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Parenting and Child Externalizing Behaviors: Are the Associations Specific or Diffuse?

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Abstract

Building upon the link between inadequate parenting and child noncompliance, aggression, and oppositionality, behavioral parent training has been identified as a well-established treatment for externalizing problems in children. Much less empirical attention has been devoted to examining whether inadequate parenting and, in turn, behavioral parent training programs, have specific effects on child externalizing problems or more diffuse effects on both internalizing and externalizing problems. As an initial attempt to examine the specificity of parenting and childhood externalizing problems, this review examines prior research on the association of three parenting behaviors (parental warmth, hostility, and control) with child externalizing versus internalizing problems. Notably, findings revealed relatively little evidence for the specificity of parenting and child externalizing behaviors in the general parenting literature or in the family context of parent depression. Clinical implications and directions for future research are discussed.

Keywords

Parenting specificity; externalizing problems; internalizing problems; parenting behavior

1. Introduction

Externalizing behaviors, including aggression, non-compliance, and oppositional behaviors, are relatively common among young children. Notably, 5 to 13% of mothers of preschoolers report that their children exhibit moderate to severe externalizing behaviors, with even greater rates among socioeconomically disadvantaged families (e.g., Campbell, Shaw, & Gilliom, 2000; Lavigne et al., 1996; Webster-Stratton & Hammond, 1998). Untreated externalizing behaviors are associated with a wide range of negative outcomes for children and adolescents and, based on the early starter model of externalizing problem behavior (see McMahon, Wells, & Kohler, 2006), often have effects that last into adulthood, including substance use, unstable employment, and relationship difficulties (Champion, Goodall, & Rutter, 1995; McMahon et al., 2006; Offord & Bennett, 1994). Given the individual, familial, and societal costs of externalizing behaviors, substantial empirical attention has been devoted to examining risk factors for the development of externalizing behaviors and the efficacy of intervention services

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(see reviews by Burke, Loeber, & Birmhamer, 2002; Frick, 2006; Loeber, Burke, Lahey, Winters, & Zera, 2000).

One risk factor for development and maintenance of externalizing behaviors in children is a cycle of parent-child interactions characterized by a high degree of coercion (see review by Granic & Patterson, 2006). According to the coercion hypothesis, basic aversive behaviors, such as crying, which are instinctual to the newborn infant, serve an evolutionary purpose by quickly shaping maternal behaviors associated with the infant's survival and well-being (e.g., feeding). While most infants progressively acquire more adaptive and less aversive social and verbal skills as they age, certain conditions, most notably ineffective parenting practices, increase the likelihood that some children will continue to rely on aversive behaviors which evolve over time from crying to increasing levels of noncompliance. One hallmark of the coercive process is the parental response to child noncompliance: parents who withdraw their command or fail to follow through negatively reinforce the child's negative and resistant behavior. Although parental withdrawal of the command or failure to follow through may result in a break in the conflict and provide parental relief, the results are temporary. In turn, children ramp up their negativistic and resistant behavior in response to each future directive from the parent, while the parent may begin to rely on increasingly harsh parenting strategies in an attempt to control the child's behavior. As this cycle continues, the rate and intensity of these behaviors increase significantly as parents and children are reinforced for their coercive responses. Of note, these coercive parent-child interactions have been documented in numerous longitudinal studies during the preschool and early school years (McMahon & Forehand, 2003).

The identification of parenting behaviors as key predictors of the development and maintenance of externalizing behaviors in children led to the development and testing of behavioral parent training programs (e.g., McMahon & Forehand, 2003). Although several parent training programs have been developed to address the coercive cycles of parent-child interaction characteristic of early starter pathway children, these programs have several things in common. First, based on social learning theory, parents are taught skills (e.g., praise for appropriate behavior and time-out for inappropriate behavior) for directing child behavior. Second, therapists make extensive use of modeling and parent role-plays during session (in addition to didactic instruction and discussion) to teach parents these parenting skills. Third, parent training programs typically make extensive use of home practice assignments and exercises in order to aid in the generalization of the new skills from the therapy session to the home. Fourth, the majority of behavioral parent training programs for child noncompliance, oppositionality, and other externalizing behaviors employ manuals and commercially available materials to aid in the transfer of intervention strategies beyond treatment outcome research to community-based settings.

Importantly, behavioral parent training programs have proven efficacious in improving parent-child interactions and, in turn, reducing children's externalizing behaviors (see review by McMahon et al., 2006), and the effects appear to be maintained over time (e.g., Long, Forehand, Wierson, & Morgan, 1994; Routh, Hill, Steele, Elliot, & Deweys, 1995; Webster-Stratton, 1992). Accordingly, behavioral parent training programs are now considered "well-established" interventions for the treatment of children's externalizing behaviors (see reviews by Brestan & Eyberg, 1998; Burke et al., 2002; McMahon et al., 2006).

Although the efficacy of behavioral parent training programs for externalizing behaviors has been well-established in research, the effectiveness of such programs for children who present with internalizing problems or with comorbid externalizing and internalizing problems has received far less attention. The development of behavioral parent training programs for internalizing problems (e.g., anxiety, depression) is important, as children frequently present

in mental health clinics with these types of difficulties (see review by Albano, Chorpita, & Barlow, 2003). However, relative to externalizing problems, two recent reviews suggest that parenting behaviors have received significantly less attention and support in interventions targeting internalizing problems (Barnish & Kendall, 2005; Horowitz & Garber, 2006). Further, a growing body of literature suggests that externalizing and internalizing problems co-occur among youth at a rate greater than would be expected by chance (see reviews by Albano et al., 2003; Hammen & Rudolph, 2003; Hinshaw & Lee, 2003; Woolston, Rosental, & Riddle, 1989). As an example, attention deficit hyperactivity disorder, one diagnosis in the externalizing disorders domain, co-occurs with a mood disorder in 15 to 75% of cases (e.g., Anderson, Williams, & McGee, 1987; Bird, Canino, & Rubio-Stipec, 1988; Biederman, Faraone, & Keenan, 1990) and with an anxiety disorder in 25 to 63% of cases (e.g., Beiderman et al., 1990; Vance, Luk, Costin, Tonge, & Pantelis, 1999). Moreover, some evidence suggests that co-occurring externalizing and internalizing problems are associated with poorer treatment outcomes for children and their families (e.g., Kovacs, Obrosky, Gatsonis, & Richards, 1997; Schachar & Tannock, 1993; Vance, Costin, Barnett, Luk, Maruff, & Tonge, 2002).

Surprisingly, little research has examined whether the effects of behavioral parenting interventions are specific, impacting only the externalizing problems for which they were developed, or more diffuse, ameliorating internalizing problems as well. Perhaps even more surprising, in non-intervention research, relatively little empirical attention has examined whether the *associations* of parenting behaviors are specific to externalizing problems or more diffuse (i.e., associated with internalizing problems as well). In an effort to better inform use of behavioral parent training programs for the multifaceted youth and families who present in clinical settings, the focus of the current review is to examine the specificity of relation between parenting behavior and externalizing problems.

In spite of theories, such as the coercion hypothesis, which posit a relatively specific link between parenting behavior and child externalizing behaviors, the empirical literature on parenting has devoted relatively little attention to the issue of “parenting specificity” (O’Connor, 2002). Questions exploring parenting specificity ask whether specific parenting behaviors (e.g., behavioral control) are associated with specific child outcomes (e.g., externalizing problems) or whether the associations are more diffuse. Caron, Weiss, Harris, and Catron (2006) operationalized the concept by defining 1) unique, 2) differential, and 3) interactive effects of parenting on child outcomes. According to Caron and colleagues, unique effects focus on whether a specific parenting behavior (e.g., parental warmth) retains a significant relation with a specific child outcome (e.g., externalizing problems) once indirect relations through other variables (e.g., child internalizing problems and/or parental behavioral control) are controlled. Differential effects focus on whether a specific parenting behavior has a disparate relation with two child outcomes (e.g., parental hostility is more strongly related to child internalizing than child externalizing behaviors). Finally, interactive effects, which are less commonly used as a means to operationalize specificity, examine whether a specific parenting behavior is related to a specific child outcome across all levels of a second parenting behavior (diffuse association) or only at particular levels of that second parenting behavior (specific association). For example, does maternal warmth relate to lower levels of adolescent externalizing problems only when high levels of behavioral control are present, or does the relation between maternal warmth and externalizing problems exist independent of the level of behavioral control?

As a first step in determining whether the associations between parenting and externalizing behaviors are specific or diffuse, the current review builds upon the work of Caron and colleagues (2006) by examining the specificity of three commonly studied parenting constructs: warmth, hostility, and behavioral control. It is important to recognize that the study of parenting is a complex process, as multiple conceptualizations of this construct have been employed.

Accordingly, we first delineate the three primary conceptualizations: 1) broad typologies; 2) individual parenting behaviors; and 3) interactions between individual parenting behaviors. In our review of the general parenting literature, we focus on the latter two conceptualizations, as they provide the greatest insight into the specificity of parenting with externalizing versus internalizing problems. However, as this research has emerged, in part, from a conceptualization of parenting as a constellation of behaviors, a brief consideration of the broad typology is warranted.

Consistent with the conceptualization of O'Connor (2002), and the definitions of Caron and colleagues (2006), we examine the specificity of parenting and child externalizing problems by comparing associations of parenting with externalizing versus internalizing problems. Notably, our focus is on *associations*, not evaluations of parent training programs, in this review. Before outcomes of intervention programs are addressed, the critical preliminary step is whether associations between parenting behaviors and child externalizing versus internalizing problems are similar or different. Ultimately, research will need to be designed and tested to ascertain if the outcome of behavioral parent training programs is specific to externalizing problems or more diffuse. If the outcome is diffuse, children presenting with internalizing problems or comorbid externalizing and internalizing problems may well benefit from programs originally developed for parents whose children manifest externalizing problems.

After an overview of the general literature that pertains to parenting and its association with child externalizing and internalizing problems, we follow the recommendation of O'Connor (2002) and focus on parenting and child outcomes within a specific context: parental depression. Notably, parental psychopathology may increase the likelihood that the previously discussed coercive cycle commonly associated with child behavior problems is set in motion and maintained. For example, caregivers diagnosed with major depressive disorder exhibit parenting behaviors characterized by intrusiveness and withdrawal (see reviews by Downey & Coyne, 1990; Forehand, McCombs, & Brody, 1987; Goodman & Gotlib, 1999; Kane & Garber, 2004; Lovejoy, Graczyk, O'Hare, & Neuman, 2000). As such, depressed parents may be more likely to respond to a child's externalizing problems with extreme harshness at times and with withdrawal of the directive at others. We conduct a review of this literature and use elementary statistical analyses to reach preliminary conclusions about the specificity of the associations between parenting behaviors and child externalizing versus internalizing outcomes. Finally, we delineate several ways to advance the study of parenting specificity and child outcome.

2. Frameworks for Studying Parenting

2.1. Broad typologies of parenting

In one of the earlier conceptualizations of parenting, many researchers suggested that it was particular, fixed constellations of parenting behaviors, as opposed to the unique impact of any single parenting behavior, that contributed to child and adolescent competency or psychopathology. This idea has its origin in Baumrind's traditional paradigm, which conceptualized parenting as a combination of varying levels of behavioral control and affection (Maccoby & Martin, 1983). *Authoritative parenting*, for example, was typified by high levels of parental affection in conjunction with high levels of behavioral control or supervision, and has been modified by Steinberg and colleagues to include psychological autonomy, or democracy, to more fully account for adolescent healthy psychological development and school success (Steinberg, 1990; Steinberg, Lamborn, Dornbush, & Darling, 1992). This constellation of parenting tendencies has been shown to be positively related to healthy adjustment in children and adolescents (Baumrind, 1966; 1967; 1989; Maccoby & Martin, 1983; Steinberg et al., 1992). Conversely, *authoritarian parenting*, which was characterized

by low levels of affection and high levels of behavioral control or harsh discipline, *permissive parenting*, which was characterized by high levels of warmth and caring but low levels of behavioral control, and *neglecting parenting*, which was characterized by a combination of low levels of both warmth and control, have all been associated with child and adolescent internalizing and externalizing behaviors (Baumrind, 1989; Heller, Baker, Henker, & Hinshaw, 1996; Jewell & Stark, 2003).

Although research based on Baumrind's typological approach to parenting has yielded an impressive body of findings linking parenting behavior to child outcome, this approach does not allow us to examine the impact of specific constituents (e.g., warmth) of the constellation on child externalizing behaviors (Darling & Steinberg, 1993; Davidow & Grusec, 2006). In other words, this focus on the composite parenting behavior (e.g., warmth plus firm control in authoritative parenting) and its relation to child outcome impedes the dismantling of the typology, by which it might be determined that an individual parenting behavior (e.g., warmth) is primarily associated with a specific child outcome (e.g., decreased levels of child externalizing symptoms). As a result, some researchers have advocated for a more differentiated approach to examining the relation of parenting behaviors and child outcomes that focuses on individual, rather than constellations of, parenting behaviors (e.g., Barber, 1997; Herman, Dornbusch, Herron, & Herting, 1997).

2.2. Individual parenting behaviors

As mentioned previously, three dimensions of parenting – warmth, hostility, and behavioral control – have emerged as key constructs in the parenting literature (Schaefer, 1965). Some of the behavioral indicators used to operationalize each of these constructs are presented in Table 1. Some investigators have conceptualized warmth and hostility as opposite endpoints of the same spectrum (e.g., Child's Report of Parental Behavior Inventory; Schaefer, 1965; Schludermann & Schludermann, 1970), whereas others have considered them to be separate behaviors entirely (e.g., INTERACT Coding System; Dumas, 1984). When investigators have taken the latter approach, withdrawal, or the absence of warmth, is conceptualized as the opposite endpoint on the warmth continuum, and the absence of hostility is conceptualized as the opposite endpoint of the hostility continuum. In reality, conceptualizing warmth and hostility as separate dimensions provides richer information about parenting. It becomes possible, for example, to derive information about warmth *and* the absence of warmth – which is not necessarily the presence of aversive (i.e., hostile) parenting – as well as hostility and the absence of hostility.

Similar to the body of research inspired by Baumrind's (1989) typologies, there are numerous empirical investigations linking specific parenting *behaviors* to child outcomes. Notably, a number of studies have found a link between low levels of parental warmth and externalizing problems (e.g., Lee & Gotlieb, 1991; Shaw, Winslow, Owens, Vondra, Cohn, & Bell, 1998). One theoretical model developed to explain this association postulates that parenting characterized by low levels of warmth (e.g., lack of support or involvement) interferes with a child's capacity to modulate and regulate arousal (Tronick, 1989). As a result, a child may be less capable of considering the consequences of his or her actions and refraining from problematic, externalizing behaviors (Brody, Dorsey, Forehand, & Armistead, 2002).

Several investigations have reported significant relations between high levels of parental warmth and low levels of child internalizing behaviors, and, conversely, low levels of warmth and high levels of internalizing problems (e.g., Garber, Robinson & Valentiner, 1997; Hammen, Shih, & Brennan, 2004). In an attempt to explain these associations, Tronick and Gianino (1986) have suggested that children learn to avoid the dysregulation that results from insensitive or unresponsive parenting (i.e., parenting characterized by a lack of warmth) by withdrawing. As withdrawal is thought to effectively dampen the arousal system, this

internalizing response (e.g., disengagement) may become the child's coping strategy of choice. Over time, this coping response may place the child at risk for developing a number of symptoms related to depression and other internalizing disorders (Field, 1995).

To summarize, the available data suggest that significant relations exist between 1) high levels of parental warmth/involvement and low levels of child externalizing and internalizing symptoms and 2) low levels of parental warmth/involvement and high levels of child externalizing and internalizing symptoms. Relatively few analyses, however, have sought to determine whether parental warmth is differentially associated with externalizing versus internalizing problems. Without explicitly addressing the specificity question, a study by Gray and Steinberg (1999), for example, suggests that parental warmth contributes uniformly to behavior problems (e.g., externalizing symptoms) and internal distress (e.g., internalizing symptoms). Similarly, Ge and colleagues (1996) present regression coefficients from analyses of parental warmth predicting adolescent depressive symptoms ($\beta = -.16, p < .05$) and conduct problems ($\beta = -.15, p < .05$) that suggest a "non-specific," more uniform effect.

Just as warmth has been associated in the literature with various specific child outcomes, hostility also has been associated with specific child outcomes. High levels of hostility have been associated with child externalizing behaviors in a number of studies (e.g., Conger, Conger, Elder, Lorenz, Simons, & Whitbeck, 1992; Conger, Conger, Elder, Lorenz, Simons, & Whitbeck, 1993; Conger, Ge, Elder, Lorenz, & Simons, 1994; O'Leary, Slep, & Reid, 1999; Patterson, Reid, & Dishion, 1992). For example, Patterson (1982) and colleagues (e.g., Patterson, Reid, & Dishion, 1992; Snyder & Patterson, 1995) have studied extensively the coercive processes that operate through hostility and lead to externalizing problems. As we delineated earlier, irritable, hostile exchanges between parents and children often contain a negative reinforcement mechanism that perpetuates parental harshness and child externalizing problems (see Granic & Patterson, 2006). Children who are socialized to use coercive behaviors in family interactions are more likely to use similar techniques in interactions outside the family further, perpetuating their problem behaviors (Conger et al., 1994; Forehand & Wierson, 1993; Patterson et al., 1992).

Although parental hostility has most often been studied in the context of child externalizing problems, some researchers have proposed that repeated hostile confrontations with irritable parents represent a salient daily stressor that increases the child's psychological distress, diminishes the child's sense of self, and heightens feelings of hopelessness and worthlessness, all of which are symptoms of internalizing problems (Burge & Hammen, 1991; Downey & Coyne, 1990; Ge et al., 1996). Several empirical investigations have borne out this hypothesis. As an illustrative example, parental hostility has been identified as a significant correlate of depressive symptoms in adolescents (Buehler, Benson, & Gerard, 2006; Cole & McPherson, 1993).

In summary, evidence has accumulated to suggest that hostile parenting behaviors are associated with both externalizing and internalizing symptomatology in children and adolescents. Direct comparisons to determine whether hostile parenting has a differential relation with externalizing versus internalizing outcomes have been examined in several studies; however, a consistent picture does not emerge. For example, Conger et al. (1994) employed structural equation modeling to examine the relation between parental hostility and both adolescent externalizing and internalizing symptoms; their models revealed a significant link of a similar magnitude between the parenting construct and both externalizing and internalizing adolescent problems (maternal hostility predicting child externalizing problems, $\beta = .55$; maternal hostility predicting child internalizing problems, $\beta = .53$). Berg-Neilsen and colleagues (2002) also note the lack of specificity for high parental hostility in their review of parenting and psychopathology: "children with anxiety, conduct or depressive disorders all

have parents that they themselves or researchers perceive to be negative in some way toward their children” (p. 541). In contrast, work by Ge and colleagues (1996) suggests that parental hostility may be more strongly linked with one marker of externalizing behaviors, conduct problems ($\beta = .24, p < .01$), than one marker of internalizing problems, depressive symptoms ($\beta = .10, ns$). Similarly, results of a study by Marchand, Hock, and Widaman (2002) suggest that parental hostility is predictive of child externalizing ($\beta = -.24, p < .05$; hostility reverse scored), but not internalizing ($\beta = .04, ns$), symptoms. In conclusion, findings from the few existing studies examining differential associations of hostile parenting with child externalizing and internalizing problems appear to yield inconsistent findings and indicate a lack of consensus within the literature.

The third individual parenting construct of interest in the current review is behavioral control, which is construed as a positive parenting strategy consisting of appropriate limit setting and monitoring. Low levels of parental behavioral control have been associated with child and adolescent externalizing symptoms, including conduct disorder, drug use, and delinquency (e.g., Chilcoat, Beslau, & Anthony, 1996; Dishion, Patterson, Stoolmiller, & Skinner, 1991; Gray & Steinberg, 1999), whereas high levels of behavioral control have acted as buffers against child and adolescent disruptive behaviors (e.g., Pettit, Laird, Dodge, Bates, & Criss, 2001). From a theoretical perspective, the link between higher levels of behavioral control and lower levels of child externalizing behaviors has been ascribed to the fact that parents who exert firm and consistent limits foster self-regulation and compliance in their children and adolescents; alternatively, lax control and inconsistent monitoring deprive children of valuable learning experiences necessary for the development of emotional and behavioral control (Hart, Newell, & Olsen, 2003).

Although the literature is not as extensive or consistent, there is some support for the relation between behavioral control and child internalizing problems as well, both in terms of lower levels of control being associated with increased internalizing symptoms (e.g., Barber, 1996; Galambos, Barker, & Almeida, 2003; Kurdek & Fine, 1994) and higher levels of control acting as a buffer against such symptoms (Galambos et al., 2003; Ge, Conger, Lorenz, & Simons, 1994). It has been proposed that inconsistent parenting, characterized by recurrent and unpredictable breakdowns of behavioral control, may socialize children to resolve conflict outside of the home with withdrawal, which may facilitate the development or exacerbation of internalizing symptoms (Downey & Coyne, 1990). It is important to note, however, that several investigations have failed to find a significant relation between behavioral control and internalizing symptoms (e.g., Garber et al., 1997; Pettit et al., 2001).

As with hostility, the extant research does not provide a conclusive picture of specificity for parental behavioral control and child outcome when externalizing and internalizing problems have been directly compared. For example, in one longitudinal study examining the relation between parenting behaviors and adolescent conduct problems and depressive symptoms, parental behavioral control did not differentiate the group of adolescents exhibiting externalizing symptoms from the group exhibiting internalizing symptoms (Ge et al., 1997). In fact, Rutter (1989) has suggested that conduct problems and depression may share some common determinants, including disorganized or lax parenting. Extending this line of reasoning, firm control may not have relations specific to one type of problem behavior but rather may have a more generalized relation with child maladjustment.

Although relations have been documented between all three parenting constructs of interest (i.e., warmth/affection, hostility, & behavioral control) and externalizing and internalizing symptoms, analyses have failed to provide a rigorous examination of parenting specificity. As recently noted by Caron et al. (2006), third variables must be controlled to conclude with confidence that a parenting behavior is related to a specific child outcome. In essence, by

controlling for third variables (e.g., a second parenting behavior and/or a co-occurring child outcome), a unique effect between a parenting behavior and a child outcome can be specified. In their test of unique specificity, Caron et al. found that behavioral control, but not warmth, retained a significant unique relation with both child externalizing and internalizing outcomes: higher levels of behavioral control were uniquely related to lower levels of externalizing problems but higher levels of internalizing problems. These findings suggest that behavioral control, but not warmth, is uniquely related to externalizing and internalizing symptoms and, of importance, in *opposing* directions. In a test of differential effects, Caron et al. found that behavioral control, but not warmth, was differentially related to externalizing and internalizing problems; behavioral control was related to lower levels of externalizing problems and higher levels of internalizing problems.

In a recent study, Jones, Forehand, Rakow, Colletti, McKee, and Zalot (2007) examined warmth and behavioral control as predictors of change in inner-city African Americans' externalizing and internalizing problems across two time points. After controlling for co-occurring child psychopathology (i.e., either externalizing or internalizing problems, depending upon the analysis being conducted) and co-occurring parenting behaviors (i.e., either warmth or behavioral control, depending upon the analysis being conducted), warmth, but not behavioral control, was *uniquely* related to externalizing, but not internalizing, problems (i.e., increased levels of warmth were associated with fewer externalizing symptoms). In addition, warmth, but not behavioral control, showed a *differential* relation with internalizing and externalizing symptoms: parental warmth was more strongly associated with decreases in externalizing than internalizing symptoms. These findings are inconsistent with those of Caron and colleagues (2006) and, when considered with the studies reviewed previously, lead to the same conclusion reached by Ge and colleagues 10 years ago: "there is no consensus among investigators at present as to the relative impact of specific parenting behaviors on specific developmental outcomes" (Ge et al., 1996, p. 718).

2.3. Interactions between parenting behaviors

The third perspective taken by researchers has been to examine interactions between parenting behaviors. This approach builds upon both of the earlier approaches in that, similar to the approach of examining a broad typology (e.g., Baumrind, 1967), multiple parenting behaviors are considered simultaneously, and, similar to the approach of focusing on individual parenting behaviors, individual behaviors are considered but *in interaction* with one another. For example, both Weaver and Prelow (2005) and Forehand and Nousiainen (1993) found that higher levels of parental behavioral control were related to higher, rather than lower, levels of adolescent externalizing symptoms in the context of low levels of parental warmth. The implications of this interaction are notable: although behavioral control is generally considered to be a positive parenting approach, it may not be uniformly effective especially if a parent does not display high levels of warmth. By examining the interactive effects of a constellation of parenting behaviors, researchers can identify: (1) adaptive or maladaptive combinations of parenting behaviors; and (2) particular parenting behaviors that may compensate for, or exacerbate the negative effects of, less desirable ones (e.g., Gray & Steinberg, 1999). Unfortunately, however, in the relatively small number of studies that have tested interactions, significant findings, such as those reported by Weaver and Prelow (2005) and Forehand and Nousiainen (1993), have rarely materialized (Barber, Olson, & Shagle, 1994; Galambos et al., 2003; Garber et al., 1997; Kurdek & Fine, 1994; Stice, Barrera, & Chassis, 1993).

Caron et al. (2006) proposed that examining interactions is one way to test for specificity, as interactions reveal whether a given parenting behavior is related to a given child outcome across all levels of a second parenting behavior (diffuse association) or only at particular levels of the second parenting behavior (specific association). However, consistent with the majority of

studies reviewed in the previous paragraph, neither Caron et al. (2006) nor Jones et al. (2007) found a significant interaction between warmth and behavioral control.

3. Parent Depression, Parenting, and Child Outcome: A Case-In-Point

O'Connor (2002) has proposed that parenting specificity be studied in specific contexts that may govern the relation between parenting behaviors and child externalizing versus internalizing problems. Parent depression provides one such context for studying this relation, as parenting behaviors and child outcomes have received substantial research attention when parents have experienced depression or depressive symptoms (see reviews by Downey & Coyne, 1990; Forehand et al., 1987; Goodman & Gotlib, 1999; Kane & Garber, 2004; Lovejoy et al., 2000). In this section, we initially provide a brief background on depression and trace the development of the parenting literature among depressed caregivers. Subsequently, we examine the state of the literature regarding the specificity of the relation of the three parenting behaviors of interest – warmth, hostility, and behavioral control – to child externalizing versus internalizing problems.

3.1. Background

Worldwide, major depressive disorder (MDD) is recognized as one of the leading causes of disease-related disability and is predicted to account for more burden of disease than any other illness by 2020 (Murray & Lopez, 1997). The debilitating effects of depression, however, are not limited to the individuals diagnosed; children are also exposed to the symptoms of parental depression. A literature amassed over the past 30 years indicates that children and adolescents living with a depressed caregiver are at a substantial risk for a variety of developmental and adjustment difficulties from infancy through adulthood, including an increased risk for internalizing and externalizing problems (see reviews by Downey & Coyne, 1990; Goodman & Gotlib, 1999; Kane & Garber, 2004).

In the last decade, the empirical focus has begun to shift from establishing the risk of parental depression to exploring the mechanisms of the transmission of this risk. One mechanism that has received substantial support is parenting. Research suggests that depressed caregivers evidence parenting difficulties with warmth, behavioral control, and hostility which, in turn, are associated with child externalizing and internalizing problems (see reviews by Goodman & Gotlib, 1999; Lovejoy et al., 2000). As with most of the general parenting literature, research has not progressed to the study of whether parenting behaviors of depressed caregivers have specific or diffuse relations with types of child psychopathology, including externalizing and internalizing problems. In this section, we will examine investigations conducted for purposes other than the study of parenting specificity in order to begin to shed some light on the specificity question in the context of parent depression or depressive symptoms.

3.2. Selection of studies for literature review

A review of the literature was conducted to identify peer-reviewed studies published in English from 1980 through April 2006 that examined parenting behaviors in depressed parents and their relations to child externalizing and internalizing problem behaviors. A computer search of PsycINFO was conducted using various combinations of the following search terms in both keyword and title searches: parental depression, maternal depression, major depression, depressed mood, depressive symptoms, parenting behavior, mother-child interactions, parent-child interactions, child internalizing problems, and child externalizing problems. Additionally, reference lists from review (i.e., Goodman & Gotlib, 1999; Kane & Garber, 2004; Lovejoy et al., 2000) and empirical (e.g., Jaser et al., 2005) papers were consulted to identify other relevant studies. This preliminary search resulted in 121 studies that examine

the links between parental depression or depressive symptoms, parenting behaviors, and child outcome.

3.3. Criteria for inclusion

In order to be included in the current review, each of the studies identified in the literature search was required to meet the following criteria. First, the parent participants in all studies were required to meet criteria for a current or past major depressive episode or, among community samples, have completed a measure of depressive symptomatology. The decision to include community samples was based in part on the fact that much of the research on parental depression has been conducted with community samples of mothers who endorse symptoms of depression as assessed by self-report measures (e.g., Marachi, McMahon, Spieker, & Munson, 1998). Studies with parents diagnosed with bipolar disorder were excluded because there is debate in the literature as to whether parenting practices of parents diagnosed with bi-polar disorder are substantially different from parenting practices of controls (e.g., Chang, Blasey, Ketter, & Steiner, 2001; Cooke, Young, Mohri, Blake, & Joffe, 1999; Romero, DelBello, Soutullo, Stanford, & Strakowski, 2005).

Second, all studies had to include a measure of parenting behavior (see Table 1 for parenting behaviors) and an indicator of child externalizing and/or internalizing problems. Because of the requirements for specificity (discussed below), all studies were required to examine one parenting behavior (e.g., warmth) and two child outcomes (i.e. externalizing & internalizing) or two parenting behaviors (e.g., hostility & warmth) and one child outcome (e.g., externalizing problems). Third, all studies were required to examine the relation between parental depression or depressive symptoms and parenting behaviors. This requirement was imposed as a result of our interest in examining specificity within the context of parental depression or depressive symptomatology. Finally, we considered only those studies examining children in the age range of two to eighteen, as our child outcomes of interest (externalizing and internalizing problems) cannot be appropriately diagnosed or reliably assessed in children younger than two, and we defined children as individuals younger than 18 years of age. From the original 121 studies identified, 17 met the above-described inclusion criteria (i.e., Brody, Kim, Murray, & Brown, 2004; Chi & Hinshaw, 2002; Conger, Patterson, & Ge, 1995; Conger et al., 1992; Conger et al., 1993; DeGarmo, Patterson, & Forgatch, 2004; Dumas & Serketich, 1994; Fendrich, Warner, & Weissman, 1990; Frye & Garber, 2005; Hammen et al., 2004; Herwig, Wirtz, & Bengel, 2004; Jaser et al., 2005; Kim & Brody, 2005; Low & Stocker, 2005; Marchand & Hock, 1998; Nelson, Hammen, Brennan, & Ullman, 2003; Panaccione & Wahler, 1986).

3.4. Recorded variables and conclusions

Several characteristics of the 17 reviewed studies merit attention. First, 13 of 17 studies (76%) utilized samples, typically with community participants, from which only measures of depressive *symptoms* (e.g., BDI) were collected. The remaining four studies (i.e., Fendrich et al., 1990; Frye & Garber, 2005; Hammen et al., 2004; Jaser et al., 2005) (24%) examined clinically depressed parents and included a measure of clinical depression. Thus, the existing data provide little information concerning parenting specificity and child outcome within the context of parental clinical depression. Second, 12 of the 17 studies (all except Brody et al., 2004; Conger et al., 1995; DeGarmo et al., 2004; Frye & Garber, 2005; Kim & Brody, 2005) (70%) were cross-sectional in design, which limits the conclusions that can be reached. Third, it is important to note that *none* of the studies reviewed were designed to examine specificity. As a consequence, data originally meant to answer other questions (e.g., examination of family discord as a mediator between maternal depressive symptoms and adolescent externalizing symptoms; examination of the depression-distortion hypothesis) were examined in this review within a specificity framework in order to try to identify some preliminary trends.

To reach conclusions about parenting specificity in the context of parental depression/depressive symptoms, the following data analytic strategies were employed: correlational analyses, Hotelling Student t-tests, and regression analyses (see descriptions below). In addition, one treatment outcome study (DeGarmo et al., 2004) was identified and examined. Only one data analytic strategy, correlational analyses of parenting behaviors and child outcomes, emerged with sufficient frequency in the 17 studies reviewed to allow quantitative analyses to be conducted. Regression analyses were conducted in only five studies (i.e., Frye & Garber, 2005; Herwig et al., 2004; Jaser et al., 2005; Low & Stocker, 2005; Nelson et al., 2003), none of which provided sufficient information to formally test whether unique or differential relations emerged. Further, interaction terms were not entered in the analyses of any of these five studies, preventing examination of interactional specificity. Finally, only the single treatment outcome study provided the opportunity to reach conclusions about causality through manipulation of parenting behaviors (DeGarmo et al., 2004).

Before examining parenting specificity, we ascertained if the association between the measure of parent depression or depressive symptoms and each of the three parenting behaviors was significant. In 40%, 83%, and 66.6% percent of the cases, parent depression/depressive symptoms were significantly related to warmth, hostility, and behavioral control, respectively. When examined separately by parent depressive symptoms (PDS) and parent depression (PD), the percentage of the cases was as follows: warmth, PDS = 37.5%, PD = 50%; hostility, PDS = 77.7%, PD = 100%; and behavioral control, PDS = 66.6%, PD = 0%. These findings suggest that parent depression and depressive symptoms are more strongly associated with hostility than warmth and, when the parent experienced depression, than behavioral control.

3.5. Correlational specificity

At the most elementary level, significant correlations between a parenting behavior and both externalizing and internalizing problems can be examined to ascertain whether significant associations occur more often with one of the two outcome measures. Although unique effects *cannot* be identified with correlational analyses because third variables are not controlled, simple correlations can substantiate the existence of a significant relation between a parenting behavior (e.g., warmth) and a child outcome (e.g., externalizing symptoms) *before* controlling for third variables. Of the 17 studies reviewed, 15 conducted correlations between parenting behaviors and child problem behaviors (all except DeGarmo et al., 2004; Fendrich et al., 1990). The findings are presented in Table 2.

Briefly, the correlations suggest that warmth may be more strongly related to internalizing than externalizing child problems, whereas the opposite trend emerged for both parental hostility and behavioral control. The finding that 90% of the correlations between hostility and externalizing symptoms were significant is noteworthy. Finally, all significant correlations were in the expected direction: higher levels of warmth and behavioral control and lower levels of hostility were associated with fewer internalizing and externalizing problems.

At a somewhat more advanced level of analysis, Hotelling Student t-tests can be used to statistically compare the magnitude of each parenting behavior to two child outcomes (e.g., the correlation between hostile parenting and child externalizing symptoms versus the correlation between hostile parenting and child internalizing symptoms). Although limited by the nature of the data in such analyses (e.g., inability to control for third variables), preliminary speculations as to whether specific parenting behaviors have differential relations with child internalizing and externalizing problems can be offered.

From the 15 studies that reported correlations among parenting behaviors and child outcomes, 37 pairs of zero-order correlations could be used to examine the relation of one parenting behavior and two child outcomes. The results of these analyses are summarized in Table 3 and

suggest the following conclusions. First, little overall evidence emerged for specificity; only 27% (10 of the 37 comparisons of the association of each parenting behavior with internalizing versus externalizing problems) differed significantly. Second, the strongest support for specificity emerged for hostile parenting: this parenting behavior was more strongly related to externalizing than internalizing problems. However, it is important to note that in 60% of the analyses involving hostility, no differences emerged.

It is important to emphasize the limitations of the conclusions drawn from correlational data. First, no conclusions on direction of effects can be drawn. Second, appropriate controls, such as demographic variables, cannot be considered. In particular, unique effects as defined by Caron et al. (2006) cannot be examined since other theoretically relevant variables cannot be controlled. For example, when examining the relation between hostile parenting and child externalizing problems, parental warmth cannot be taken into account.

3.6. Regression analyses

At a second level, regression analyses can be conducted such that third variables (e.g., internalizing problems when externalizing problems are the dependent variable; hostile parenting when warmth is the independent variable) are controlled, thereby allowing information about unique effects to be uncovered. All five studies utilizing regression analyses included a measure of hostility; however, as none of the studies was designed to examine parenting specificity, third variables were not controlled. The standardized beta weights between hostility and child externalizing and internalizing problems are reported in Table 4. The findings indicate that hostile parenting was associated with both externalizing and internalizing problems. Furthermore, no pattern emerged to suggest that hostile parenting was consistently related to one type of child problem behavior more often than the other.

Procedures outlined by Cohen, Cohen, West, and Aiken (2003) can be used to test whether standardized beta weights differ significantly. However, as none of the five studies utilizing regression analyses were designed to test parenting specificity, sufficient information to use the Cohen et al. (2003) procedures was not reported.

3.7. Treatment outcome study

Finally, at the most advanced level, studies that manipulate one or more parenting behaviors and examine the relative “effects” on child internalizing and externalizing symptoms can provide information about specificity. The findings of an intervention study by DeGarmo et al. (2004) designed to decrease externalizing problems of children of divorce emphasize the complexity of parenting specificity. DeGarmo et al. found that changes in parenting (e.g., monitoring, positive involvement) led to decelerated growth of *both* externalizing and internalizing problems, supporting a diffuse association of parenting with child outcome. However, based on the magnitude of the standardized beta weights, the association appeared stronger for externalizing ($\beta = -.37$) than internalizing ($\beta = -.16$) problems, supporting a more specific association of parenting with child outcome. Surprisingly, internalizing problems were found to mediate the association between parenting behaviors and externalizing problems, suggesting that internalizing problems play an important role in the parenting-externalizing problem association. In sum, the support for specificity was limited and unclear at best.

4. Conclusions

The purpose of this review paper was to examine whether specific parenting behaviors have specific or diffuse relations with externalizing versus internalizing problems in children. This is an important question both for building a conceptual framework for the role of parenting behaviors in the development of child externalizing, as well as internalizing, behaviors and for

eventually tailoring behavioral parent training programs to best fit the needs of presenting children.

Findings from the general parenting literature can be summarized as follows: lower levels of parental warmth, higher levels of parental hostility, and lower levels of behavioral control are each associated with higher levels of both externalizing and internalizing problems but without consensus as to whether the associations are differential across the two types of problems. In the only two studies designed to address the specificity question, inconsistent findings emerged: Caron et al. (2006) found support for specificity of behavioral control but not warmth, and Jones and colleagues (2007) found support for specificity of warmth but not behavioral control. When interactions between various combinations of parenting behaviors have been examined, some support has emerged for an interaction between behavioral control and warmth for externalizing problems, suggesting specificity. However, most investigations have failed to examine significant interactions between parenting behaviors.

When considering parenting within the context of depression, data from correlational analyses suggest that hostile parenting is more strongly associated with externalizing than internalizing problems; however, in 60% of the comparisons, significant differences did not emerge, suggesting little support for specificity. Even less evidence for specificity emerged in correlational analyses for warmth or behavioral control. Data from parent depression/depressive symptoms studies using regression analyses suggest that hostile parenting is not differentially associated with externalizing and internalizing problems. In the one intervention study in which parent depressive symptoms were measured (DeGarmo et al., 2004), the evidence was contradictory, as there was support for parenting being related to both types of problems, for parenting being more strongly associated with externalizing than internalizing problems, and, in mediational analyses, for internalizing problems playing an important role in the parenting-externalizing problems association.

Two conclusions can be drawn at this time from the general parenting literature and the parent depression/depressive symptoms literature. First, parenting specificity has rarely been systematically examined. Second, when studies not designed to examine this construct are considered, little evidence for specificity of parenting and child externalizing behaviors emerges. The latter conclusion is similar to the one recently reached by McMahon and colleagues (2003) in their review of the stress literature and child psychopathology: when five specific stressors – physical and sexual abuse, exposure to violence, divorce/marital conflict, poverty, and child physical illness – and cumulative stress were examined in a review of 51 studies, the authors found little evidence for specificity of stress with child outcome.

5. Moving the Field Forward

The current review highlights the need for additional studies to directly address parenting specificity with child externalizing versus internalizing problems. In addition, several other priorities for research in this area are evident. We organize these priorities into five areas: conceptual/theoretical considerations; categories of parenting behaviors; methodological considerations; data analytic strategies; and implications for parenting programs.

5.1. Conceptual/theoretical considerations

O'Connor (2002) described a recent movement of the parenting field away from a grand unifying theory of parenting and toward a theory relating specific types of parenting behaviors with specific categories of child outcomes. Although a unifying theory is laudable and, ideally, the eventual goal, two initial key steps must be taken. First, we must determine whether parenting behaviors have specific or diffuse effects on child outcomes. Therefore, studies must be designed, based on the procedures recommended by Caron et al. (2006), to assess parenting

specificity. Second, once we have identified whether effects are diffuse or specific, explanatory mechanisms to account for the effects must be offered and tested. We delineated earlier some examples of potential explanatory mechanisms by which parenting behaviors may lead to child externalizing problems (e.g., coercive processes explaining the relationship between high levels of hostility and externalizing problems, lack of arousal regulation explaining the relationship between low levels of warmth and externalizing problems). Testing each of these mechanisms will begin to inform whether similar or different constructs explain the relationship between parenting behaviors and child externalizing behaviors.

Although complex and time consuming, the importance of the process delineated above cannot be overstated. Parenting has long been accepted as a critical determinant of child externalizing behavior and is the focus of well-established behavioral programs for the treatment of child externalizing problems. However, without understanding whether parenting behaviors have specific or general effects, it is impossible to understand how parenting operates to influence child externalizing, or internalizing, behaviors or to design the most effective parenting interventions.

5.2. Expanding categories of parenting behaviors

Although parenting specificity has rarely been studied, three parenting behaviors – warmth, hostility, and behavioral control – have been studied extensively. However, there are other parenting behaviors that merit attention when examining externalizing problems of children. For example, parental overprotection is associated with childhood anxiety problems (e.g., Lieb, Wittchen, Hofler, Fuetsch, Stein, & Merikangas, 2000; Moore, Whaley, & Sigman, 2004), whereas psychological control is related to child depressive symptoms (e.g., Barber & Harmon, 2002; Barber et al., 1994; Pettit et al., 2001). As another example, Granic and Patterson (2006) recently have considered a new parenting construct that they conceptualize as rigidity in parent-child interactions. This construct was found to be associated with increased levels of child externalizing behaviors.

Once such new parenting constructs are defined, the next step will involve addressing four important issues: (1) whether our definitions and measurement procedures can clearly differentiate these new behaviors from existing parenting behaviors (e.g., whether rigidity is different from behavioral control); (2) whether each parenting behavior has a specific or diffuse relationship with child externalizing versus internalizing problems; (3) what mechanism(s) explain the relationship of each parenting behavior with each child outcome; and (4) whether the manipulation of each parenting behavior in an intervention program leads to a change in each child outcome.

5.3. Methodological considerations

Primarily cross-sectional designs have been utilized to examine the association between parenting behaviors and child externalizing versus internalizing problems. Unfortunately, such designs fail to provide information about directionality. That is, child behavior may well lead to parenting behavior rather than the reverse. More likely than either of the simplified unidirectional proposals is a transactional model, whereby parenting behaviors and child problem behaviors reciprocally influence each other. With cross-sectional designs, it is not possible to identify any of these operations.

Longitudinal designs with data collected at two time points provide the opportunity to examine whether parenting behaviors are predictors of *change* in child externalizing behaviors from one time point to the next (Cole & Maxwell, 2003; Loeber & Farrington, 1994), and whether the parenting behaviors have specific or diffuse associations with child externalizing versus internalizing outcomes. With more than two data points, it is possible to address not only the

specificity of parenting, but also the reciprocity of parenting behaviors and child externalizing behaviors. Finally, the manipulation of parenting behaviors in either the laboratory or a clinical setting is necessary to reach conclusions about causality and the specific or diffuse *effects* of parenting behaviors.

As previously noted, current procedures in behavioral parent training for child externalizing behaviors involve introducing a package of parenting behaviors (e.g., attending, praise, ignoring, issuing directives, time-out; McMahon & Forehand, 2003) and examining the effects of the parenting package on child externalizing behaviors. By expanding the child outcome assessment to include internalizing problems (see DeGarmo et al., 2004) and conducting child assessments after introducing each new parenting skill, data from intervention studies can begin to identify the specific or diffuse effects of our well-established behavioral parent training programs and better inform our understanding of the effectiveness of such approaches.

Finally, as noted by O'Connor (2002), our designs and measurement systems should consider the context (e.g., family, peers, neighborhood, culture) in which parenting specificity is examined. For example, in their intervention study targeting child externalizing problems, DeGarmo et al. (2004) found that parenting operated through internalizing problems to influence externalizing problems, but noted that the study occurred in the context of parental divorce, which may have resulted in higher levels of internalizing problems than in normative or other clinical samples. Further, specific child and parent individual difference factors (e.g., age, gender, ethnicity) should also be considered, as they may moderate the relation between particular parenting behaviors and child externalizing behaviors.

5.4. Data analytic strategies

Beyond utilizing the data analytic procedures recommended by Caron et al. (2006) to examine unique, differential, and interactional patterns of parenting behaviors, several other data analytic strategies are worthy of consideration. Two examples can highlight such strategies. First, the relationship between parenting and child externalizing versus internalizing problem behaviors may not necessarily be linear. For example, as we have noted, behavioral control (e.g., rules, monitoring) has been conceptualized as a positive parenting behavior in that higher levels are associated with lower levels of child externalizing problems (e.g., Pettit et al., 2001). However, excessive control could lead to both externalizing (e.g., defiance, rebellion) and internalizing (e.g., sadness, withdrawal) symptoms. Consequently, behavioral control may be curvilinear with both low and high levels associated with externalizing and/or internalizing problems. Therefore, our conceptualization of parenting and the data analytic strategies we employ to test for specificity of effects will need to expand beyond linear models.

Second, parenting behaviors may have not only main effects (e.g., more parental warmth leads to fewer externalizing problems), curvilinear effects, and interactional effects (e.g., behavioral control is associated with reductions in externalizing problems only in the context of high levels of parental warmth), but also indirect effects on child externalizing behaviors. For example, parental warmth may relate directly to internalizing problems, but operate through effective disciplinary strategies to impact externalizing problems. Therefore, utilization of data analytic strategies to examine the relations between complex and multi-faceted parenting behaviors with child externalizing versus internalizing problems will shed additional light on the specificity of parenting and child externalizing behaviors.

5.5. Implications for parenting programs

Given the individual, familial, and societal costs of childhood externalizing problems, substantial empirical attention has been devoted to examining risk factors for the development of externalizing behaviors and the efficacy of intervention services for these behaviors (see

reviews by Burke et al., 2002; Frick, 2006; Loeber et al., 2000). Well-established behavioral parent training programs were founded upon theory and research highlighting the link between inadequate parenting and child externalizing behaviors; however, many children present clinically with internalizing problems or comorbid externalizing problems and internalizing problems. Little attention has been directed to whether the effects of our behavioral parent training programs or the inadequate parenting behaviors that such programs address are specific to externalizing problems or diffuse, influencing internalizing problems as well.

Our review focused on a preliminary question that warrants attention prior to focusing on the specificity of outcome of parent training programs: is the association of parenting behaviors specific to a child outcome (e.g., externalizing problems) or diffuse (i.e., related to externalizing & internalizing problems)? The findings provide little support for specificity. This is surprising for at least two reasons. First, theories (e.g., Granic & Patterson, 2006) and pathways [e.g., early starter model (e.g., Forehand & Werson, 1993; McMahan et al., 2006)] for the development of externalizing behaviors are specific to these types of problems. Second, as we have noted, parenting behaviors have received little attention (attesting to their perceived lack of importance) (e.g., Horowitz & Garber, 2005) or support (e.g., Barnish & Kendall, 2005) in interventions for internalizing problems (see Ginsburg & Schlosberg, 2002, for a more optimistic perspective). Both of these reasons would lead one to expect that parenting behaviors would be more strongly associated with externalizing than internalizing problems.

Although implications for parenting programs, based upon our findings of diffuse associations between parenting behavior and child outcome, should be considered tentative, we will engage in some speculation. First, designing and implementing parenting programs that include changing warmth, hostility, and behavioral control *may* be effective not only with externalizing problems, but also with internalizing problems. Second, for children presenting with comorbid externalizing and internalizing problems, a welcome side-effect of behavioral parent training programs for externalizing problems may be the alleviation of often co-occurring internalizing problems as well. Third, based on findings of Caron et al. (2006) and Jones et al. (2007) that the same parenting behavior may be associated with higher levels of one type of problem behavior (e.g., externalizing) and lower levels of the other problem behavior (e.g., internalizing) simultaneously, at a minimum both externalizing and internalizing behaviors need to be assessed in parent training programs. The findings of DeGarmo et al. (2004), reviewed here, are an excellent example of the complex interplay among parenting, internalizing problems, and externalizing problems. Fourth, our findings across the general parenting literature (see Table 2) and the parent depression literature (see Table 4) emphasize the strong association of parental hostility and child outcome. This type of parenting behavior should be specifically targeted in parenting programs. Although indirectly addressed in most programs (e.g., increasing warmth, implementing time-out in a non-emotional manner), our findings suggest that parental hostility deserves direct attention in parenting programs. Finally, our findings, not surprisingly, indicate that parenting alone fails to fully “explain” either externalizing or internalizing problems. In many clinical cases, interventions will need to be more encompassing than a parenting program (e.g., self-control training with child, reduction of family stress).

Again, it is important to stress that, with two exceptions (Caron et al., 2006; Jones et al., 2007), the studies reviewed here were not designed to explicitly address the issue of specificity and, with one exception (DeGarmo et al., 2004), they did not involve treatment outcome data; therefore, additional research is necessary before definitive conclusions can be drawn. Accordingly, our intention is that this review, when combined with the work of O’Connor (2002) and Caron and colleagues (2006), will serve as a foundation for greater attention to the specificity of parenting behaviors and child outcomes so that we can best meet the needs of the children and families in clinical settings.

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Table 1

Behavioral Indicators of Three Parenting Constructs

Warmth	Behavioral Control	Hostile Behavior
Acceptance	Behavioral Directives	Aggression
Caring	Firm Control	Anger
Involvement	Monitoring	Aversiveness
Positive affect	Rules	Criticism
Positive behavior	Supervision (Laxness) ²	Disapproval
Positive support		Intrusiveness
Praise (Withdrawal) ¹		Irritability
		Negative affect
		Overreactivity
		Verbal Punishment

¹Low levels indicate positive behavior

²Low levels indicate behavioral control

Table 2
Correlations between Each Parenting Behavior and Each Child Outcome in the Context of Parental Depression or Depressive Symptoms

Parenting Behaviors	Child Outcomes	Number of Correlations Examined	Number of Significant Correlations	Percent of Significant Correlations
Warmth	Internalizing	16	9	56%
	Externalizing	15	6	40%
Hostility	Internalizing	20	13	65%
	Externalizing	21	19	90%
Behavioral Control	Internalizing	7	3	43%
	Externalizing	10	6	60%

* $p < .05$

Table 3
 Significant Difference in Magnitude of Correlations between Each Parenting Behavior and Child Externalizing Versus Internalizing Problems in the Context of Parental Depression or Depressive Symptoms

Parenting Behaviors	Percent of Comparisons for which a Significant Difference Emerged for Externalizing versus Internalizing Problems*	Direction of Significant Difference
Warmth	8% (1 of 12 correlation comparisons)	100% (1 of 1 correlation comparisons) indicate that the magnitude of the correlation between Warmth and Externalizing problems > Warmth and Internalizing problems
Hostility	40% (8 of 20 correlation comparisons)	88% (7 of 8 correlation comparisons) indicate that the magnitude of the correlation between Hostility and Externalizing problems > Hostility and Internalizing problems
Behavioral Control	20% (1 of 5 correlation comparisons)	12% (1 of 8 correlation comparisons) indicate that the magnitude of the correlation between Hostility and Externalizing problems < Hostility and Internalizing problems 100% (1 of 1 correlation comparisons) indicate that the Magnitude of the correlation between Behavioral Control and Externalizing problems > Behavioral Control and Internalizing problems

* p < .05 based on Hotelling Student t-test

Table 4

Hostile Parenting and Child Externalizing and Internalizing Problems in Studies Utilizing Regression Analyses in the Context of Parent Depression or Depressive Symptoms

Study	Standardized Beta Weight		Notes
	Externalizing Problems	Internalizing Problems	
Frye & Garber (2005)	.27**	.16*	Time 1 Assessment
	.26**	.29**	Time 2 Assessment
Herwig et al. (2004)	.53*	.46*	
Jaser et al. (2005)	.36**	.30**	
Low & Stocker (2005)	.29**	.42**	Father
	.52**	.52**	Mother
Nelson et al. (2003)	.34	ns	Internalizing Problems only reported as non-significant

* $p < .05$;

** $p < .01$