | .04 | -.10 | .74 | .08 |
| FFMQ Observe 20 | .13 | -.14 | -.04 | .69 | .00 |
| FFMQ Observe 6 | .02 | -.04 | -.01 | .62 | .02 |
| FFMQ Observe 31 | .03 | .05 | -.02 | .61 | -.17 |
| FFMQ Observe 26 | .01 | .10 | -.03 | .61 | -.04 |
| FFMQ Observe 1 | -.02 | .03 | .04 | .55 | .07 |
| FFMQ Observe 11 | -.07 | .04 | -.01 | .49 | .13 |
| FFMQ Nonreact 19 | -.09 | .15 | .09 | .37 | -.07 |
| Factor 5 | | | | | |
| DERS Nonacceptance 25 | -.10 | .02 | -.01 | -.04 | .94 |
| DERS Nonacceptance 21 | .01 | .00 | -.02 | -.01 | .91 |
| DERS Nonacceptance 29 | .01 | .04 | .05 | -.02 | .82 |
| DERS Nonacceptance 12 | .04 | .03 | .05 | .00 | .79 |
| DERS Nonacceptance 11 | -.03 | -.06 | -.03 | -.01 | .79 |
| DERS Nonacceptance 23 | .04 | -.02 | -.02 | -.01 | .69 |
| FFMQ Nonjudge 39 | .00 | .00 | .21 | .07 | .58 |
| FFMQ Nonjudge 25 | .12 | -.04 | .25 | .07 | .45 |
| FFMQ Nonjudge 35 | .03 | -.08 | .16 | .14 | .45 |
| FFMQ Nonjudge 10 | .20 | .00 | .17 | .00 | .44 |
| FFMQ Nonjudge 30 | .17 | -.14 | .23 | .02 | .39 |
| FFMQ Nonjudge 17 | .04 | -.05 | .15 | .22 | .39 |
| DERS Clarity 9 | .19 | -.21 | .05 | .02 | .35 |

Note. Factor loadings are bolded for the factor on which they load highest. Loadings are depicted in order of descending absolute value for the factor on which they load highest.

Table 10

Fit statistics for CFA Models

| Model | df | χ^2 | χ^2_{diff} | AIC | CFI | RMSEA | 90% CI | SRMR |
|----------------------------------------------------------|------|------------|-----------------|----------|-----|-------|--------------|------|
| New factors | | | | | | | | |
| One factor | 1652 | 7393.37*** | | 45085.90 | .43 | .108 | [.106, .111] | .120 |
| Five factors | 1652 | 5068.80*** | | 42761.33 | .66 | .084 | [.081, .086] | .199 |
| Hierarchical-five factors | 1647 | 4722.61*** | 346.19*** | 42425.14 | .69 | .079 | [.077, .082] | .103 |
| Hierarchical-five factors, path to observe fixed at 0 | 1648 | 4121.24*** | | 41054.21 | .78 | .071 | [.069, .074] | .090 |
| FFMQ | | | | | | | | |
| Five factors | 702 | 1887.84*** | | 28125.89 | .78 | .076 | [.072, .080] | .152 |
| Hierarchical-five factors | 697 | 1750.84*** | 137.00*** | 27998.89 | .81 | .072 | [.068, .076] | .099 |
| Hierarchical-five factors, path to observe fixed at 0 | 698 | 1815.29*** | | 27433.95 | .81 | .074 | [.070, .078] | .098 |

Table 11

Content of Final Scales

| Source of Item | Content |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Factor 1 : Lack of Interference of Negative Emotions | |
| *AAQ 1 | My painful experiences and memories make it difficult for me to live a life that I would value. |
| *AAQ 2 | I'm afraid of my feelings. |
| *AAQ 3 | I worry about not being able to control my worries and feelings. |
| *AAQ 4 | My painful memories prevent me from having a fulfilling life. |
| *AAQ 5 | Emotions cause problems in my life. |
| *AAQ 6 | It seems like most people are handling their lives better than I am. |
| *AAQ 7 | Worries get in the way of my success. |
| *DERS Impulse 3 | I experience my emotions as overwhelming and out of control. |
| *DERS Impulse 14 | When I'm upset, I become out of control. |
| *DERS Impulse 19 | When I'm upset, I feel out of control. |
| DERS Impulse 24 | When I'm upset, I feel like I can remain in control of my behaviors. |
| *DERS Impulse 36 | When I'm upset, I lose control over my behaviors. |
| Factor 2 : Attention to and Awareness of Emotions | |
| DERS Clarity 1 | I am clear about my feelings. |
| *DERS Clarity 4 | I have no idea how I am feeling. |
| *DERS Clarity 5 | I have difficulty making sense out of my feelings. |
| DERS Clarity 7 | I know exactly how I am feeling. |
| DERS Awareness 2 | I pay attention to how I feel. |
| DERS Awareness 6 | I am attentive to my feelings. |

| | |
|-------------------|----------------------------------------------------------------------------------------------------------------|
| DERS Awareness 8 | I care about what I am feeling. |
| DERS Awareness 10 | When I'm upset, I acknowledge my emotions. |
| DERS Awareness 17 | When I'm upset, I believe that my feelings are valid and important. |
| DERS Awareness 33 | When I'm upset, I take time to figure out what I'm really feeling. |
| FFMQ Describe 2 | I'm good at finding words to describe my feelings. |
| FFMQ Describe 7 | I can easily put my beliefs, opinions, and expectations into words. |
| *FFMQ Describe 12 | It's hard for me to find the words to describe what I'm thinking. |
| *FFMQ Describe 16 | I have trouble thinking of the right words to express how I feel about things |
| | When I have a sensation in my body, it's difficult for me to describe it because I can't find the right words. |
| *FFMQ Describe 22 | |
| FFMQ Describe 27 | Even when I'm feeling terribly upset, I can find a way to put it into words. |
| FFMQ Describe 32 | My natural tendency is to put my experiences into words. |
| FFMQ Describe 37 | I can usually describe how I feel at the moment in considerable detail. |

Factor 3 : Acting with Awareness

| | |
|-----------------------------|-----------------------------------------------------------------------------------------------------|
| *FFMQ Act with Awareness 5 | When I do things, my mind wanders off and I'm easily distracted. |
| | I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted. |
| *FFMQ Act with Awareness 8 | |
| *FFMQ Act with Awareness 13 | I am easily distracted. |
| *FFMQ Act with Awareness 18 | I find it difficult to stay focused on what's happening in the present. |
| *FFMQ Act with Awareness 23 | It seems I am "running on automatic" without much awareness of what I'm doing. |
| *FFMQ Act with Awareness 28 | I rush through activities without being really attentive to them |
| *FFMQ Act with Awareness 34 | I do jobs or tasks automatically without being aware of what I'm doing. |
| *FFMQ Act with Awareness 38 | I find myself doing things without paying attention. |

Factor 4 : Observe

| | |
|----------------|-----------------------------------------------------------------------------------|
| FFMQ Observe 1 | When I'm walking, I deliberately notice the sensations of my body moving. |
| FFMQ Observe 6 | When I take a shower or bath, I stay alert to the sensations of water on my body. |

| | |
|------------------|----------------------------------------------------------------------------------------------------------------------------------|
| FFMQ Observe 11 | I notice how foods and drinks affect my thoughts, bodily sensations, and emotions. |
| FFMQ Observe 15 | I pay attention to sensations, such as the wind in my hair or sun on my face. |
| FFMQ Observe 20 | I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing. |
| FFMQ Observe 26 | I notice the smells and aromas of things. |
| FFMQ Observe 31 | I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow. |
| FFMQ Nonreact 19 | When I have distressing thoughts or images, I “step back” and am aware of the thought or image without getting taken over by it. |

Factor 5 : Nonjudgment/Acceptance

| | |
|------------------------|-----------------------------------------------------------------------------------------------------------------------|
| *FFMQ Nonjudge 10 | I tell myself I shouldn't be feeling the way I'm feeling. |
| *FFMQ Nonjudge 17 | I make judgments about whether my thoughts are good or bad. |
| *FFMQ Nonjudge 25 | I tell myself that I shouldn't be thinking the way I'm thinking. |
| *FFMQ Nonjudge 30 | I think some of my emotions are bad or inappropriate and I shouldn't feel them. |
| *FFMQ Nonjudge 35 | When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about. |
| *FFMQ Nonjudge 39 | I disapprove of myself when I have irrational ideas. |
| *DERS Nonacceptance 11 | When I'm upset, I become angry with myself for feeling that way. |
| *DERS Nonacceptance 12 | When I'm upset, I become embarrassed for feeling that way. |
| *DERS Nonacceptance 21 | When I'm upset, I feel ashamed with myself for feeling that way. |
| *DERS Nonacceptance 23 | When I'm upset, I feel like I am weak. |
| *DERS Nonacceptance 25 | When I'm upset, I feel guilty for feeling that way. |
| *DERS Nonacceptance 29 | When I'm upset, I become irritated with myself for feeling that way. |
| *DERS Clarity 9 | I am confused about how I feel. |

Note. AAQ = Acceptance and Action Questionnaire; FFMQ = Five Factor Mindfulness Questionnaire; DERS = Difficulties in Emotion Regulation Questionnaire. * indicates item was reversed.

Table 12

Correlations Among Newly Created Factors and FFMQ Factors (N = 587)

| | Factor 2 | Factor 3 | Factor 4 | Factor 5 | FFMQ Observe | FFMQ Describe | FFMQ Acting w/ Awareness | FFMQ Nonjudge | FFMQ Nonreact |
|-----------------------------|----------|----------|----------|----------|--------------|---------------|-----------------------------|---------------|---------------|
| Factor 1 | .47*** | .48*** | .03 | .67*** | .02 | .37*** | .48*** | .62*** | .41*** |
| Factor 2 | | .43*** | .29*** | .38*** | .31*** | .89*** | .43*** | .35*** | .39*** |
| Factor 3 | | | .01 | .52*** | .03 | .36*** | 1.00*** | .54*** | .17*** |
| Factor 4 | | | | -.07 | .98*** | .21*** | .01 | -.12** | .34*** |
| Factor 5 | | | | | -.09* | .30*** | .52*** | .90*** | .24*** |
| FFMQ Observe | | | | | | .23*** | .03 | -.13** | .28*** |
| FFMQ Describe | | | | | | | .36*** | .27*** | .34*** |
| FFMQ Acting w/ Awareness | | | | | | | | .54*** | .17*** |
| FFMQ Nonjudge | | | | | | | | | .21*** |

Note. Factor 1 = Lack of Interference of Negative Emotions; Factor 2 = Attention to and Awareness of Emotions; Factor 3 = Acting with Awareness; Factor 4 = Observe; Factor 5 = Nonjudgment/Acceptance.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Note. Factor 1 = Lack of Interference of Negative Emotions; Factor 2 = Attention to and Awareness of Emotions; Factor 3 = Acting with Awareness; Factor 4 = Observe; Factor 5 = Nonjudgment/Acceptance; PCL = PTSD Checklist; HSCL Dep. = Depression subscale from Hopkins Symptom Checklist; HSCL Anx. = Anxiety subscale from Hopkins Symptom Checklist. Harsh Disc. = Harsh Discipline; Positive Involve. = Positive Involvement; Skill Enc. = Skill Encouragement. Due to missing data, number of participants range from 421 to 587, depending on the availability of scores for each measure. Values represent correlations in the full sample of males and females combined.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 14

Fit Statistics for SEM Models

| Model | df | χ^2 | χ^2_{diff} | AIC | BIC | CFI | RMSEA | 90% CI | SRMR |
|-----------|-----|----------|-----------------|----------|----------|-----|-------|--------------|------|
| Females | | | | | | | | | |
| Model 1 | 82 | 229.16 | | 11873.34 | 12032.61 | .81 | .077 | [.066, .089] | .066 |
| Model 2 | 121 | 288.71 | | 14108.75 | 14334.68 | .88 | .068 | [.058, .078] | .062 |
| Model 2.1 | 122 | 289.02 | 0.31 | 14107.05 | 14329.28 | .88 | .068 | [.058, .078] | .063 |
| Model 3 | 139 | 314.70 | | 15242.82 | 15561.35 | .88 | .065 | [.055, .074] | .060 |
| Model 3.1 | 141 | 318.73 | 4.03 | 15242.85 | 15553.97 | .88 | .065 | [.055, .074] | .060 |
| Model 3.2 | 142 | 319.11 | 0.38 | 15241.23 | 15548.64 | .88 | .064 | [.055, .074] | .060 |
| Males | | | | | | | | | |
| Model 1 | 82 | 238.50 | | 11015.46 | 11170.19 | .76 | .084 | [.072, .097] | .070 |
| Model 2 | 121 | 314.51 | | 13031.75 | 13251.25 | .87 | .077 | [.067, .087] | .062 |
| Model 2.1 | 122 | 314.66 | 0.15 | 13029.90 | 13245.80 | .87 | .076 | [.066, .087] | .062 |
| Model 3 | 139 | 336.43 | | 14019.05 | 14328.52 | .87 | .073 | [.063, .082] | .060 |
| Model 3.1 | 141 | 338.92 | 2.49 | 14017.54 | 14319.81 | .87 | .072 | [.062, .082] | .060 |
| Model 3.2 | 142 | 339.07 | 0.15 | 14015.69 | 14314.35 | .87 | .072 | [.062, .082] | .060 |

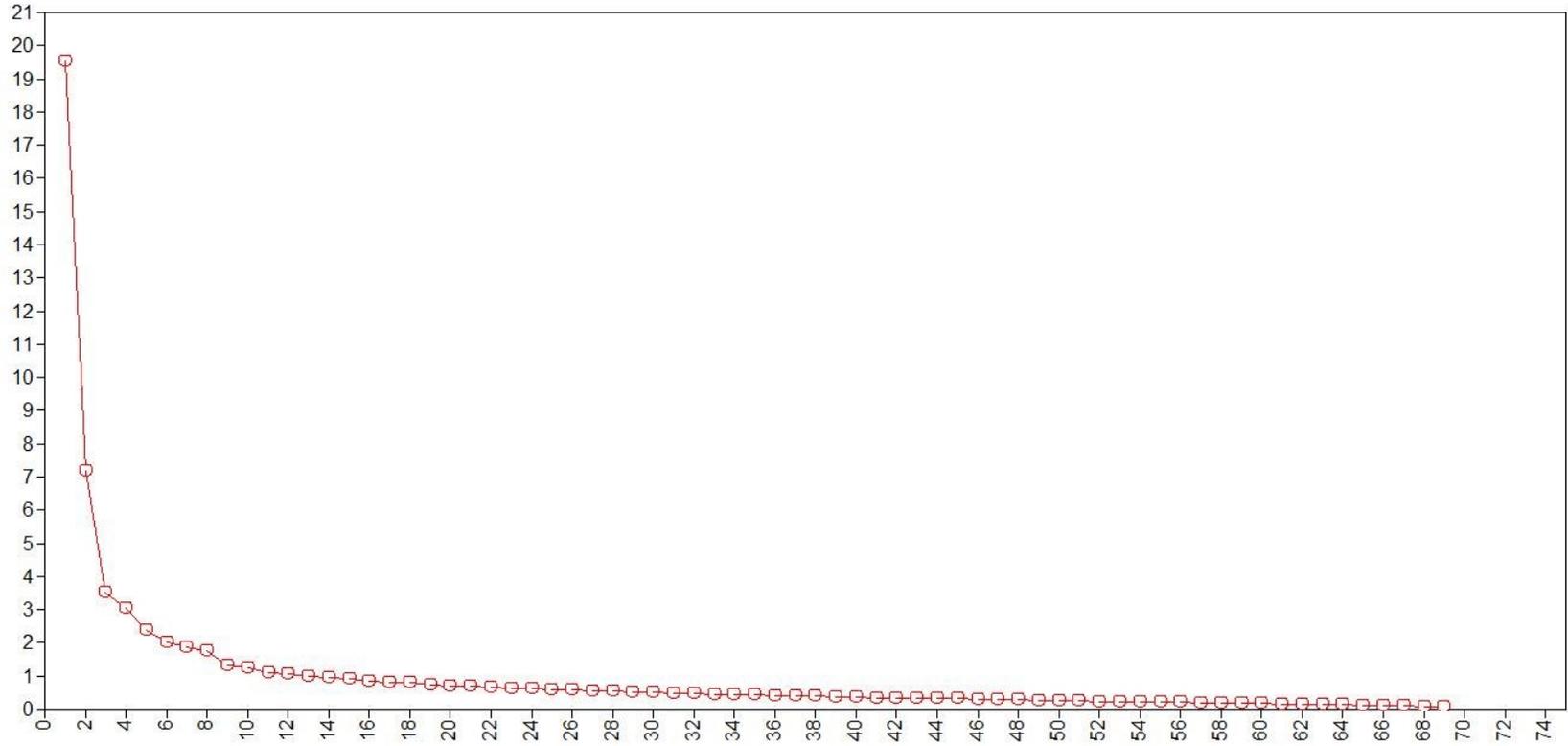


Figure 1. Scree plot for initial EFA solution.

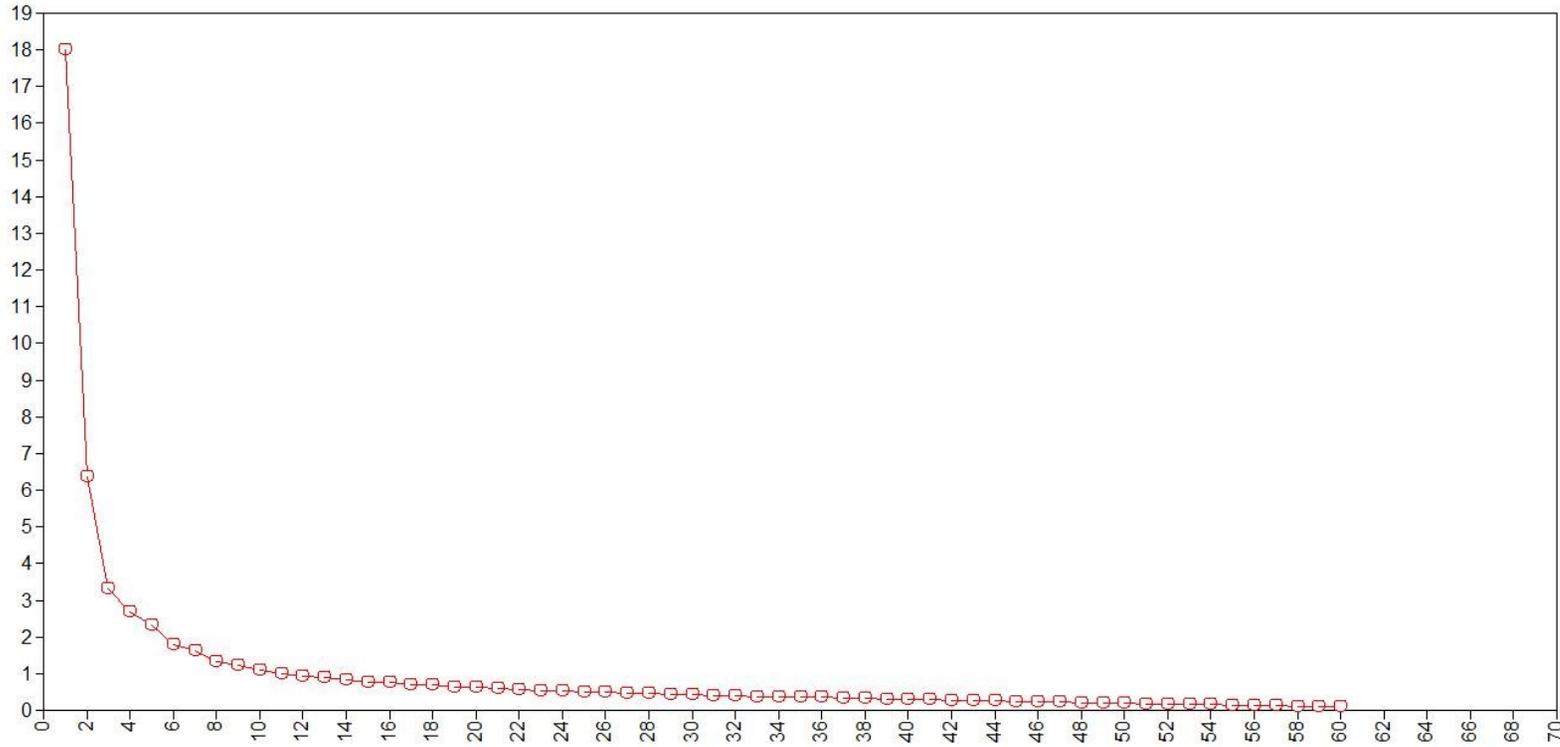


Figure 2. Scree plot for second EFA solution.

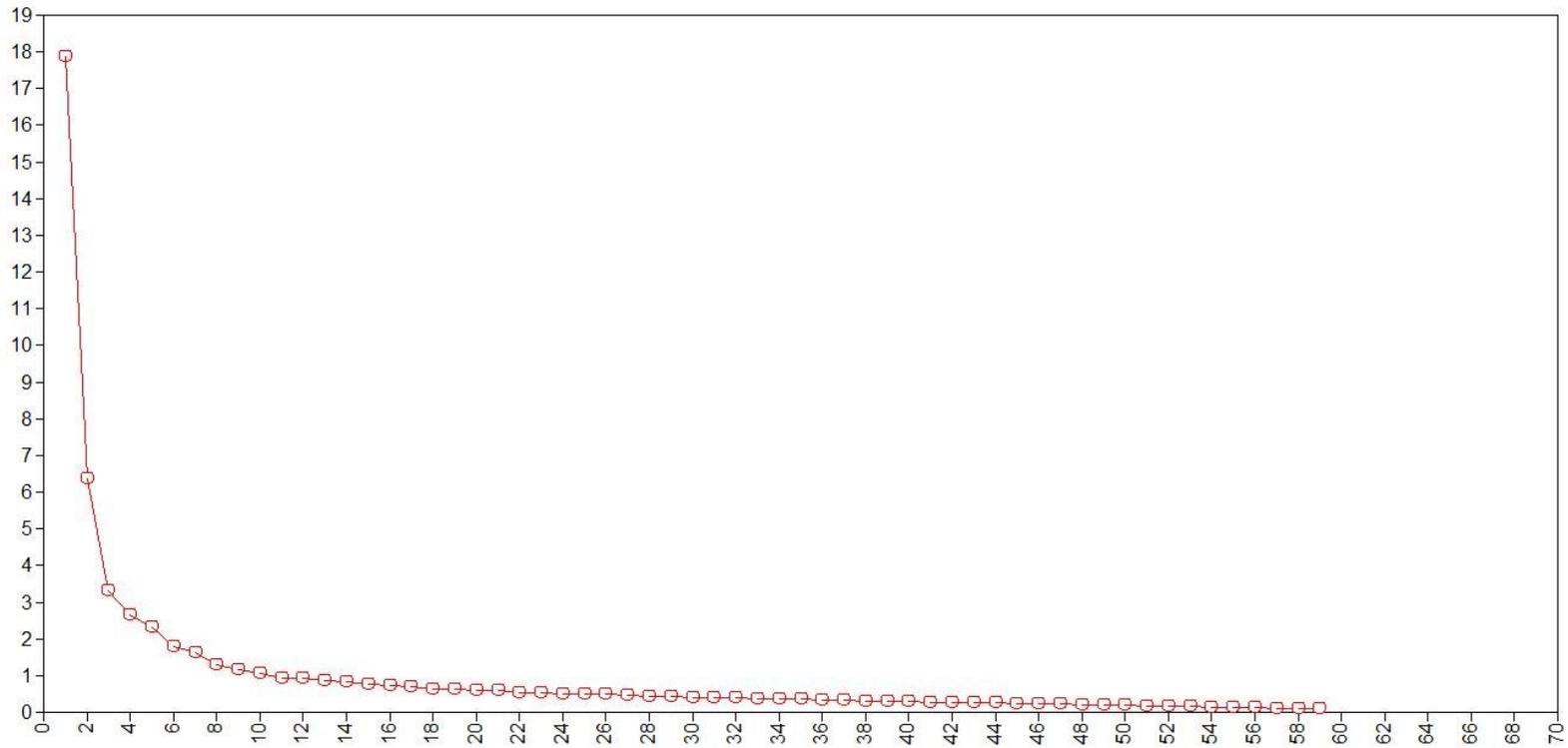


Figure 3. Scree plot for third (final) EFA solution.

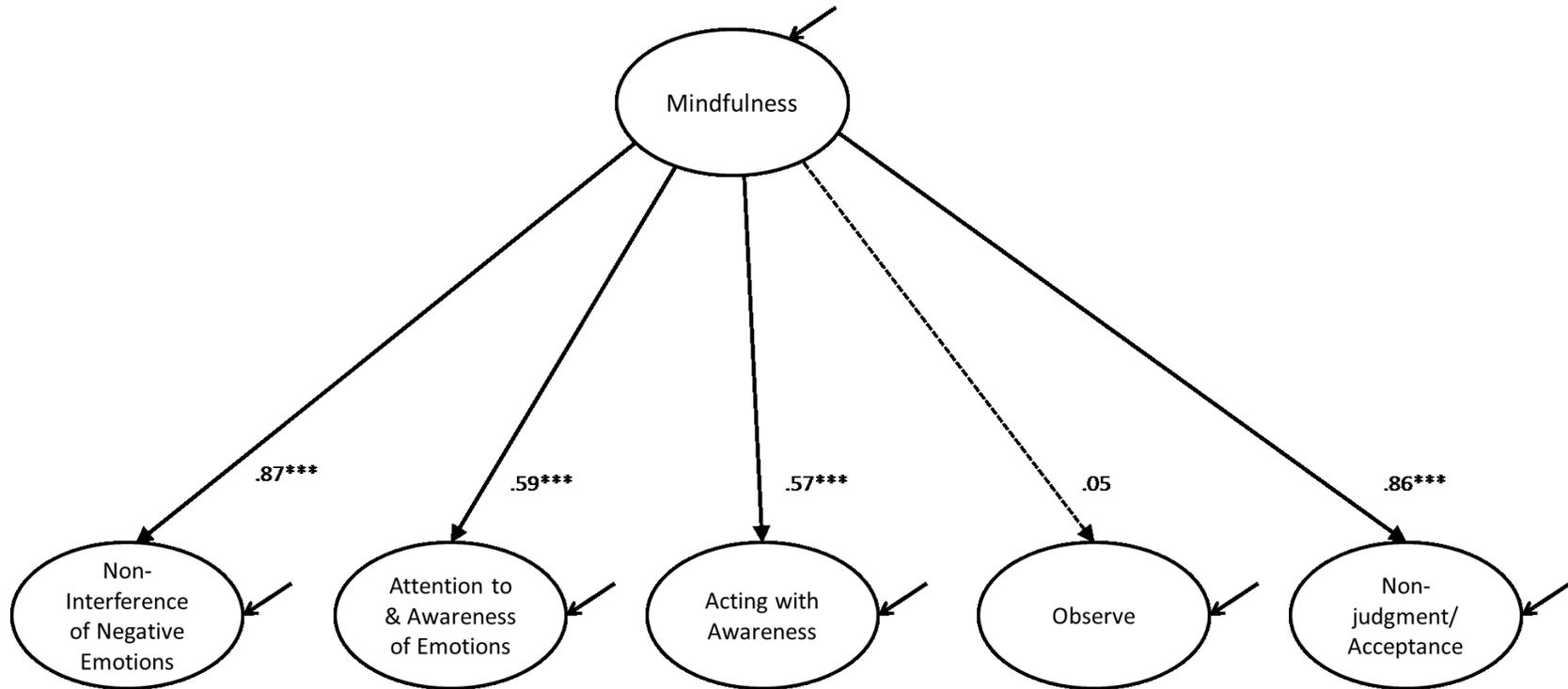


Figure 4. Five factor hierarchical solution for newly created factors. For simplicity, observed items not depicted in model.

* $p < .05$. ** $p < .01$. *** $p < .001$.

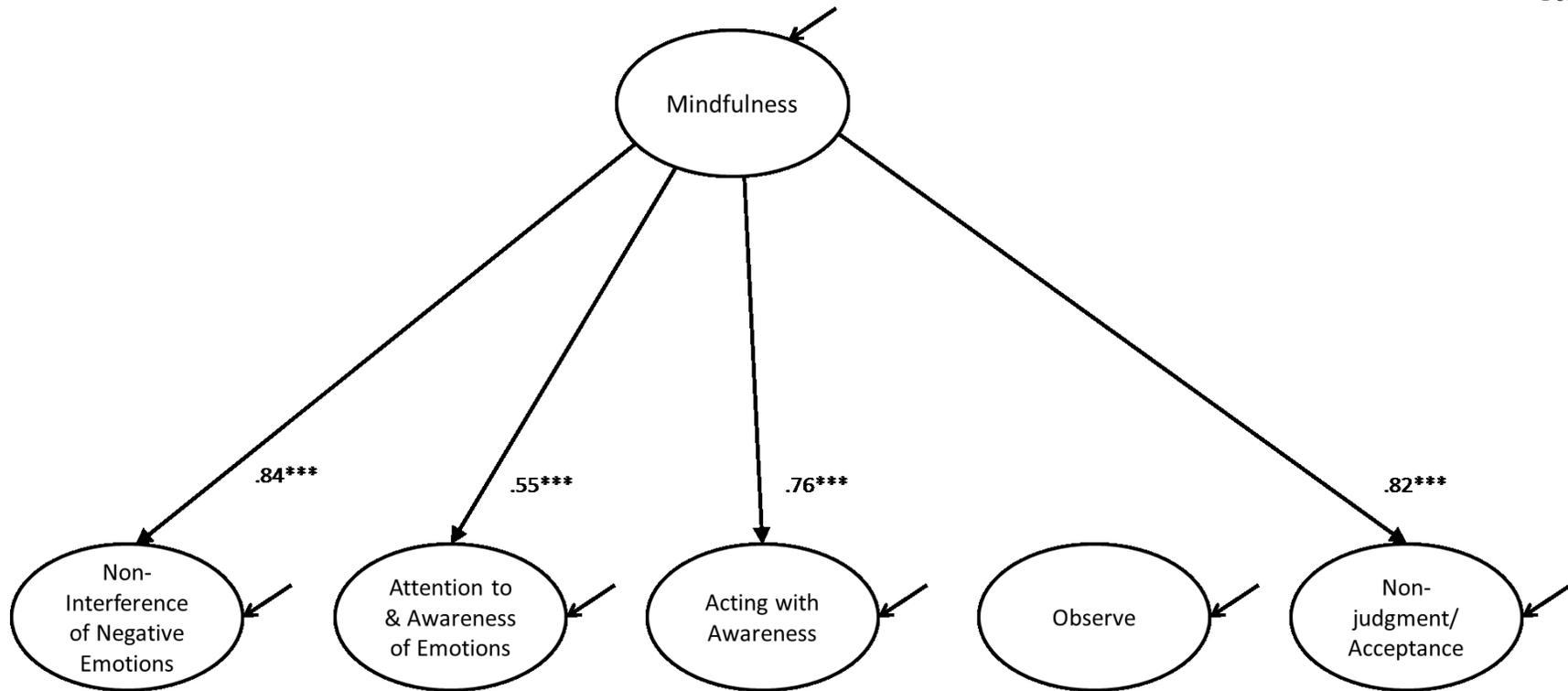


Figure 5. Hierarchical solution for model with no path from hierarchical mindfulness to observe factor newly created factors. For simplicity, observed items not depicted in model.

* $p < .05$. ** $p < .01$. *** $p < .001$.

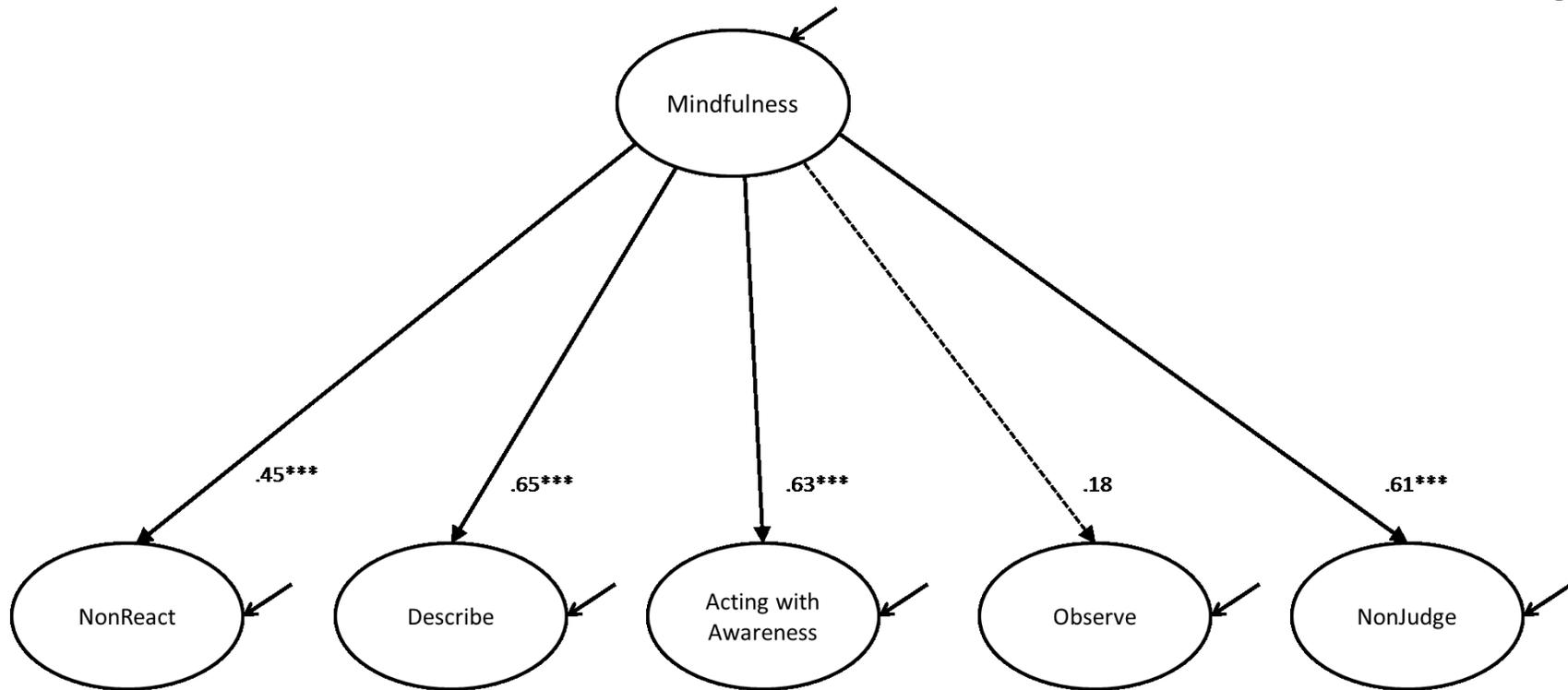


Figure 6. Five factor hierarchical solution for FFMQ. For simplicity, observed items not depicted in model.

* $p < .05$. ** $p < .01$. *** $p < .001$.

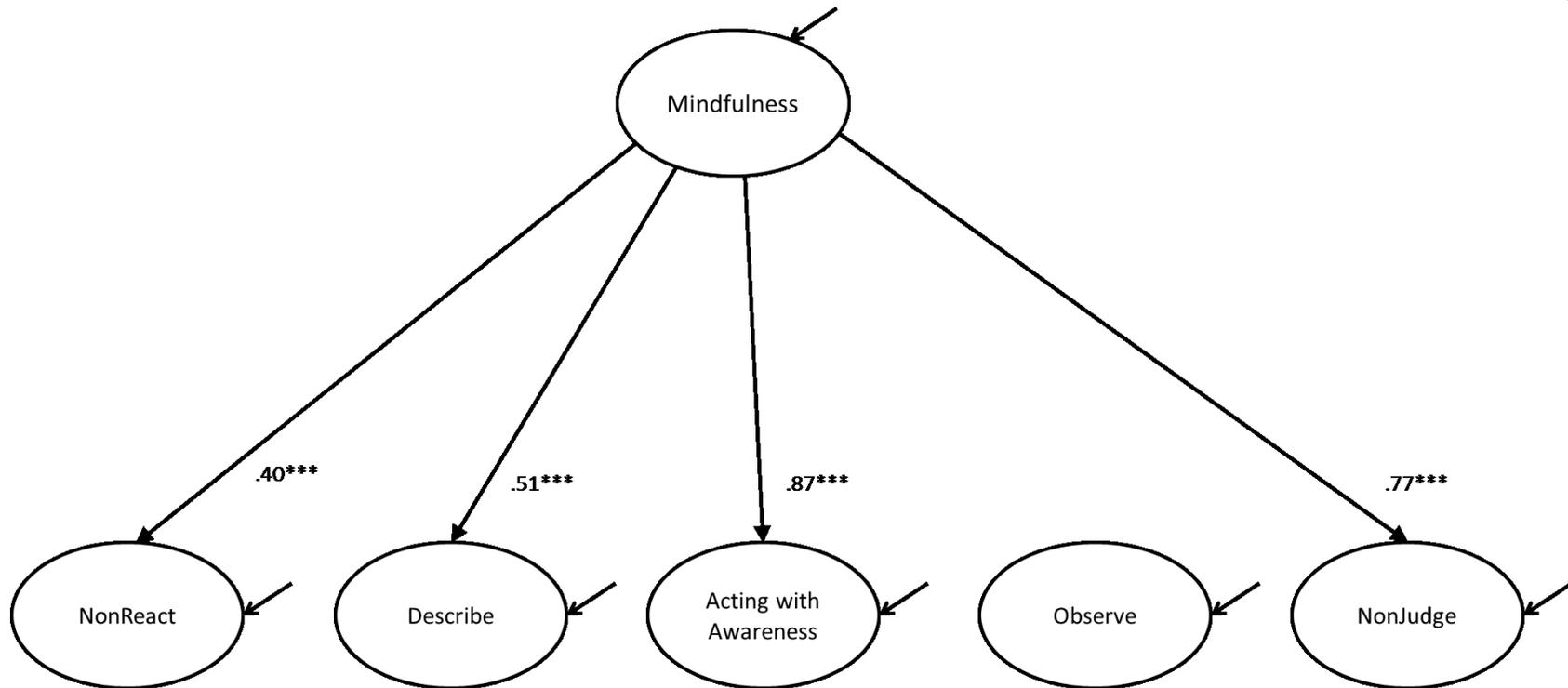


Figure 7. Hierarchical solution for model with no path from hierarchical mindfulness to observe factor newly created factors. For simplicity, observed items not depicted in model.

* $p < .05$. ** $p < .01$. *** $p < .001$.

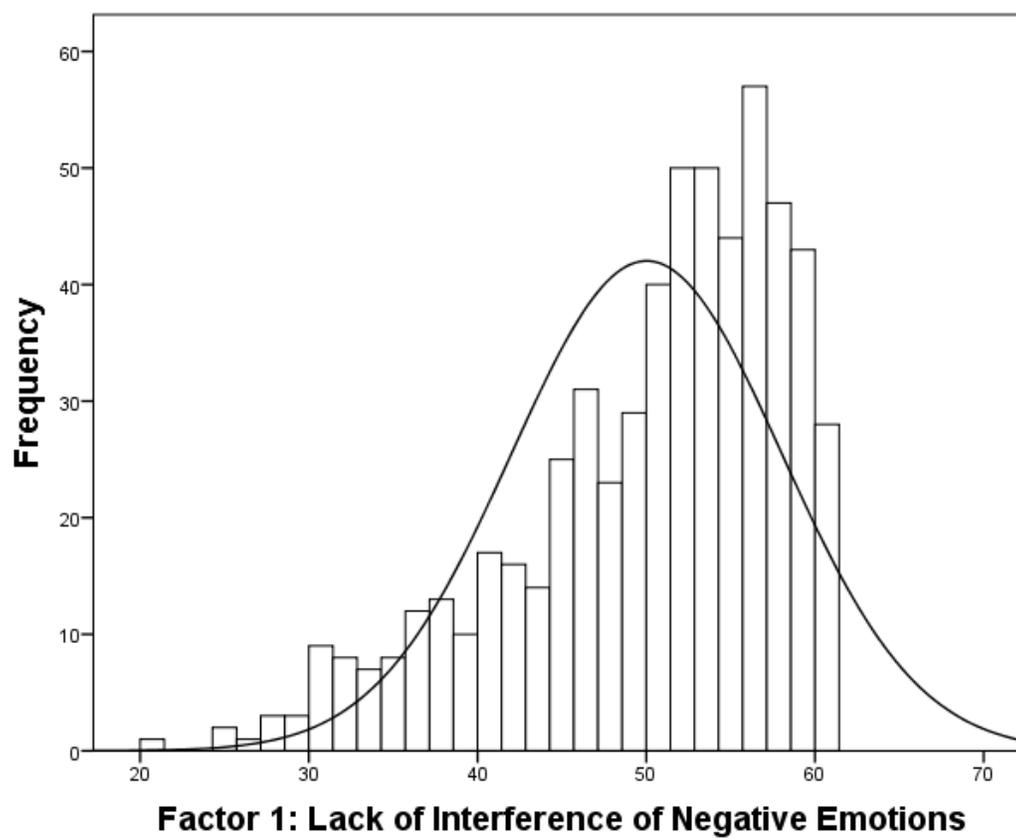


Figure 8. Distribution of scores for Factor 1.

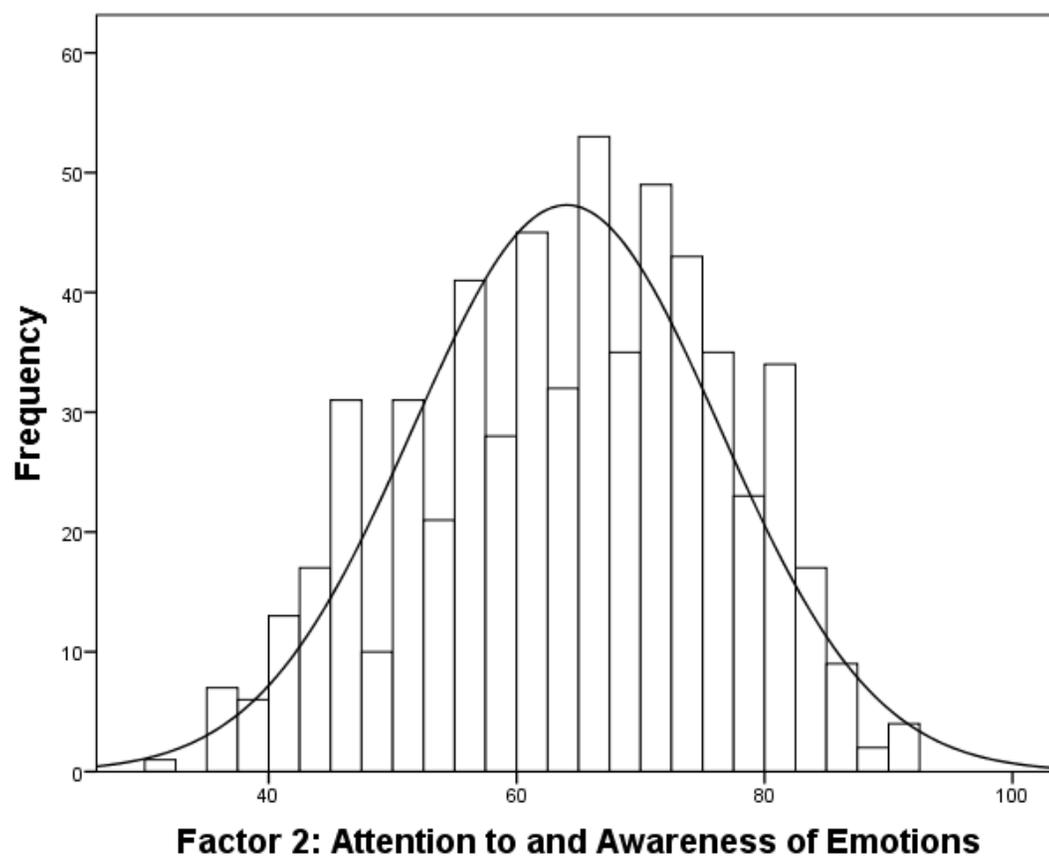


Figure 9. Distribution of scores for Factor 2.

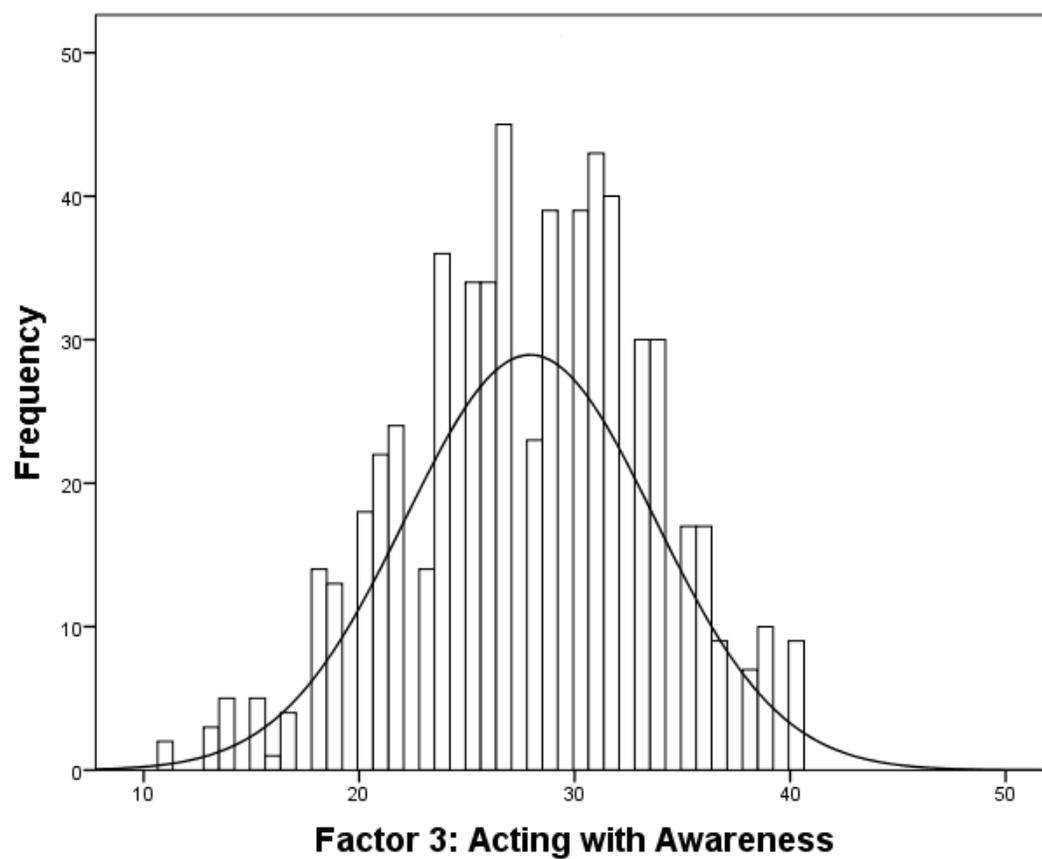


Figure 10. Distribution of scores for Factor 3.

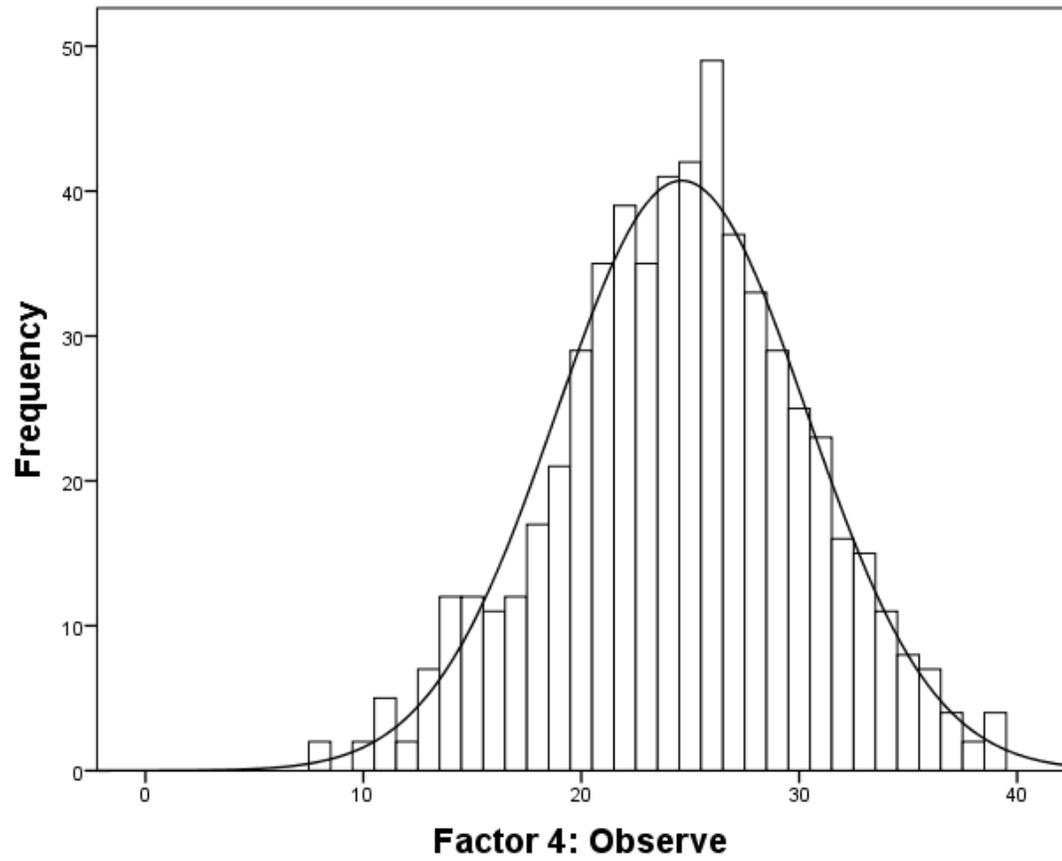


Figure 11. Distribution of scores for Factor 4.

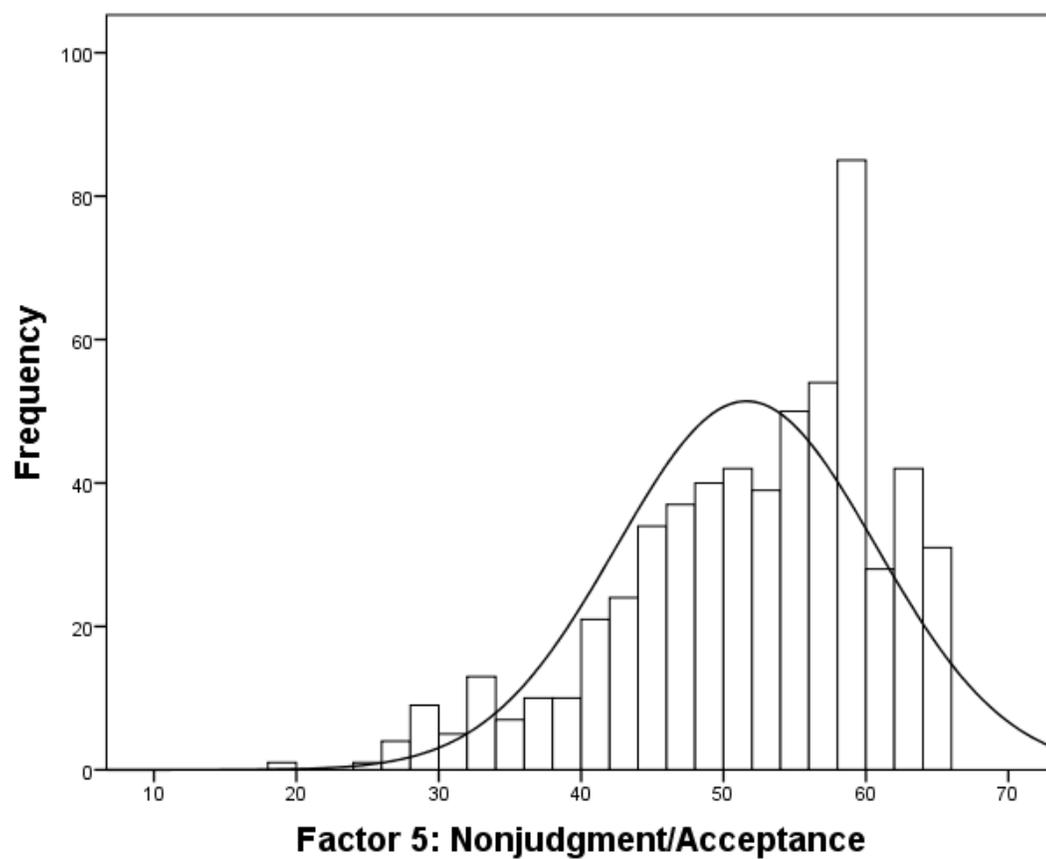


Figure 12. Distribution of scores for Factor 5.

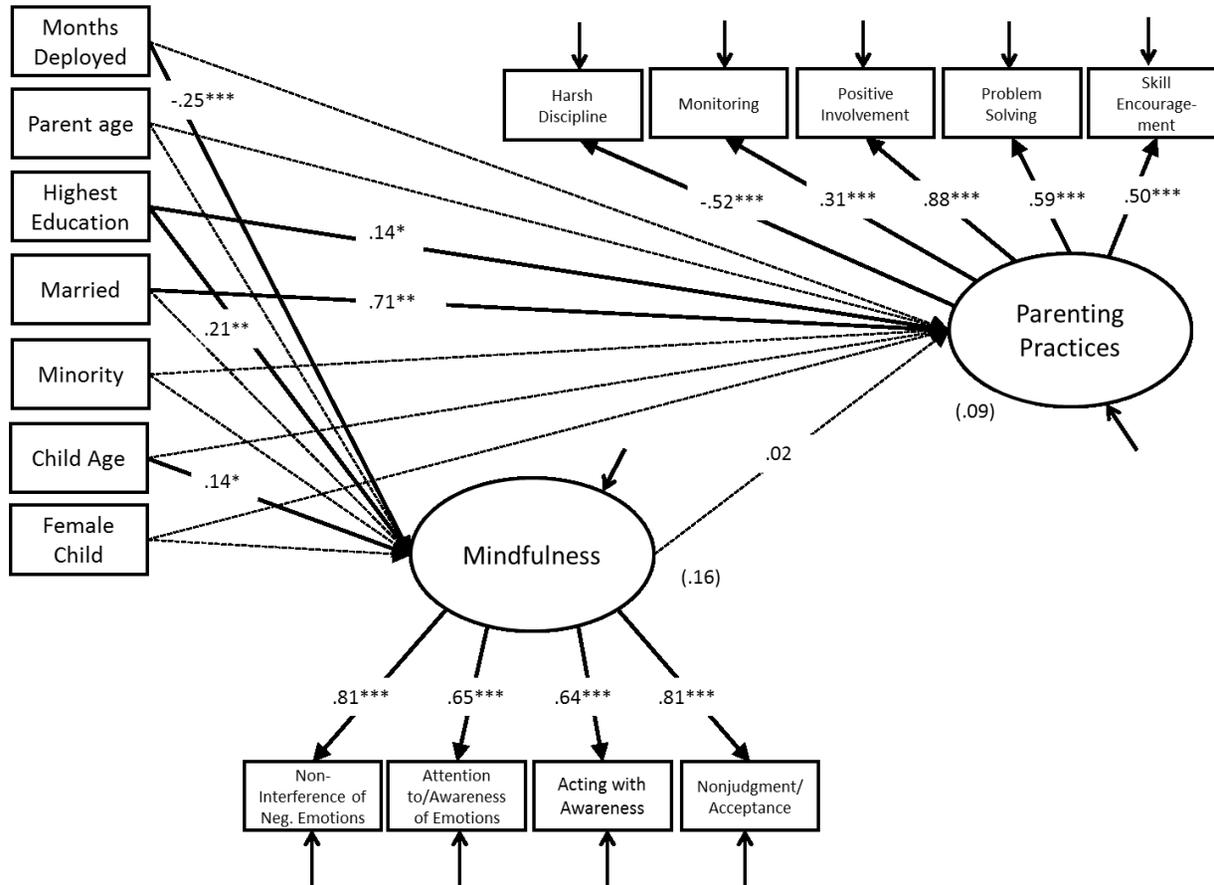


Figure 13. Females model 1. (N = 300). All estimates are standardized using the appropriate method of standardization for continuous or binary variables. For simplicity, values for non-significant paths from covariates are not depicted in the model. R² values for latent variables are included in parentheses.

* $p < .05$. ** $p < .01$. *** $p < .001$.

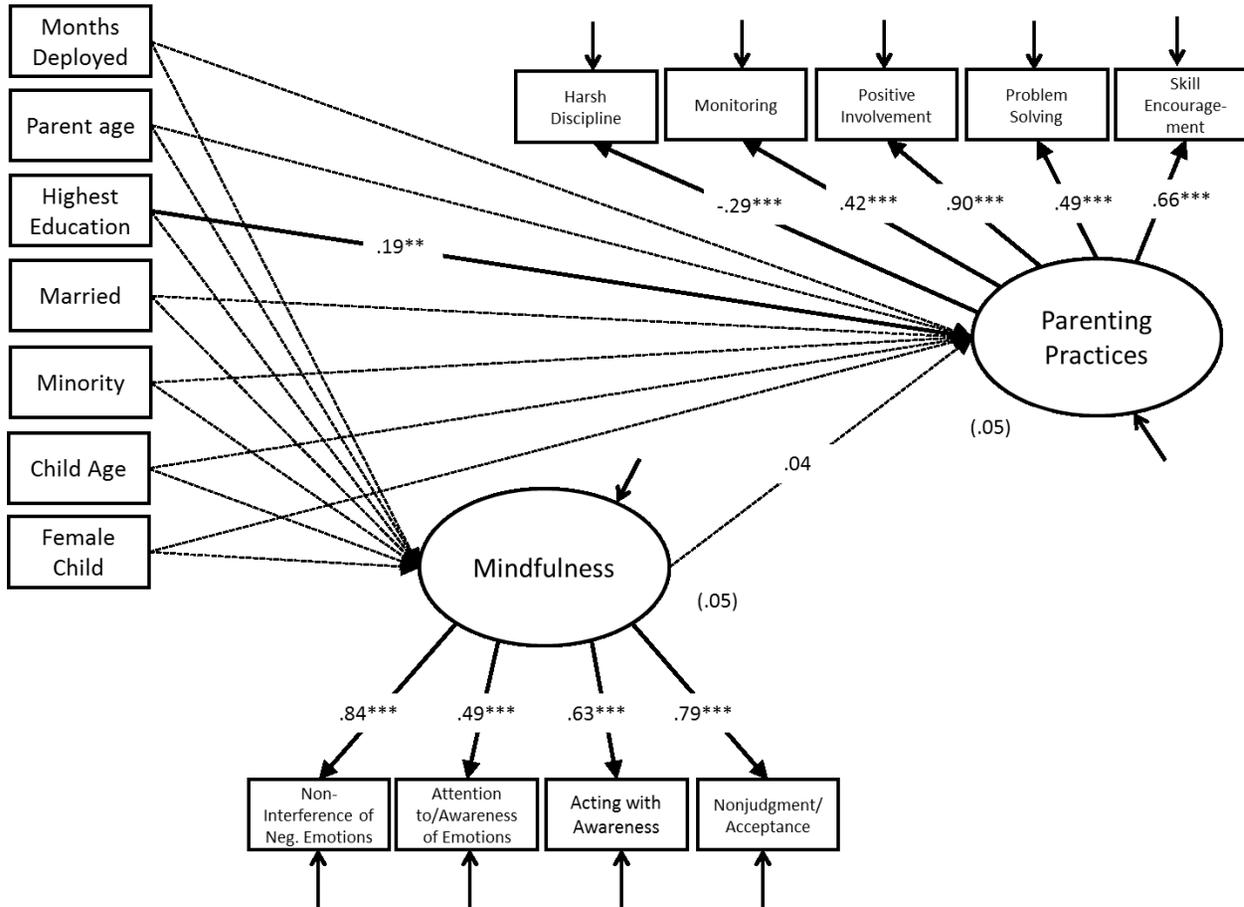


Figure 14. Males model 1. (N = 270). All estimates are standardized using the appropriate method of standardization for continuous or binary variables. For simplicity, values for non-significant paths from covariates are not depicted in the model. R² values for latent variables are included in parentheses.

* $p < .05$. ** $p < .01$. *** $p < .001$.

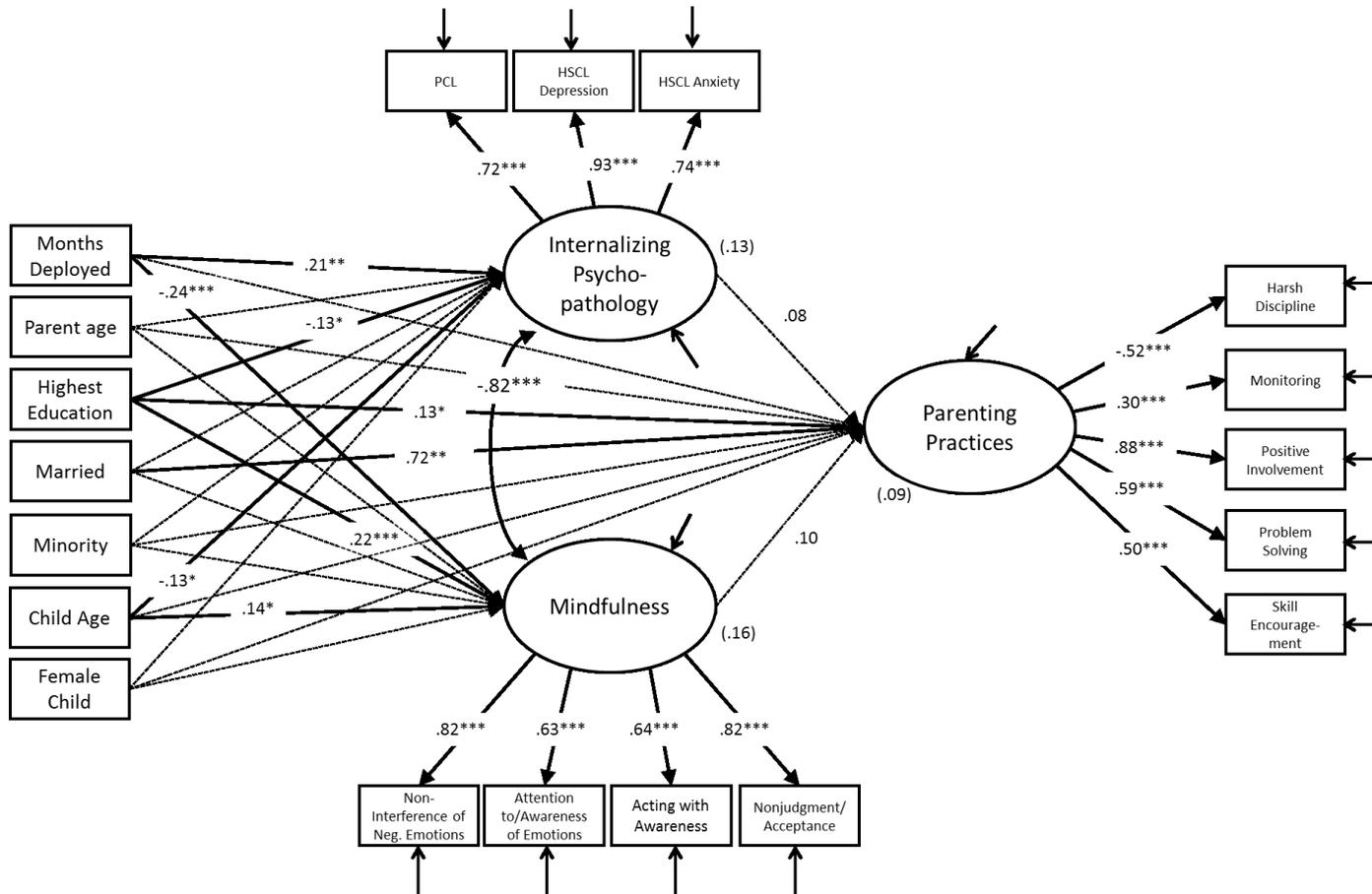


Figure 15. Females model 2. (N = 300). All estimates are standardized using the appropriate method of standardization for continuous or binary variables. For simplicity, values for non-significant paths from covariates are not depicted in the model. R² values for latent variables are included in parentheses.

* $p < .05$. ** $p < .01$. *** $p < .001$.

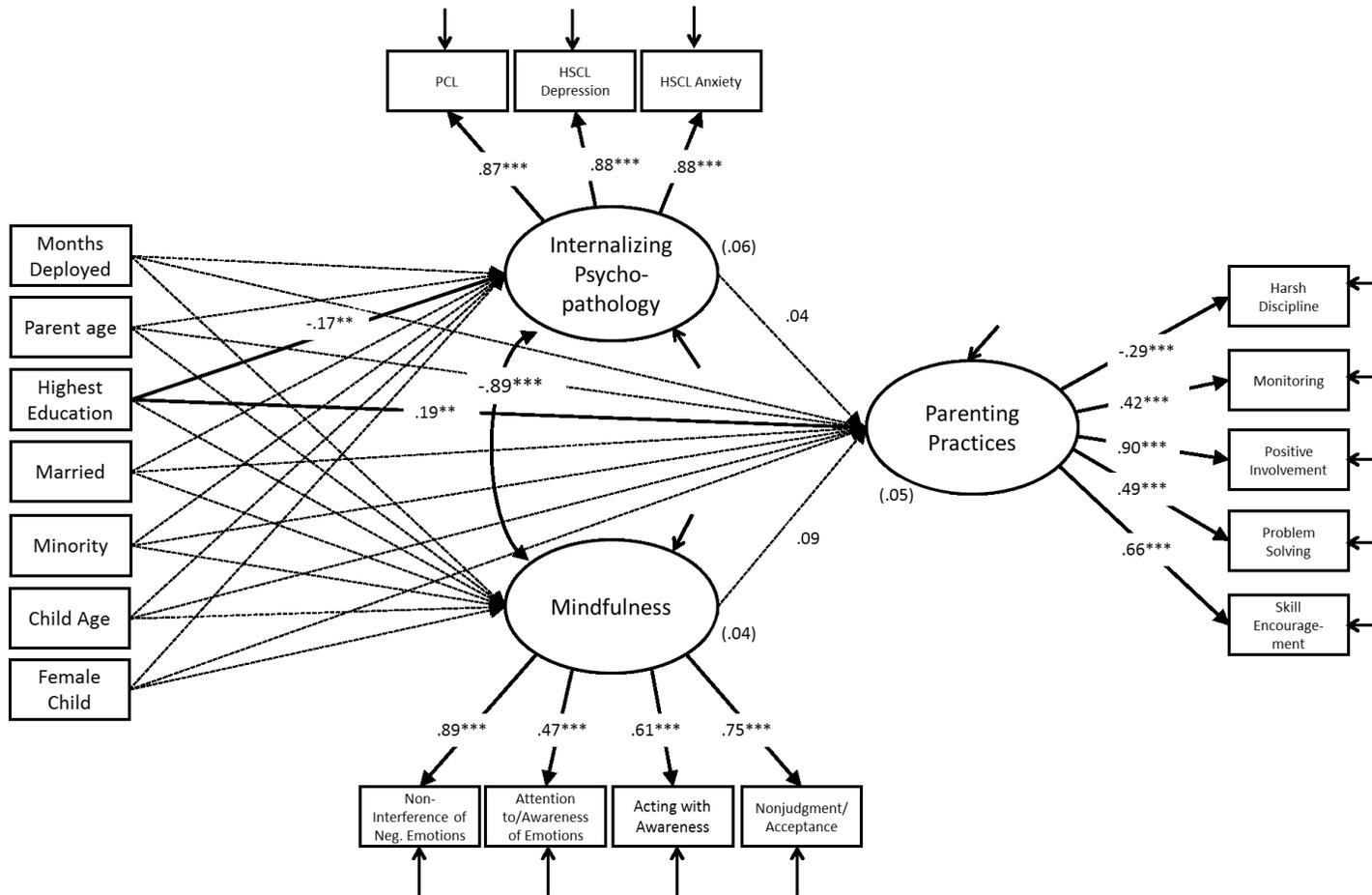


Figure 16. Males model 2. (N = 270). All estimates are standardized using the appropriate method of standardization for continuous or binary variables. For simplicity, values for non-significant paths from covariates are not depicted in the model. R² values for latent variables are included in parentheses.

* $p < .05$. ** $p < .01$. *** $p < .001$.

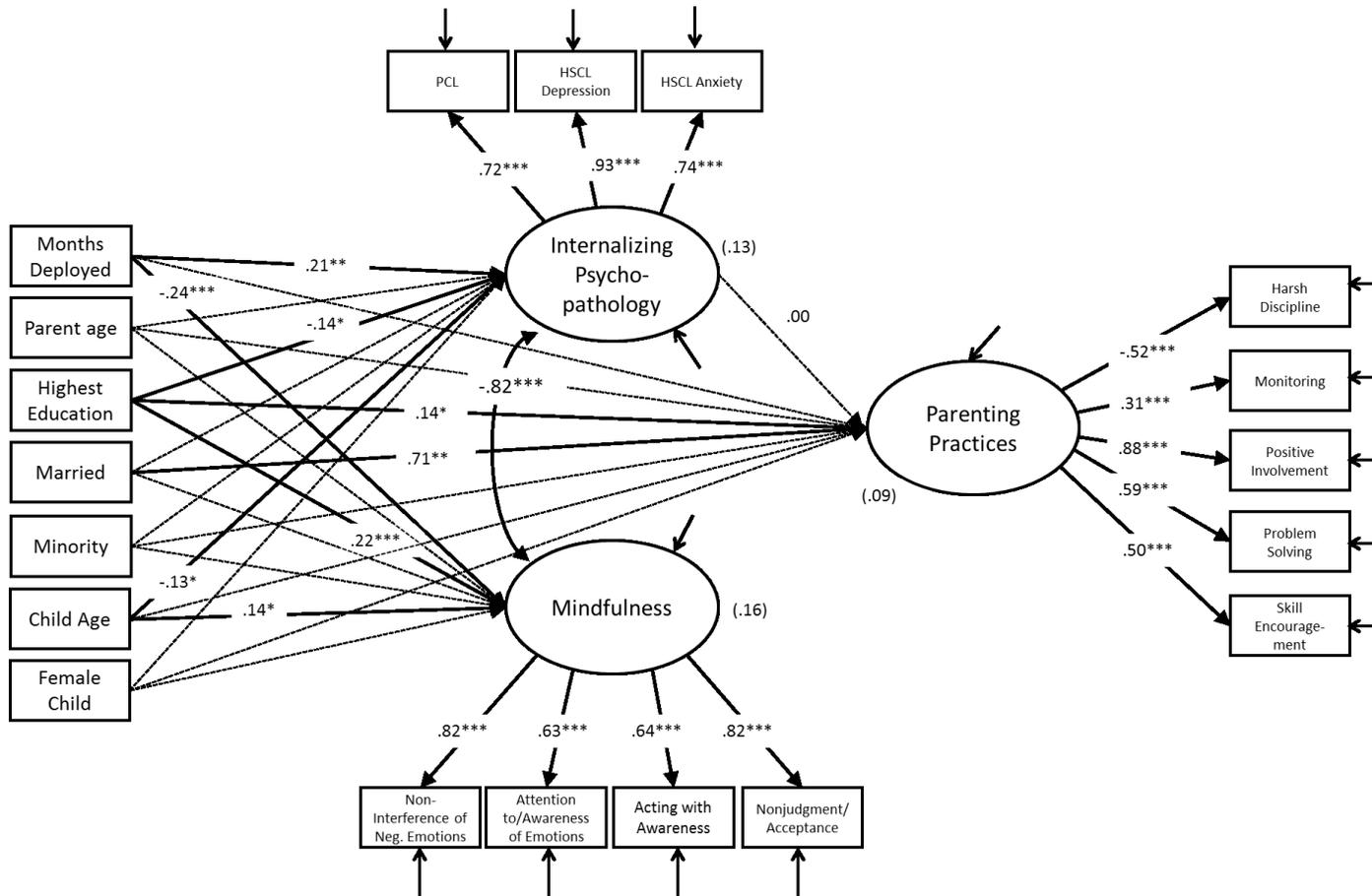


Figure 17. Females model 2.1. (N = 300). All estimates are standardized using the appropriate method of standardization for continuous or binary variables. For simplicity, values for non-significant paths from covariates are not depicted in the model. R² values for latent variables are included in parentheses.

p* < .05. *p* < .01. ****p* < .001.

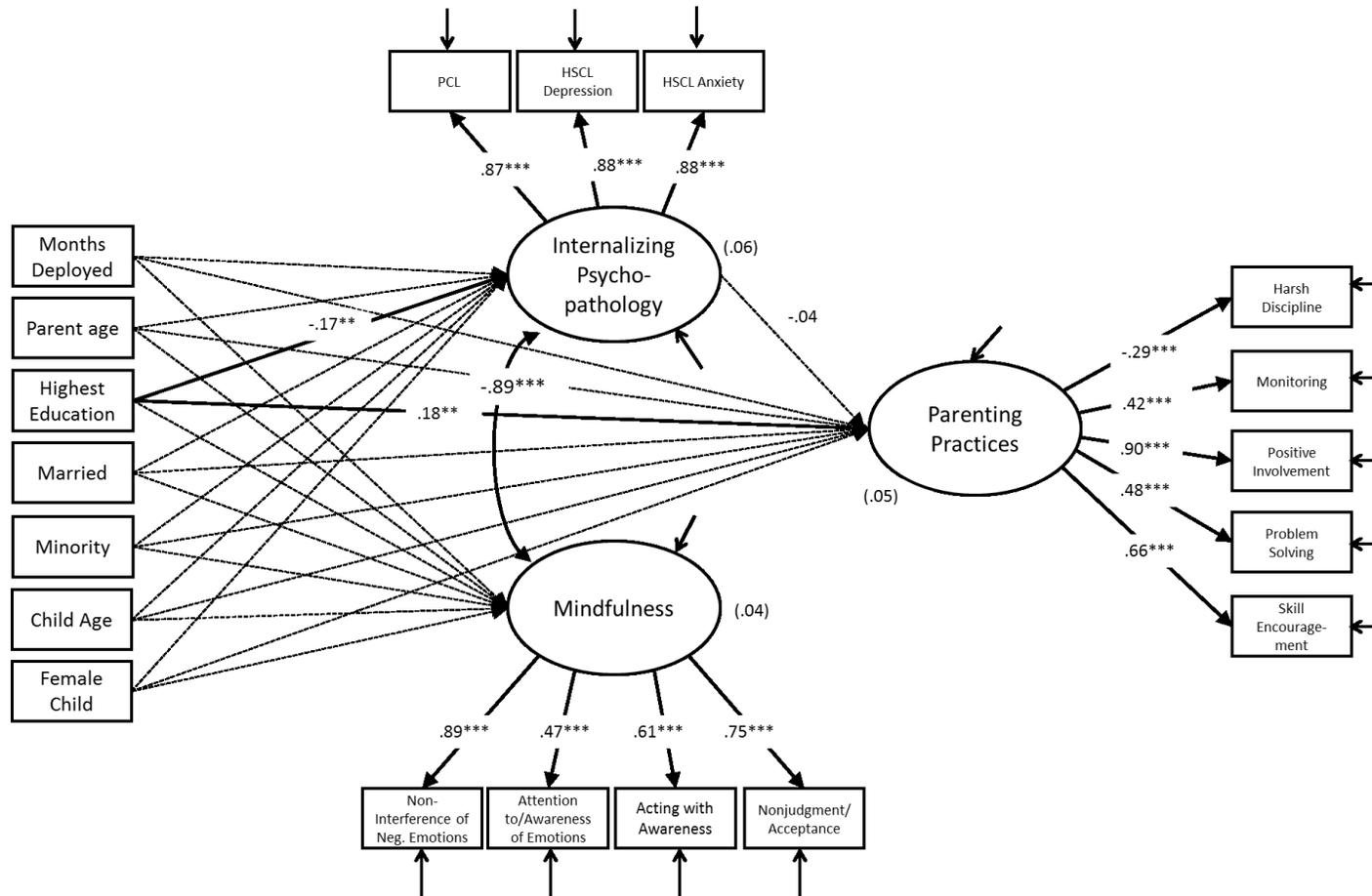


Figure 18. Males model 2.1. (N = 270). All estimates are standardized using the appropriate method of standardization for continuous or binary variables. For simplicity, values for non-significant paths from covariates are not depicted in the model. R² values for latent variables are included in parentheses.

p* < .05. *p* < .01. ****p* < .001

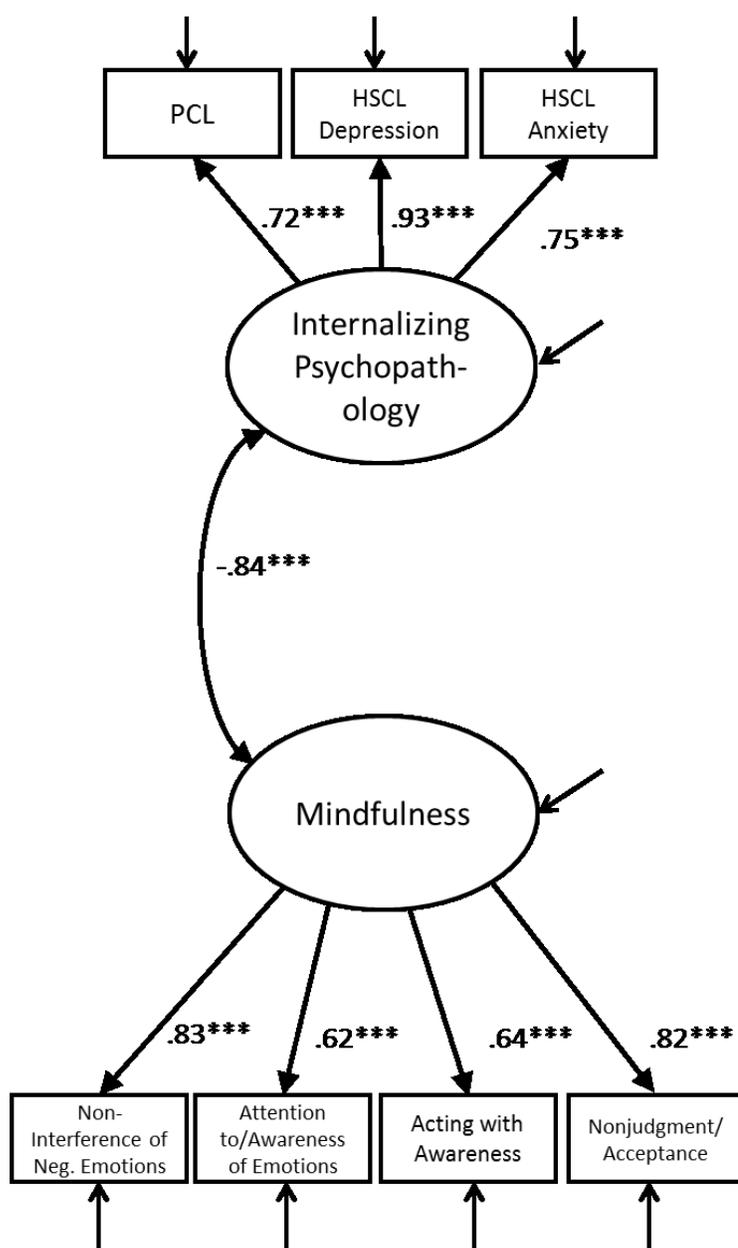


Figure 19. Females CFA of mindfulness and internalizing psychopathology, two factor model. (N = 312).

All estimates are standardized. $\chi^2(13) = 30.11, p < .001$; CFI = .98; RMSEA = .065, 90% CI [.034, .096]; SRMR = .026).

* $p < .05$. ** $p < .01$. *** $p < .001$

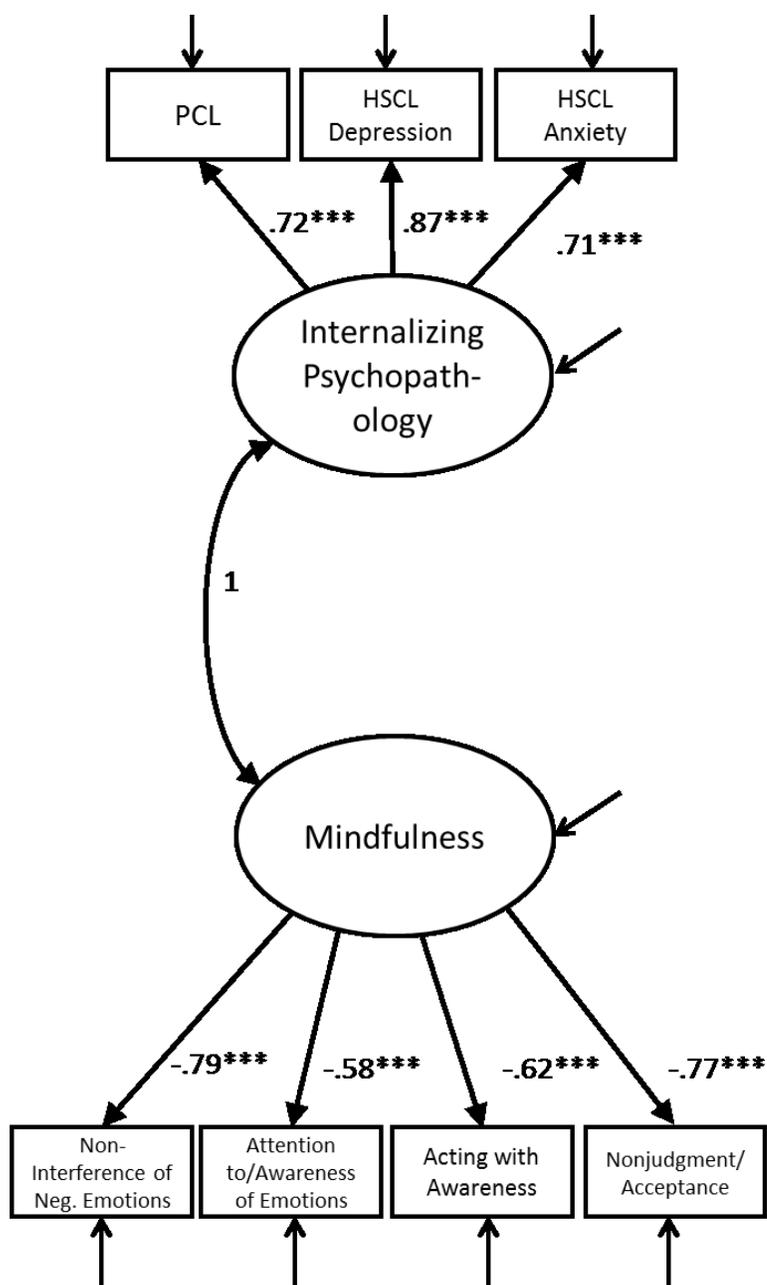


Figure 20. Females CFA of mindfulness and internalizing psychopathology, one factor model. (N = 312).

All estimates are standardized. $\chi^2 (14) = 89.33, p < .0001$; CFI = .93; RMSEA = .131, 90% CI [.106, .158]; SRMR = .044).

* $p < .05$. ** $p < .01$. *** $p < .001$

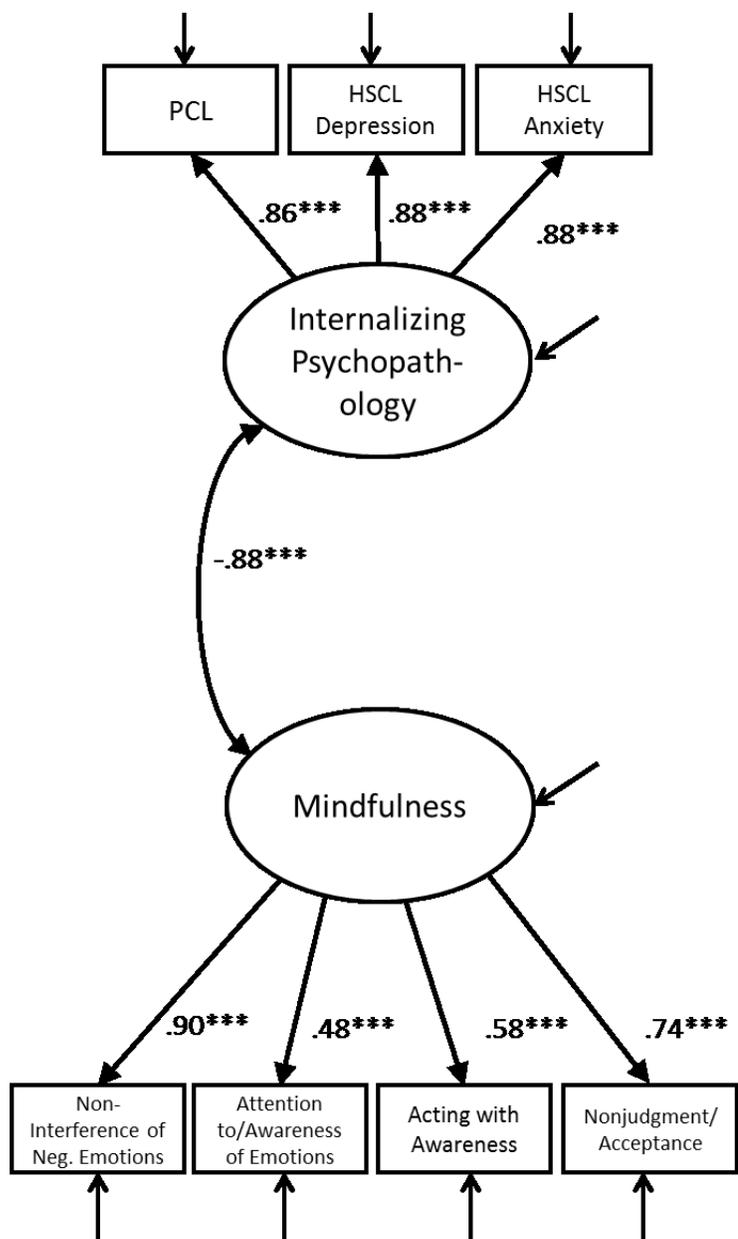


Figure 21. Males CFA of mindfulness and internalizing psychopathology, two factor model. (N = 293). All estimates are standardized. $\chi^2(13) = 41.25, p < .001$; CFI = .98; RMSEA = .086, 90% CI [.057, .116]; SRMR = .032).

* $p < .05$. ** $p < .01$. *** $p < .001$

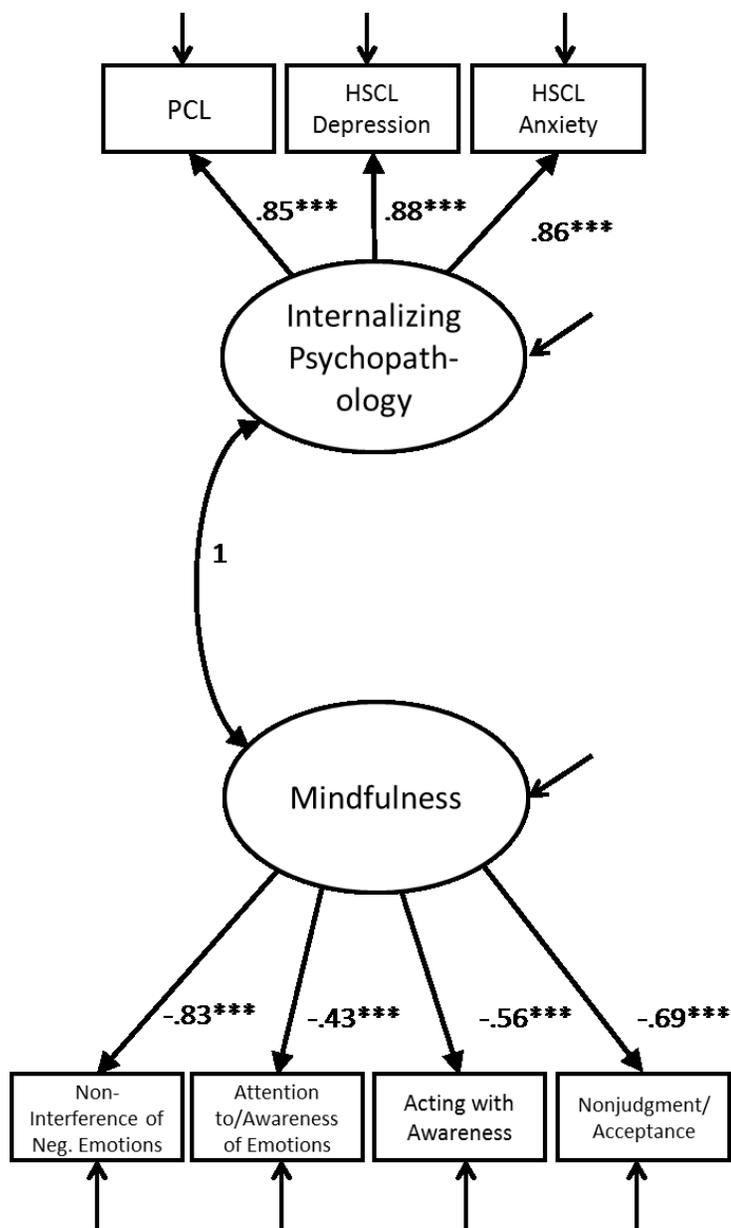


Figure 22. Males CFA of mindfulness and internalizing psychopathology, one factor model. (N = 293). All estimates are standardized. $\chi^2(14) = 82.09$, $p < .0001$; CFI = .94; RMSEA = .129, 90% CI [.103, .156]; SRMR = .046).

* $p < .05$. ** $p < .01$. *** $p < .001$

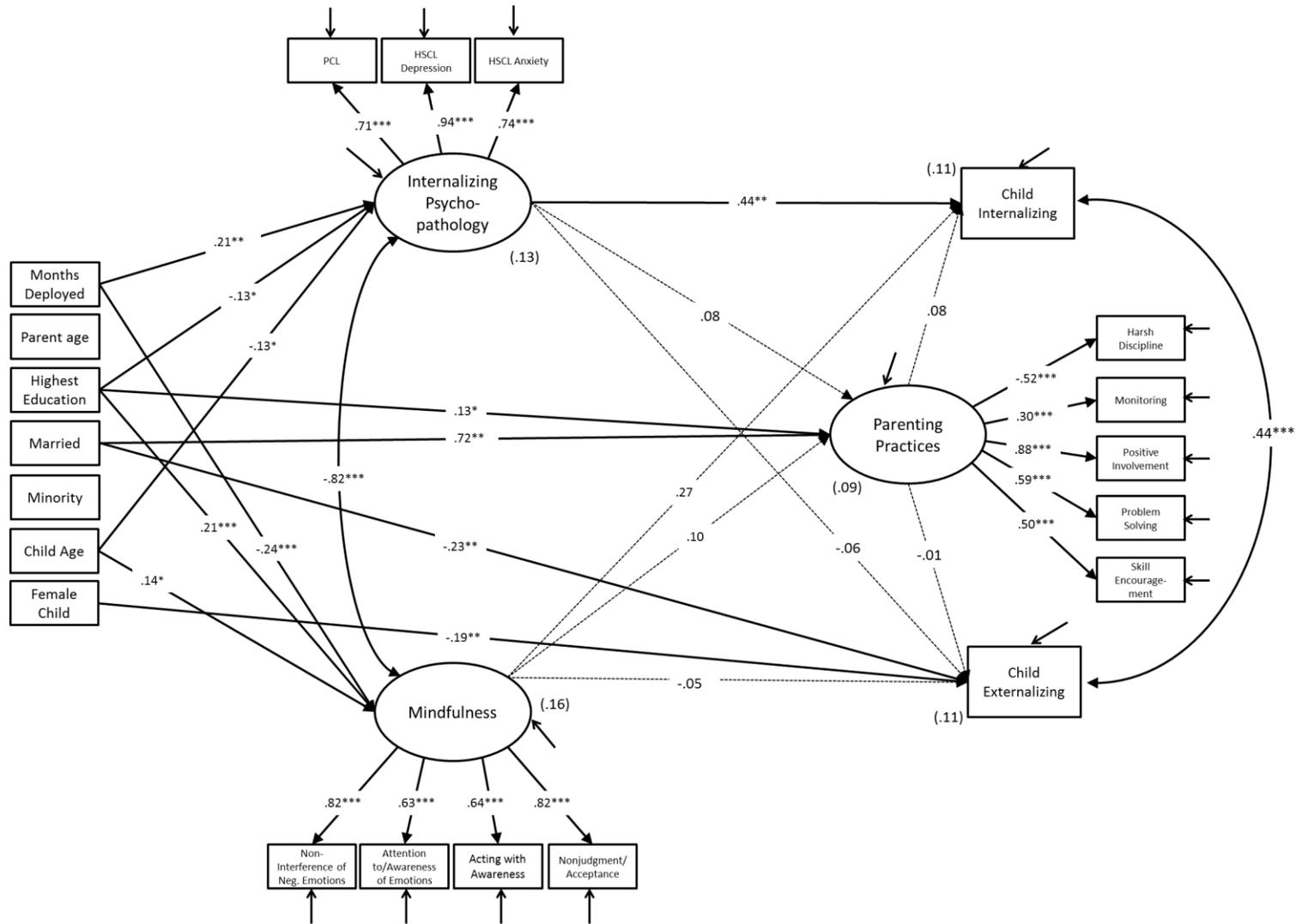


Figure 23. Females model 3. (N = 300). All estimates are standardized using the appropriate method of standardization for continuous or binary variables. For simplicity, non-significant paths from covariates are not depicted in the model. R² values for latent and outcome variables are included in parentheses.

* $p < .05$. ** $p < .01$. *** $p < .001$.

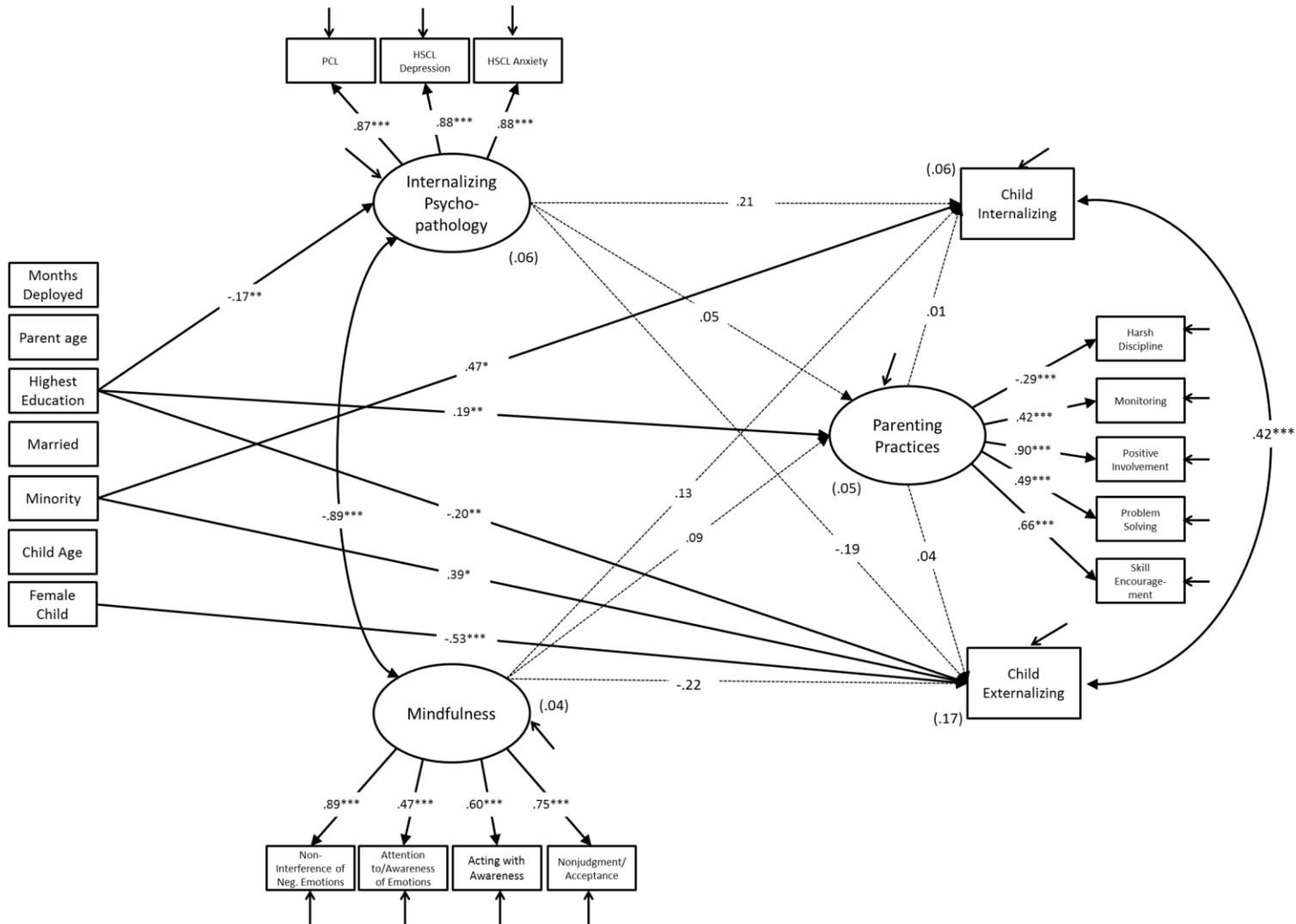


Figure 24. Males model 3. (N = 270). All estimates are standardized using the appropriate method of standardization for continuous or binary variables. For simplicity, non-significant paths from covariates are not depicted in the model. R² values for latent and outcome variables are included in parentheses.

* $p < .05$. ** $p < .01$. *** $p < .001$.

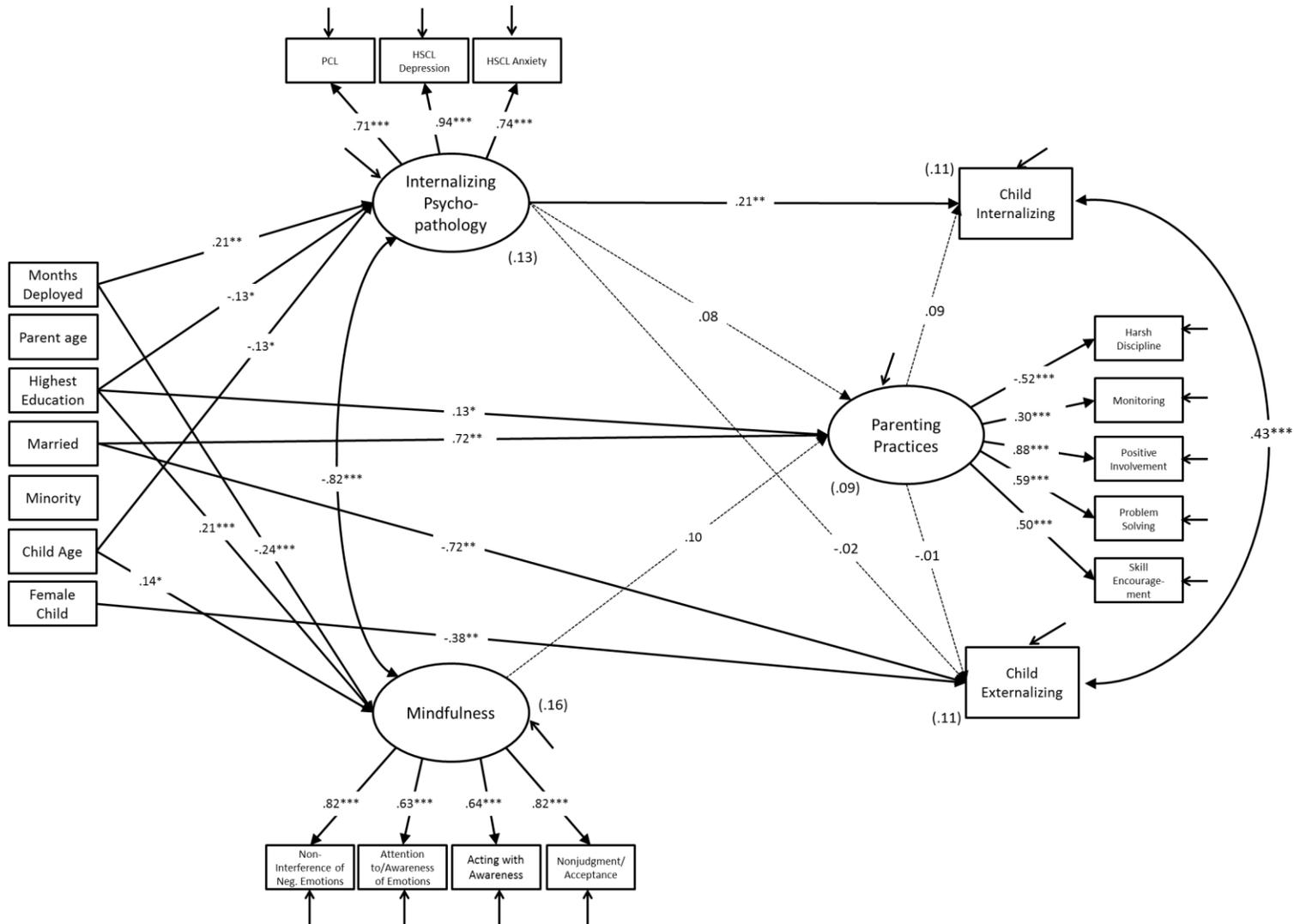


Figure 25. Females model 3.1. (N = 300). All estimates are standardized using the appropriate method of standardization for continuous or binary variables. For simplicity, non-significant paths from covariates are not depicted in the model. R² values for latent and outcome variables are included in parentheses.

* $p < .05$. ** $p < .01$. *** $p < .001$.

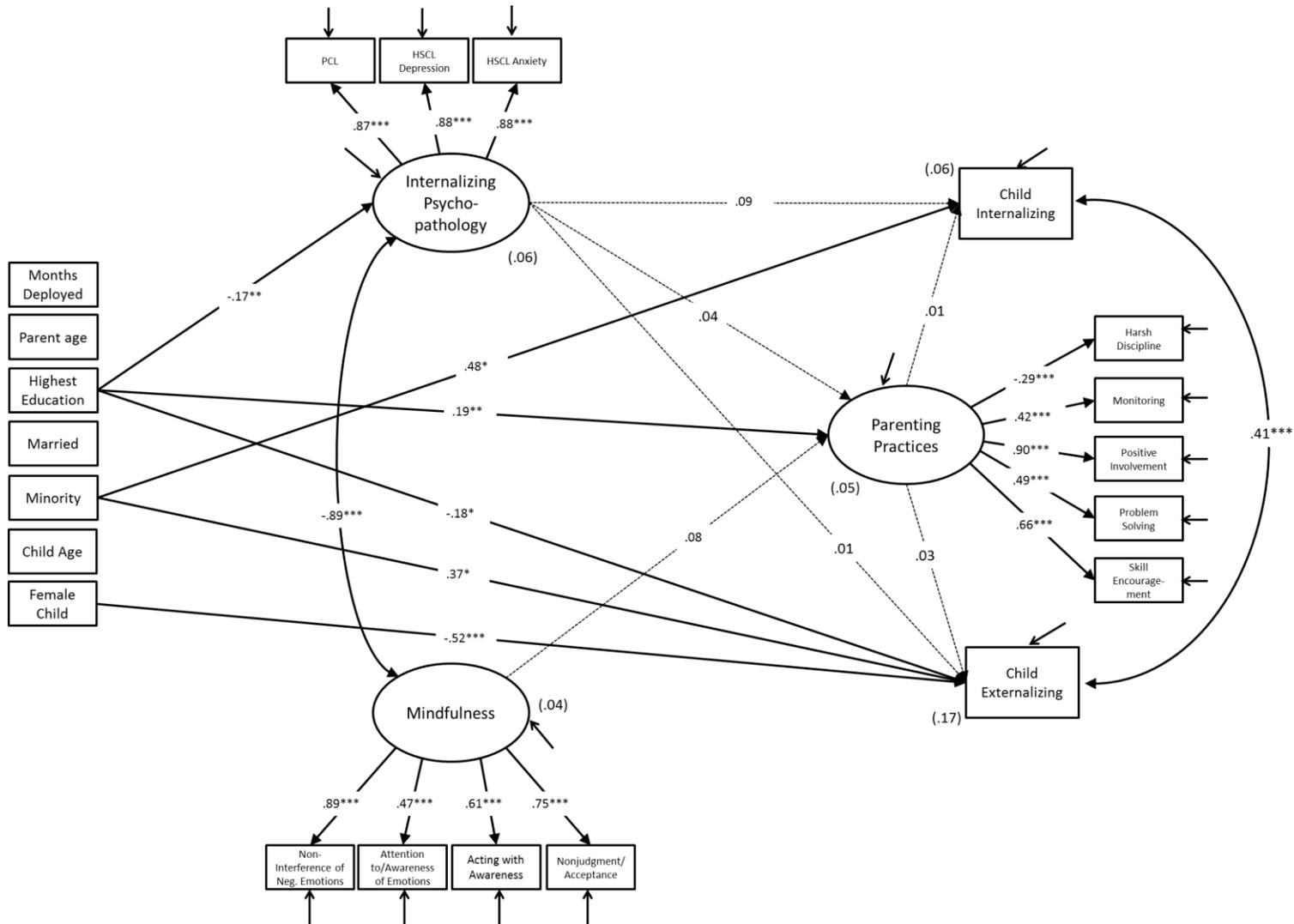


Figure 26. Males model 3.1. (N = 270). All estimates are standardized using the appropriate method of standardization for continuous or binary variables. For simplicity, non-significant paths from covariates are not depicted in the model. R² values for latent and outcome variables are included in parentheses.

* $p < .05$. ** $p < .01$. *** $p < .001$.

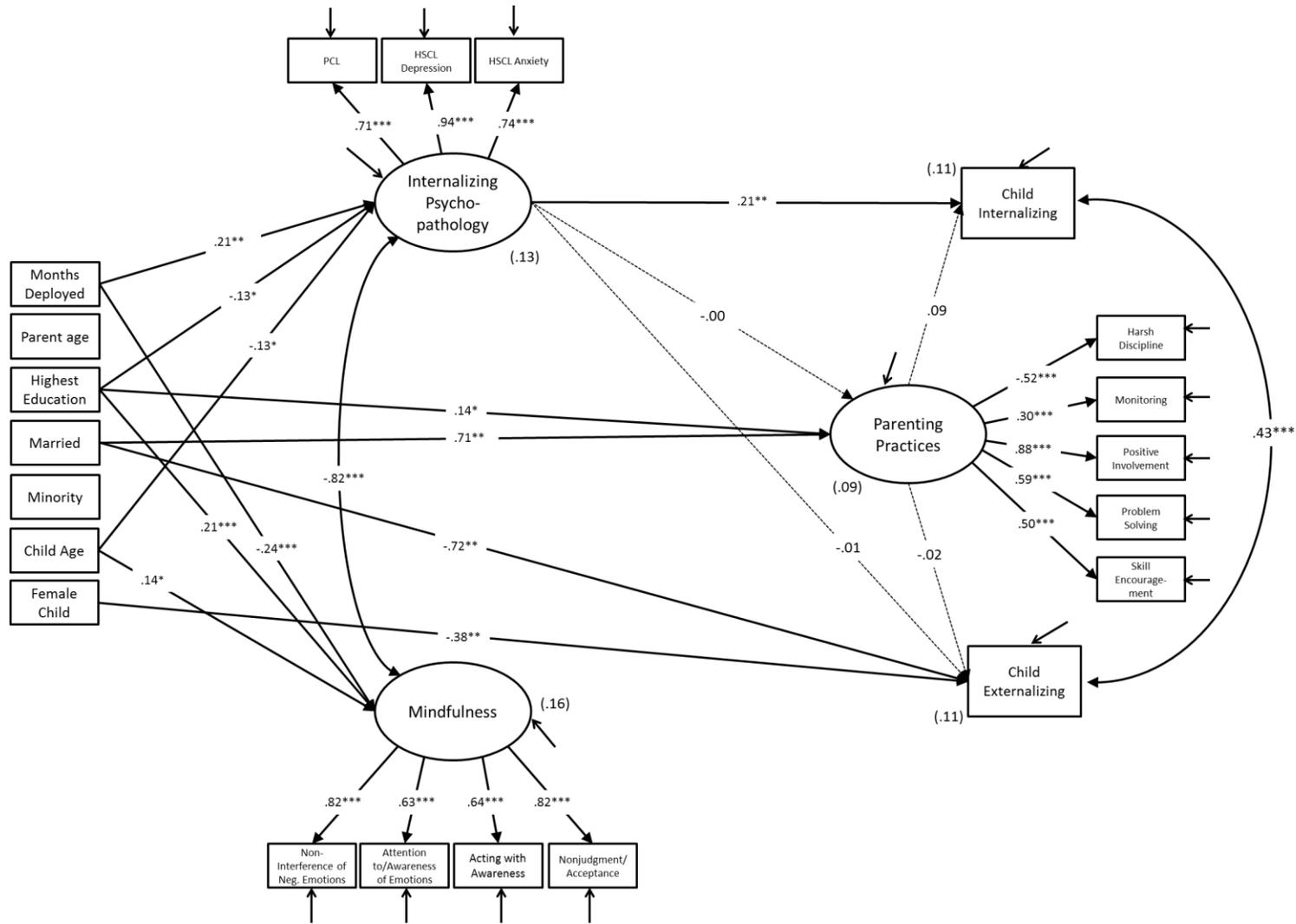


Figure 27. Females model 3.2. (N = 300). All estimates are standardized using the appropriate method of standardization for continuous or binary variables. For simplicity, non-significant paths from covariates are not depicted in the model. R² values for latent and outcome variables are included in parentheses.

* $p < .05$. ** $p < .01$. *** $p < .001$.

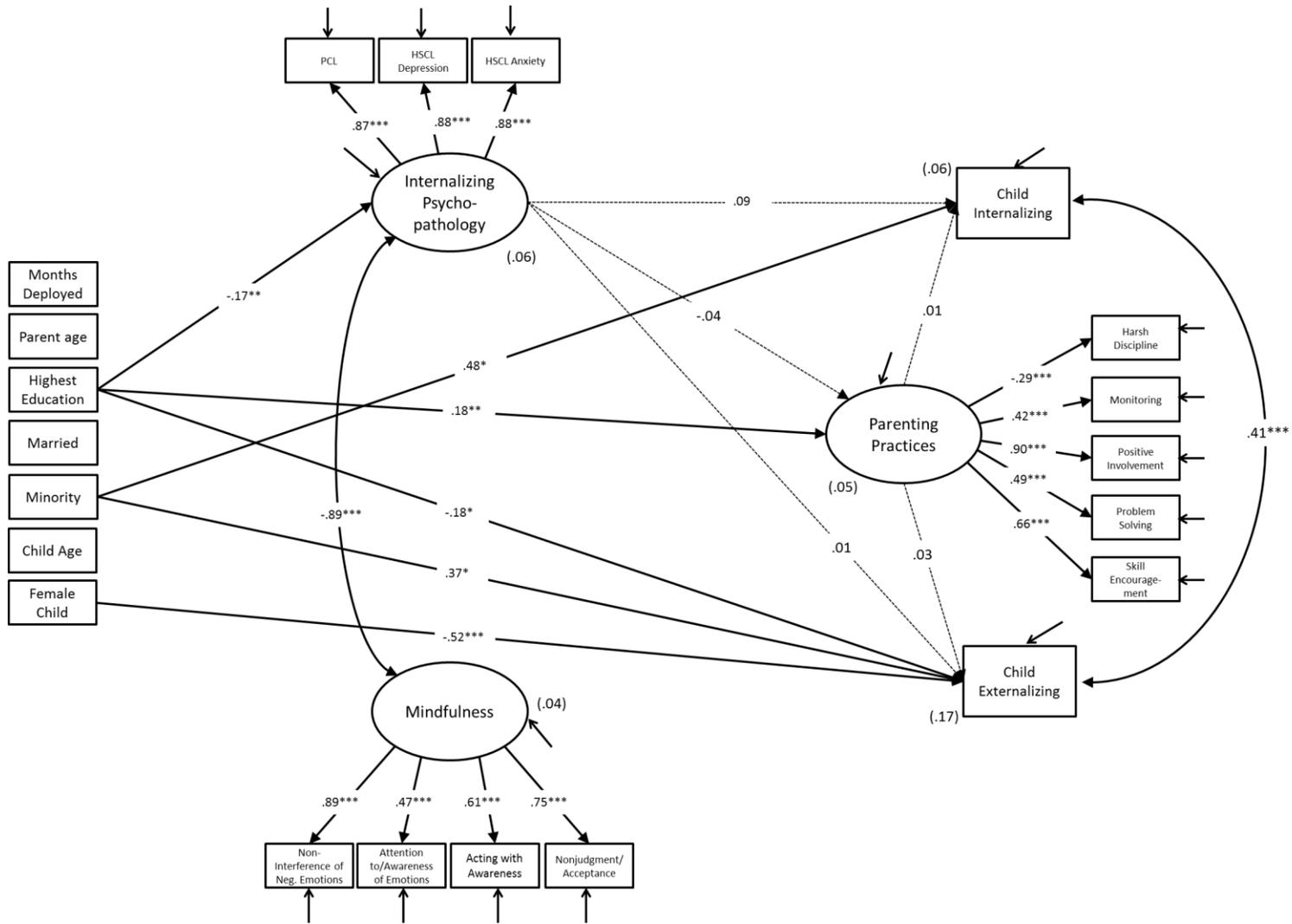


Figure 28. Males model 3.2. (N = 270). All estimates are standardized using the appropriate method of standardization for continuous or binary variables. For simplicity, non-significant paths from covariates are not depicted in the model. R² values for latent and outcome variables are included in parentheses.

* $p < .05$. ** $p < .01$. *** $p < .001$.

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