PARENTING COGNITIONS AND PRACTICES: HOW PARENTS' OBSERVED USE OF POSITIVE PARENTING PRACTICES RELATES TO THEIR SELF-REPORTED USE AND PARENTING SELF-EFFICACY

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Child behavior problems are predictive of a host of negative academic, behavioral, and social outcomes (Shinn, Ramsey, Walker, Stieber, & O'Neill, 1987; Wentzel, 1993; Reinke, Herman, Petras, & Ialongo, 2008; Vitaro, Brendgen, Larose, & Tremblay, 2005). Parenting interventions have been shown to be effective for preventing and treating child behavior problems indirectly by changing parent cognitions and behavior (Piquero et al., 2016; van Aar, Leitjen, Orobio de Castro, & Overbeek, 2017). Having a better understanding of parent cognitions such as parents' perceptions of their own parenting and their parenting self-efficacy may lead to a better understanding of what motivates parents to seek out, engage in, and benefit from parenting intervention programs.

The present study examined data from 157 parent-child dyads to investigate relations between changes in parents' use of parenting practices, parents' perceptions of their use of parenting practices, and parents' views of their parenting self-efficacy. Participants included parents of young children who were assessed when their child entered kindergarten and finished second grade. Child behavior was examined as a moderator.

Results indicated that changes in parents' observed use of positive parenting practices were not associated with changes in parents' self-reported use of positive parenting practices. Changes in parents' observed use of positive parenting practices were also not associated with changes in parents' self-efficacy. Child behavior did significantly moderate the effects of observed parenting practices at Time 1 on parents' self-efficacy at Time 2. The moderating effect was stronger for children at risk for behavior problems than for children not at risk for behavior problems. Changes in parents' self-reported use of positive parenting practices were associated with changes in parents' self-efficacy. Child behavior did significantly moderate the effects of parents' self-efficacy at Time 1 on parents' self-reported use of positive parenting practices at Time 2. The moderating effect was stronger for children not at risk for behavior problems than for children at risk for behavior problems. The significance and limitations of these findings are discussed. Implications for practitioners involved in supporting parents and recommendations for future research are outlined.

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I: INTRODUCTION

Child behavior problems are predictive of a host of negative academic, behavioral, and social outcomes including poor academic achievement, low grades, low levels of engagement in classroom activities, high rates of substance abuse, school suspension, school dropout, and incarceration (Shinn, Ramsey, Walker, Stieber, & O'Neill, 1987; Wentzel, 1993; Reinke, Herman, Petras, & Ialongo, 2008; Vitaro, Brendgen, Larose, & Tremblay, 2005). Conduct problems include disruptive, aggressive, and oppositional behaviors and can be especially common in young children (American Psychiatric Association, 2013; Lavigne et al., 1996). Children who exhibit conduct problems at an early age are at-risk for poor lifelong outcomes such as the development of antisocial behavior as adolescents and adults (Hong, Tillman, & Luby, 2015). Given this information, there has been a great deal of effort dedicated to researching effective ways to prevent and treat early childhood conduct problems and disrupt negative trajectories.

According to Bronfenbrenner's ecological systems theory, children develop within interacting ecological systems that include the layered social contexts in which they exist and influence their behavior (Bronfenbrenner, 1979). At the innermost and most proximal layer are family members with whom children interact with on a daily basis. Parents and families play an integral role in children's social contexts and parenting practices can mediate the relationships between risk factors and child conduct problems (Dawson-McClure et al., 2015). Parenting interventions have been shown to be effective for preventing and treating child behavior problems indirectly by changing parent cognition and behavior (Piquero et al., 2016; van Aar, Leitjen, Orobio de Castro,

& Overbeek, 2017). Child externalizing behavior problems have been linked to concurrent family stress and have been shown to be more persistent in the presence of chronic family stress (Campbell, Pierce, Moore, Marakovitz, & Newby, 1996). Early elementary school represents an important period of development for children as they transition to school and learn academic and social skills that equip them for positive lifelong outcomes (Masten & Cicchetti, 2010). Given this information, the transition to school may represent a particularly important time for better understanding parent-child interactions and intervening upon parenting behavior in order to disrupt negative child trajectories

Prior research has explored the bidirectional relationship between parenting practices and child behavior, but few studies have investigated parents' perceptions of their parenting practices and how these compare to their parenting behavior and feelings of parenting self-efficacy. In order to better understand the active ingredients of parenting interventions, it is important that research answers questions regarding how parent and child behavioral change occurs. While prior research points to the importance of parenting practices as they relate to child behavioral outcomes, less is understood about the processes by which parent behavior and cognitions shift and influence each other and how these changes relate to child behavior problems. Having a better understanding of parent cognitions such as parents' perceptions of their own parenting and their parenting self-efficacy may lead to a better understanding of what motivates parents to seek out, engage in, and benefit from parenting intervention programs and which aspects of parenting may be most worth targeting with intervention efforts.

Parenting Cognitions

Parenting cognitions can be divided into two dimensions: the need or desire to change and the perception that change is possible (Pereira & Barros, 2019). Motivational models suggest that parents are more likely to engage in intervention or treatment programs if they both believe that there is a need for change (i.e., recognizing the existence of challenging behavior in their children and/or ineffective parenting practices in themselves) and believe that they are capable of enacting the needed changes (i.e., parenting self-efficacy; Pereira & Barros, 2019). The presence of challenging child behavior may indicate who is in a position to experience the most behavioral improvement as a result of parenting interventions, but it does not necessarily predict which parents will engage in treatment. In a meta-analysis analyzing the relationships between parent and child variables and parents' engagement in psychological treatment, results indicated that parents' perceptions of their own parenting were more significantly related to parents' engagement than children's level of externalizing problems (Pereira & Barros, 2019). These results suggest that parents' cognitions, including whether they recognize their child's behavior as challenging or problematic and whether they see themselves as part of the problem or part of the solution to that problem, may be a more powerful predictor of treatment engagement than the presence of child problem behavior alone (Pereira & Barros, 2019).

While some prior studies (e.g., Garvey, Julion, Fogg, Kratovil, & Gross, 2006; Sanders, Markie-Dadds, Rinaldis, Firman, & Baig, 2006) have shown that higher levels of parenting self-efficacy significantly and positively affect parents' engagement in parenting intervention programs, research in this area is mixed (Orrell-Valente et al.,

1999; Werba, Eyeberg, Boggs, & Algina, 2006). Broadly, self-efficacy has been linked to parent behavior including parental efforts to seek educational materials and programs related to parenting (Spoth & Conroy, 1993). There is a need for more research investigating the relations between parent cognitions and behavior in order to better understand the mechanisms by which parent and child behavioral change occurs and to inform how to best promote parent engagement in parenting intervention programs.

The current study used data from a longitudinal study on the Family Check-Up intervention to examine the relations between changes in parents' use of parenting practices (collected via observation data), parents' perceptions of their use of parenting practices (collected via parent report), and parents' views of their parenting self-efficacy. Parent-reported child behavior was examined as a moderator.

Parenting Practices

Parenting practices such as unresponsiveness and harsh discipline are linked to child behavior problems (Campbell et al., 1996; Wakschlag & Hans, 1999). Coercion theory states that children who engage in frequent negative, coercive exchanges with their parents are more likely to develop and exhibit oppositional and aggressive behavior and that parents' use of coercive, harsh, and conflicting parenting practices are a risk factor for the development of clinically significant conduct problems in children (Shaw & Bell, 1993; Odgers, Moffitt, Broadbent, Dickson, Hancox, & Harrington, 2008). On the other hand, children who engage in positive, supportive exchanges with their parents are more likely to develop social competence and positive prosocial adjustment (Eisenberg, Fabes, & Murphy, 1996). Parent and family intervention models that include parent training focused on increasing parents' use of positive parenting strategies (e.g., modeling

and reinforcing appropriate child behavior) aid in reducing coercive parent-child interactions (Patterson, 1982).

Parent-focused intervention programs such as the Family Check-Up aim to increase parents' skills and their use of positive and effective parenting strategies (Dishion et al., 2008). Broadly, the Family Check-Up focuses on increasing parent skills in three domains: positive behavior support, monitoring and limit-setting, and relationship building (Dishion, Stormshak, & Kavanagh, 2011). The Family Check-Up has been shown to increase levels of positive parenting. Furthermore, positive parenting has been shown to play a mediating role between the Family Check-Up and its effects on child behavior problems (Dishion, Shaw, Connell, Gardner, Weaver, & Wilson, 2008). Less is known about how these increases in positive parenting practices are related to changes in parents' perceptions of their use of positive parenting practices and changes in parenting self-efficacy. And while increases in positive parenting strategies are linked to favorable outcomes in parents exposed to interventions focused on supporting parents' use of such strategies, less is known about how parenting practices and cognitions change in parents who are not exposed to intervention and the role that child behavior plays in these associations.

Parenting Self-Efficacy

Parenting self-efficacy refers to parents' beliefs in their ability to effectively manage the varied tasks and situations associated with parenting (Gross & Rocissano, 1988). Several studies have supported the link between parent training and increases in parenting self-efficacy (e.g., Tucker, Gross, Fogg, Delaney, & Lapporte, 1998). However, while there has been a wealth of research focused on parenting self-efficacy in recent

years, the associations between parenting self-efficacy, parenting practices, and child behavior are still not well understood. Improvements in parenting self-efficacy have been linked to increased quality of parent-child interactions (Tucker et al., 1998) while low parenting self-efficacy has been linked to parents' use of coercive discipline (Bugental & Cortez, 1988). Yet, parents' parenting practices are not always shown to be aligned with their levels of parenting self-efficacy. In a 1999 study involving a sample of rural single-parents, maternal self-efficacy was not linked to parents' use of competence-promoting parenting strategies (Brody, Flor, & Morgan Gibson, 1999).

Results of another study demonstrated that increases in parenting knowledge were associated with more effective mother-toddler interactions only in more confident mothers (Conrad, Gross, Fogg, & Ruchala, 1992). The authors of the 1992 study found that neither parental knowledge or confidence alone significantly impacted parent-child interactions, but combined high levels of both constructs significantly and positively affected the quality of parent-child interactions, pointing to the importance of the combined effect of parental knowledge and confidence (Conrad et al., 1992). The literature on parenting self-efficacy is further complicated by the many ways self-efficacy is labeled (e.g., "efficacy", "esteem", "competence", and "confidence" have been used interchangeably), defined, and measured (Wittkowski, Garrett, Calam, & Weisberg, 2017). While research clearly indicates benefits of parenting self-efficacy and positive associations between parenting self-efficacy, parenting behavior, and child behavior have been demonstrated, parenting self-efficacy is a construct that demands further exploration and clarification. In order to leverage the reported benefits of parenting self-efficacy, it is

necessary to better understand how parenting self-efficacy changes over time and how those changes relate to changes in parenting behavior.

While parenting interventions have been shown to increase parents' feelings of their parenting self-efficacy and parents' use of positive parenting strategies, these changes are not always associated with increases in parents' perceptions of their use of positive parenting strategies. When asked to report on their use of positive parenting strategies (e.g., praise) and negative parenting strategies (e.g., criticism), parents tend to overestimate their use of positive parenting strategies and underestimate their use of negative parenting strategies (Swenson, Ho, Budhathoki, Belcher, Tucker, Miller, & Gross, 2016). Following parent training or education, parents may be more likely to accurately report their use of positive and negative parenting strategies. On the other hand, parents with high levels of parenting self-efficacy who use negative parenting strategies and are not exposed to education or intervention may continue to feel efficacious and overestimate the effectiveness of their parenting strategies.

Child Behavior

In comparison to the general parent population, parents of children with behavior problems are more likely to have low parenting self-efficacy (Sanders & Woolley, 2005). Parents' implementation of positive parenting strategies may be reinforced by experiencing improvements in their child's behavior (Rothman, 2000). After utilizing effective parenting strategies successfully, parents may also experience increased feelings of control and self-efficacy, which may motivate them to use similar strategies in the future (Bandura, 1971; Mouton & Roskam, 2005). This aligns with Bandura's self-efficacy theory, which posits that an individual's self-efficacy is shaped in part by their

own experiences including behavior that led to a desired outcome (Bandura, 1977). Research shows that parenting interventions such as the Family Check-Up are effective at reducing child behavior problems for children with high baseline levels of conduct problems and that positive parent-child dyadic interactions increase following treatment for such families (Shelleby, Shaw, Dishion, Wilson, & Gardner, 2018). Alternatively, children who continue to exhibit oppositional and aggressive behavior are more likely to elicit negative parenting practices from their parents. For example, parents are more likely to overuse directives and initiate coercive exchanges following persistent child noncompliance (Smith, Dishion, Shaw, Wilson, Winter, & Patterson, 2014). Parents who experience negative feedback following interactions with their child are more likely to have lower parenting self-efficacy (Spoth & Conroy, 1993). Further, when parents feel less competent in their parenting role, their motivation to engage in challenging tasks related to parenting also decreases while those who feel more efficacious are more likely to demonstrate effort with persistence and intensity (Sexton & Tuckman, 1991; Bandura, 1989).

Problem Statement

There is a large and growing body of literature to support the link between child behavior problems and poor long-term outcomes as well as the positive effect of parent education and intervention programs on disrupting these trajectories. It is well established that parents play an important role in their child's development and that by engaging in positive and effective parenting strategies, parents lower their child's risk of developing or exhibiting behavior problems. However, what is missing in the extant literature regarding parent-focused intervention is an examination of how parents who are not

exposed to intervention experience changes in their parenting practices and cognitions over time. Understanding how parents' use of positive parenting practices relates to their self-reported use and feelings of self-efficacy over time and how child behavior plays a role in these relations may help researchers and clinicians know what to target with parenting interventions and better understand the barriers and active ingredients associated with parenting intervention programs. By examining these relations in a sample of participants enrolled in a business-as-usual control condition, the current study seeks to provide information about how parents' behavior and cognitions naturally change over time without the additional support and education offered through intervention.

Research Questions

The current study draws from data that was collected as part of a longitudinal randomized controlled trial to examine the efficacy of the Family Check-Up for families of early elementary school students (U.S. Department of Education grant R324A130002; PI E. Stormshak). Parent-child dyads were assessed at multiple time points between when children entered kindergarten and finished second grade. Specific research questions are as follows:

(1) Are changes in parents' use of positive parenting practices (observed) associated with changes in parents' perceptions of their use of positive parenting practices (reported) between baseline and when children are in second grade?

(1a) Are these associations moderated by child behavior?

(2) Are changes in parents' use of positive parenting practices (observed) associated with changes in parenting self-efficacy between baseline and when children are in second grade?

    (2a) Are these associations moderated by child behavior?

(3) Are changes in parents' perceptions of their use of positive parenting practices (reported) associated with changes in parenting self-efficacy between baseline and when children are in second grade?

    (3a) Are these associations moderated by child behavior?

II: METHOD

Participants

The participant sample for the original study was comprised of 365 parent-child dyads who were randomly assigned to participate in the Family Check-Up intervention condition or a business-as-usual control condition. For the purposes of the current study, in order to eliminate treatment effects, only participants from the business-as-usual control condition were examined. After accounting for missing data, data obtained from 157 parent-child dyads at Time 1 and 133 parent-child dyads at Time 2 was available for analysis in the current study. Participants were assessed at multiple time points between when children entered kindergarten, which will be referred to as Time 1, and finished second grade, which will be referred to as Time 2. Participating children were an average of 5.45 years old at baseline and 54% male. Primary caregivers were an average of 33.89 years old at baseline, mostly female (89.80%), and mostly white (73.20%). About 40% of the participating parents were employed full-time and 35% had completed some form of higher education in the form of junior college, standard college, and/or graduate or professional training. Children attended elementary schools in urban and suburban areas of the Pacific Northwest region of the United States. Approximately 65% of children were eligible for free or reduced-price lunch (Garbacz et al., 2018). Families were recruited based on their enrollment in public school programs and there were no inclusionary criteria requiring participants to be a part of any clinical or diagnostic groups. Most of the children in the sample (73.20%) did not have any identified developmental, behavioral, or medical problems. Speech/language delay was the most

common identification among the group for which a developmental, behavioral, or medical problem was reported. Demographic information is reported in Table 1.

Table 1

Demographic Information for Parents and Children (N = 157)

Parents		Children	
Characteristic	*M* or % (*SD*)	Characteristic	*M* or % (*SD*)
Age (years)	33.89 (6.83)	Age (years)	5.45 (0.50)
% Female	89.80	% Male	54.10
% White	73.20	% Speech/language delay	15.90
% Hispanic	14.00	% Developmental delay	5.10
% Employed full-time	41.40	% Learning disability	3.20
% with college degree	35.00	% ADHD	1.30

Note. ADHD = Attention-deficit/hyperactivity disorder.

Participants in both the treatment and business-as-usual control condition were assessed at baseline, at the end of kindergarten, at the end of first-grade, and at the end of second-grade. At each time point, therapists collected parent-reported information via paper/pencil survey and behavioral observation data via videotaped parent-child interactions. Behavioral data was coded by a team comprised of undergraduate students who were trained to criterion on the two behavioral coding systems.

Participants were recruited to participate in the Family Check-Up intervention program, a family-centered, strengths-based, and assessment-driven intervention model that aims to support parents' use of positive parenting practices and decrease coercive parent-child interactions (Dishion & Kavanagh, 2003). The current study includes those participants who were randomly assigned to the business-as-usual condition. These 157 parent-child dyads received traditional supports in the school setting and outside of

school. There were no significant differences between the intervention and control groups regarding the proportion of children who received special services in school or children who received mental health services (Garbacz et al., 2018).

Measures

Demographic survey. Parents provided demographic information via survey. Information collected included parent age, race/ethnicity, education level, employment status, and child age, race/ethnicity, and diagnoses. Information was also collected about alternate caregivers when applicable, household income, and financial stress.

Parent-reported parenting behavior. Parents' reports of their use of positive parenting practices were assessed using survey items at multiple time points throughout the study. Items were drawn and slightly adapted from the Parenting Young Children Measure (McEachern et al., 2012). The survey included 20 items asking parents to report on the frequency of their use of specific parenting strategies within the past month with five response options ranging from "Never" to "Very Often" (see Appendix A). Items were developed to align with the aims of the Family Check-Up intervention with the goal of assessing parents' use of positive parenting behaviors that are theoretically linked to effective outcomes for young children (McEachern et al., 2012). Items are grouped into four categories: quality time (e.g., "spend time with your child in ways that were fun for the both of you"), positive parenting (e.g., "notice and praise your child's good behavior"), proactive parenting (e.g., "break tasks into small steps"), and limit setting (e.g., "explain what you wanted your child to do in clear and simple ways"). For the current study, the four subscores were combined into a positive parenting composite

score. The alpha reliability for the composite score within the present sample was satisfactory (α = .76 at T_1 and α = .75 at T_2).

Observed parenting behavior. Parents' use of positive parenting practices was assessed at multiple time points throughout data collection via videotaped parent-child interactions using two behavioral coding systems: the Relationship Affect Coding System – 2K (RACS-2K; McWhirter & Winter, 2015) and the IES-Kindergarten Coder Impressions (COIMP, Kindergarten Study Coder Impressions, 2015). The Family Assessment Task (FAST) involved a 30 minute set of videotaped tasks the parent and child completed together in the home including five minutes of free-play with toys provided by the therapists, five minutes of clean-up, five minutes of a Duplo play task, five minutes of homework, and five minutes of book reading. The RACS – 2K is a microsocial coding system designed to capture parent and child physical and verbal behavior as well as affect by tracking both the topography (e.g., hit, talk, comply) and affective quality of parent-child interactions (e.g., anger, happy, neutral; Dishion et al., 2017). The COIMP is a global coding instrument designed to capture macro ratings of the parent-child interaction and was completed by coders immediately after they finished coding videos with the RACS – 2K. For the purposes of the current study, the COIMP was used to represent parents' observed use of positive parenting strategies during these videotaped interactions.

The COIMP includes questions related to general parenting behaviors such as engagement, sensitivity, and limit-setting (Kindergarten Study Coder Impressions, 2015). All items are rated on a nine-point Likert-type scale ranging from 1 = "Not at All" to 9 = "Very Much". Items were selected for analysis in the current study based on their

alignment with the items used to assess parents' self-reporting of their use of positive parenting practices. Selected items include both task-specific items (e.g., "Caregiver provides appropriate feedback for child compliance" during clean-up and "Caregiver uses strategies that are sensitive but not overly intrusive" during the Duplo task) as well as general items (e.g., "Does the caregiver seem to be responsive to the child's feelings?"). After eliminating items with insufficient variability from analyses, a total of 22 items were selected to represent observed use of positive parenting practices (see Appendix B). The alpha reliability for the selected items within the present sample was high (α = .92 at T_1 and α = .95 at T_2).

Parenting self-efficacy. Parents' parenting self-efficacy was measured using six items adapted from the Behavioral Self-Efficacy subscale of the Parenting Tasks Checklist (PTC; Sanders & Woolley, 2001). The items ask parents to rate their level of confidence in handling various child behavior problems (e.g., arguing, whining) on a scale of 1 to 100 with anchors at 0 ("I could not deal with it"), 50 ("I might be able to deal with it"), and 100 ("I'm certain I could deal with it", see Appendix C). The alpha reliability for the self-efficacy items within the present sample was high (α = .93 at T_1 and T_2).

Parent-reported child behavior problems. Child behavior was assessed using 26 items from the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997, see Appendix D). The SDQ contains items in each of the following categories: emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior (Goodman, 1997). For the current study, in order to get a composite problem behavior score, scores from all categories excepting prosocial behavior were

combined. The alpha reliability for the child problem behavior items within the present sample was satisfactory (α = .72 at T_1 and α = .74 at T_2). The scale total problem behavior scores also categorized participants into three classifications based on cutscores (i.e., "Normal" or not at risk for behavior problems, "Borderline" or at medium risk for behavior problems, and "Abnormal" or at high risk for behavior problems). Table 2 shows descriptive statistics for child problem behavior scores at Time 1.

Table 2

Descriptive Statistics for Child Problem Behavior using the SDQ (N = 157)

Characteristic	*M (SD)* or % (*n*)
Total problem behavior sore	8.73 (5.89)
% Not at risk for behavior problems	77.10 (121)
% Medium risk for behavior problems	14.60 (23)
% High risk for behavior problems	8.30 (13)

Research Design

The current study analyzed previously collected data from a longitudinal randomized control trial examining the efficacy of the Family-Check Up intervention. As a part of the study, participants in both the treatment and business-as-usual control conditions participated in data collection at multiple time points between when children entered kindergarten and completed second grade. At each time point, parents filled out survey items and participated in a videotaped interaction with their child at home.

Data Analysis

IBM SPSS Statistics 26 and Mplus (version 8.3) were used to analyze the data for the current study. Regarding missing data, maximum likelihood procedures, as

implemented in Mplus, were used to estimate the models and thus, all available data was used. A power analysis using G*Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009) was conducted to determine whether or not sufficient power would be present to detect effect sizes (Cohen, 1988). With regards to bivariate correlations, given a sample size of 157 and a two-tailed probability for a *p* value of .05, there was sufficient power (0.80) to detect a small-to-moderate effect size of 0.23.

Research Question 1. Are changes in parents' use of positive parenting practices (observed) associated with changes in parents' perceptions of their use of positive parenting practices (reported) between baseline and when children are in second grade?

Research Question 1a. Are these associations moderated by child behavior?

Analysis. To analyze relations between changes and positive parenting practices (observed) and positive parenting practices (reported), a cross-lagged panel analysis was used. Paths between and among positive parenting practices (observed) and positive parenting practices (reported) were analyzed across two time points: baseline (Time 1) and at the end of second grade (Time 2). For the cross-lagged paths, child behavior was examined as a moderator.

Research Question 2. Are changes in parents' use of positive parenting practices (observed) associated with changes in parenting self-efficacy between baseline and when children are in second grade?

Research Question 2a. Are these associations moderated by child behavior?

Analysis. To analyze relations between changes and positive parenting practices (observed) and parenting self-efficacy, a cross-lagged panel analysis was used. Paths between and among positive parenting practices (observed) and parenting self-efficacy

were analyzed across two time points: baseline (Time 1) and at the end of second grade (Time 2). For the cross-lagged paths, child behavior was examined as a moderator.

Research Question 3. Are changes in parents' perceptions of their use of positive parenting practices (reported) associated with changes in parenting self-efficacy between baseline and when children are in second grade?

Research Question 3a. Are these associations moderated by child behavior?

Analysis. To analyze relations between changes and positive parenting practices (reported) and parenting self-efficacy, a cross-lagged panel analysis was used. Paths between and among positive parenting practices (reported) and parenting self-efficacy were analyzed across two time points: baseline (Time 1) and at the end of second grade (Time 2). For the cross-lagged paths, child behavior was examined as a moderator.

III: RESULTS

Preliminary Analyses

Relations among key continuous study variables were examined using bivariate correlations. Descriptive statistics and correlation coefficients are presented in Table 3. Parent-reported parenting practices (r = .681, p < .01), observed parenting practices (r = .536, p < .05), parenting self-efficacy (r = .357, p < .01) , and child problem behavior (r = .722, p < .01) were all significantly positively correlated across time points. Additionally, parent-reported parenting practices at Time 1 were significantly positively correlated with parenting self-efficacy at Time 1 (r = .376, p < .01) and Time 2 (r = .325, p < .01). Parent-reported parenting practices at Time 2 were also significantly positively correlated with parenting self-efficacy at Time 1 (r = .372, p < .01) and Time 2 (r = .335, p < .01). Child problem behavior at Time 1 was significantly negatively correlated with observed parenting practices at Time 2 (r = -.341, p < .05), indicating that higher levels of child problem behavior at Time 1 were associated with lower levels of parents' observed use of positive parenting strategies at Time 2. Child problem behavior at Time 1 was significantly negatively correlated with parenting self-efficacy at Time 1 (r = .-.298, p < .01) and Time 2 (r = -.301, p < .01). Child problem behavior at Time 2 was also significantly negatively correlated with parenting self-efficacy at Time 1 (r = .-.183, p < .05) and Time 2 (r = .-.324, p < .01), indicating that higher levels of child problem behavior were associated with lower levels of parenting self-efficacy across time points.

Table 3

Bivariate Correlations and Descriptive Statistics for Parents' Self-Reported and Observed Use of Positive Parenting Practices, Parents' Self-Efficacy, and Child Problem Behavior Across Time Points (N = 157)

Variable	*M*	*SD*	1	2	3	4	5	6	7	8
1. Reported parenting practices (T_1)	12.07	1.69	-							
2. Reported parenting practices (T_2)	11.67	1.79	.681**	-						
3. Observed parenting practices (T_1)	149.40	19.17	-.034	.123	-					
4. Observed parenting practices (T_2)	152.00	26.03	-.218	-.200	.536*	-				
5. Parenting self-efficacy (T_1)	4.31	.70	.376**	.372**	.233	.135	-			
6. Parenting self-efficacy (T_2)	3.73	.94	.325**	.335**	-.089	-.268	.357**	-		
7. Child problem behavior (T_1)	8.73	5.89	-.086	.008	-.229	-.341*	-.298**	-.301**	-	
8. Child problem behavior (T_2)	8.57	6.31	-.032	-.032	-.175	-.207	-.183*	-.324**	.722**	-

Note. *$p < .05$, **$p < .01$.

Main Analyses

Study hypothesis were tested with cross-lagged autoregressive models with two observed variables measured at T_1 and T_2, and can be described with the following equations:

$$X_3 = \beta_1 X_1 + \beta_2 Y_1 + \varepsilon_X$$
$$Y_3 = \beta_3 Y_1 + \beta_4 X_1 + \varepsilon_Y$$

Here, X and Y are two different variables measured at the T_1 and T_2 assessment (e.g., observed parenting practices at T_1 and T_2 and self-reported parenting practices at T_1 and T_2). The autoregressive effects are represented by β_1 and β_3 and address the stability of the individual differences in the same measure across the two assessments. The cross-lagged effects are represented by β_2 and β_4 and represent the effect of one variable on another measured at a later occasion and are a direct test of the study hypotheses. T_1 measures were allowed to correlate with each other and T_2 measure were likewise allowed to correlate with each other. All models were just identified, so no information about model fit was available. To address follow-up moderation questions, separately for each hypothesis, the cross-legged effects were regressed on child behavior score and the multiplicative interaction term with the T_1 variable. A categorical version of the child behavior score, delineated at "no risk" and "medium/high risk" was used to decompose significant interaction terms. Mplus (version 8.3) was used to test the study hypothesis and were estimated with maximum likelihood, thus allowing for use of all available data.

Research Question 1. Table 4 and Figure 1 show the autoregressive and crossed-lagged effects for RQ1. The autoregressive effects are not a test of the study hypothesis, but the statistically significant estimates indicate both measures were stable from the T_1

to the T_2 assessment. Neither cross-lagged effect was significant indicating the null hypothesis for RQ1 is retained and we conclude changes in parents' use of positive parenting practices (observed) are not associated with changes in parents' perceptions of their use of positive parenting practices (reported) between Times 1 and 2. Thus, the results do not support the possibility of a causal effect in either direction from T_1 to T_2. Approximately 45% (R^2 = .454) of the variance in parents' self-reporting parenting practices and 10% (R^2 = .096) of the variance in parents' observed parenting practices was accounted for by the predictors.

Table 4. *Autoregressive and Crossed-Lagged Effects for RQ1*

	Estimate	SE	t-value	p-value
Autoregressive Effects				
Parenting practices (observed) at T_1 → Parenting practices (observed) at T_2 (β_1)	0.338	0.096	3.527	<.001
Parenting practices (reported) at T_1 → Parenting practices (reported) at T_2 (β_3)	0.655	0.060	10.830	<.001
Cross-Lagged Effects				
Parenting practices (reported) at T_1 → Parenting practices (observed) at T_2 (β_2)	0.043	0.081	0.533	.594
Parenting practices (observed) at T_1 → Parenting practices (reported) at T_2 (β_4)	0.026	0.080	0.326	.744

Note. Correlations between same measures at T1 and T2, variances, and residual variances not reported.

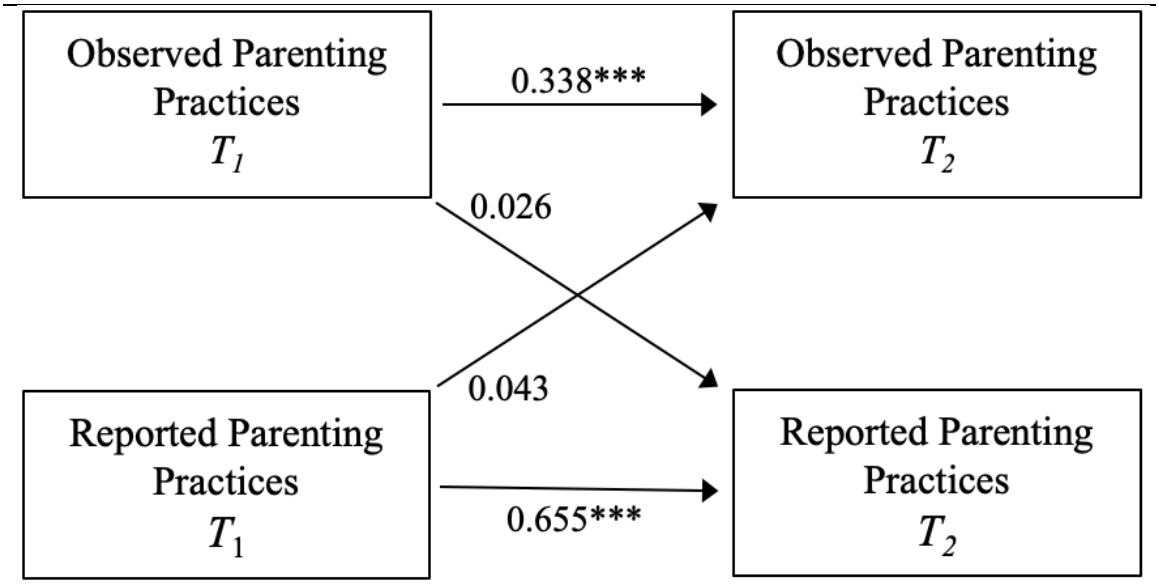


Figure 1. *Cross-lagged panel model: RQ1.*

Note. ***$p < .001$.

Test of moderation showed that child behavior problems did not significantly moderate the T_1 effects of reported parenting practices on T_2 observed parenting practices or T_1 observed parenting practices on T_2 reported parenting practices.

Research Question 2. Table 5 and Figure 2 show the autoregressive and crossed-lagged effects for RQ2. The autoregressive effects indicate both measures were stable from the T_1 to the T_2 assessment. Neither cross-lagged effect was significant indicating the null hypothesis for RQ2 is retained and we conclude changes in parents' use of positive parenting practices (observed) are not associated with changes in parents' self-efficacy between Times 1 and 2. Thus, the results do not support the possibility of a causal effect in either direction from T_1 to T_2. Approximately 10% ($R^2 = .097$) of the variance in parents' observed parenting practices and 14% ($R^2 = .135$) of the variance in parents' self-efficacy was accounted for by the predictors.

Table 5. *Autoregressive and Crossed-Lagged Effects for RQ2*

	Estimate	SE	t-value	p-value
Autoregressive Effects				
Parenting practices (observed) at T_1 → Parenting practices (observed) at T_2 (β_1)	0.335	0.095	3.521	<.001
Parenting self-efficacy at T_1 → Parenting self-efficacy at T_2 (β_3)	0.491	0.110	4.470	<.001
Cross-Lagged Effects				
Parenting practices (observed) at T_1 → Parenting self-efficacy at T_2 (β_2)	-0.099	0.126	-0.792	.429
Parenting self-efficacy at T_1 → Parenting practices (observed) at T_2 (β_4)	0.012	0.097	0.128	.898

Note. Correlations between same measures at T1 and T2, variances, and residual variances not reported.

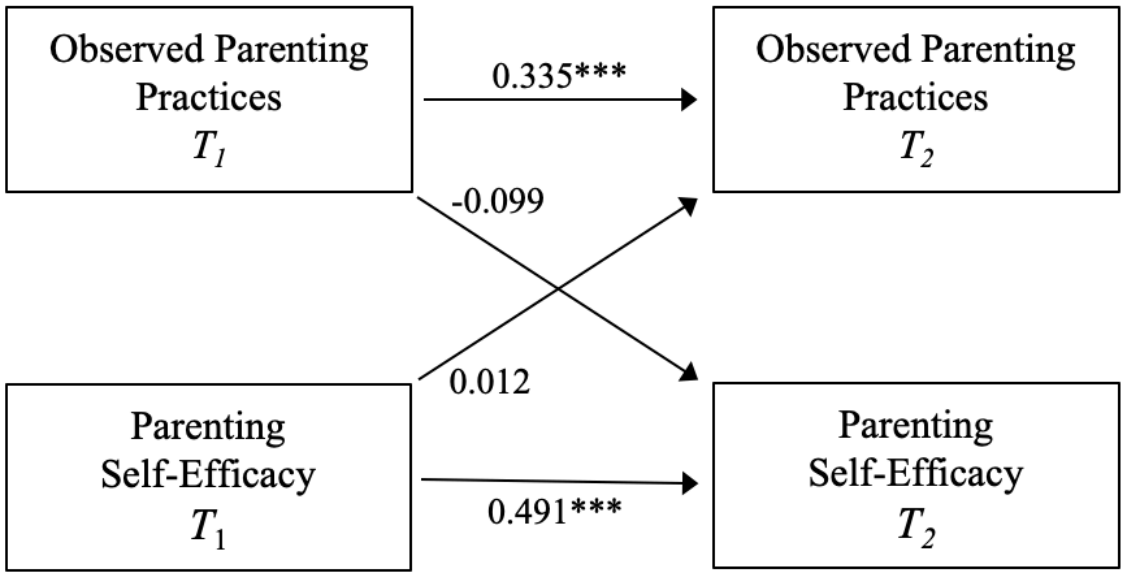


Figure 2. *Cross-lagged panel model: RQ2.*

Note. ***$p < .001$.

Test of moderation showed that child behavior problems did not significantly moderate the T_1 effects of parent self-efficacy on T_2 observed parenting practices, however, T_1 observed parenting practices on T_2 parent self-efficacy was moderated by child problem behavior (p = .035). Decomposition of the significant moderating effect showed the cross-lagged effect for T_1 observed parenting practices on T_2 parent self-efficacy was non-significant for children not at risk for behavior problems (estimate = 0.058, *SE* = 0.160, *t*-value = 0.363, *p*-value = .717), but was significant for children at medium or high risk for behavior problems (estimate = -0.542, *SE* = 0.128, *t*-value = -4.22, *p*-value = <.001). The significant estimate provided support for a causal effect for this group and showed that for a one-unit increase in parent observed practices at T_1 there was approximately a half-standard deviation decrease in parent self-efficacy at T_2.

Research Question 3. Table 6 and Figure 3 show the autoregressive and crossed-lagged effects for RQ3. The autoregressive effects indicate both measures were stable from the T_1 to the T_2 assessment. The cross-lagged effect for T_1 reported parenting practices and T_2 parenting self-efficacy was statistically significant (*p*-value = .014), and thus, we find support for the possibility of a causal effect between parents' perceptions of their use of positive parenting practices with changes in parenting self-efficacy. For each one unit increase in reported parenting practices at T_1, parent's reported self-efficacy was approximately a quarter standard deviations greater at T_2. It is noteworthy that the cross-lagged effect between parenting self-efficacy at T_1 and reported parenting practices at T_2 was significant at *p*-value <.10. Approximately 47% (R^2 = .465) of the variance in parents' reported parenting practices and 16% (R^2 = .160) of the variance in parents' self-efficacy was accounted for by the predictors.

Table 6. *Autoregressive and Crossed-Lagged Effects for RQ3*

	Estimate	SE	t-value	p-value
Autoregressive Effects				
Parenting practices (reported) at T_1 → Parenting practices (reported) at T_2 (β_1)	0.608	0.064	9.436	<.001
Parenting self-efficacy at T_1 → Parenting self-efficacy at T_2 (β_3)	0.368	0.117	3.141	.002
Cross-Lagged Effects				
Parenting practices (reported) at T_1 → Parenting self-efficacy at T_2 (β_2)	0.249	0.102	2.447	.014
Parenting self-efficacy at T_1 → Parenting practices (reported) at T_2 (β_4)	0.125	0.074	1.686	.092

Note. Correlations between same measures at T1 and T2, variances, and residual variances not reported.

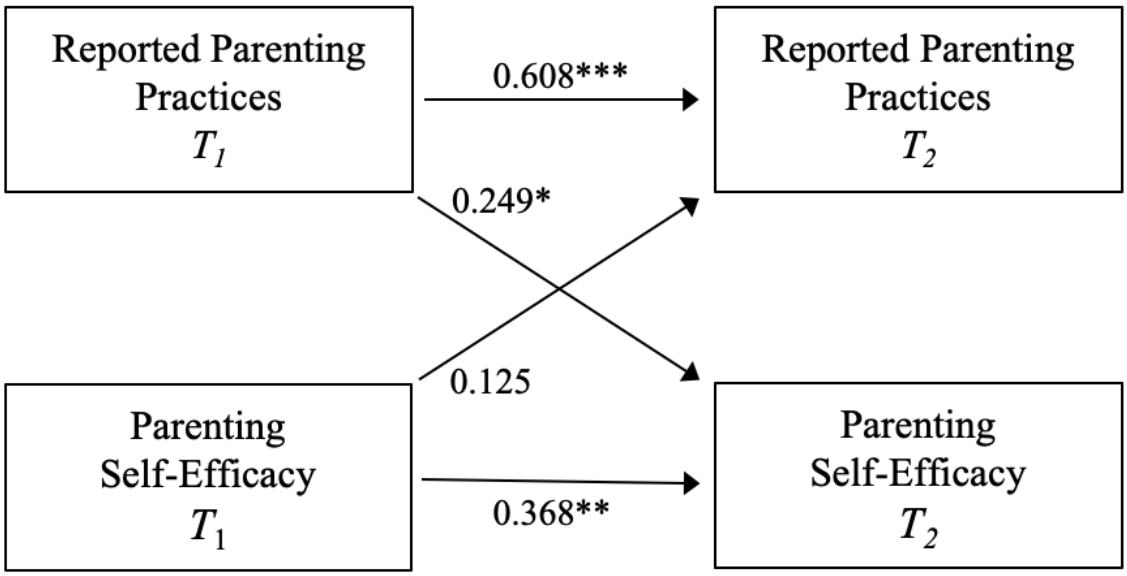


Figure 3. *Cross-lagged panel model: RQ3.*

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

Test of moderation showed that child behavior problems did not significantly moderate the T_1 effects of reported parenting practices on T_2 parent self-efficacy,

however, T_1 parenting self-efficacy on T_2 parent reported parenting practices was moderated by child problem behavior (*p*-value = .004). Decomposition of the significant moderating effect showed the cross-lagged effect for T_1 parenting self-efficacy on T_2 reported parenting practices was non-significant for children at medium or high risk for behavior problems (estimate = 0.058, *SE* = 0.160, *t*-value = 0.363, *p*-value = .717), but was significant for children at low risk for behavior problems (estimate = 0.225, *SE* = 0.088, *t*-value = 2.87, *p*-value = .004). The significant estimate provided support for a causal effect for this group and showed that for a one-unit increase in parent self-efficacy at T_1 there was approximately a half-standard deviation increase in reported parenting practices at T_2.

III: DISCUSSION

The current study examined the associations between changes in parents' reported use of positive parenting practices, their observed use of positive parenting practices, and parenting self-efficacy using a sample of 157 parents and their early elementary-aged children enrolled in a business-as-usual control condition of a larger intervention study. Cross-lagged panel models were used to analyze whether causal relationships existed between observed parenting practices at Time 1 (when children entered kindergarten) and reported parenting practices at Time 2 (when children finished second grade), as well as between observed and reported parenting practices at Time 1 and parenting self-efficacy at Time 2. Child behavior was examined as a moderator for each cross-lagged path. Data indicated that within the current sample, all three of the parenting variables examined (i.e., observed positive parenting practices, reported positive parenting practices, and parenting self-efficacy) remained stable over time.

Research Question 1. **Are changes in parents' use of positive parenting practices (observed) associated with changes in parents' perceptions of their use of positive parenting practices (reported) between baseline and when children are in second grade?**

The first primary hypothesis was that changes in parents' observed use of positive parenting practices would be associated with similar changes in their reported use of positive parenting practices. Results showed that the cross-lagged effect of observed parenting practices at Time 1 on reported parenting practices at Time 2 as well as the cross-lagged effect of reported parenting practices at Time 1 on observed parenting practices at Time 2 were not significant. In addition, bivariate correlations between

observed and reported use of positive parenting practices were not significant across time points. These results align with prior research indicating that parents perceptions of their parenting practices are not necessarily reflective of their parenting behavior (Swenson et al., 2016). Additionally, these results indicate that as parents change their behavior, they are not experiencing significant associated changes in their perceptions of their parenting behavior or vice versa. These findings suggest that parents' knowledge of positive parenting practices (i.e., parenting strategies that are theoretically linked to positive child outcomes) may be insufficient for them to accurately report on their own use of such strategies or for them to accurately be aware of changes in their use of such strategies.

Research Question 1a. **Are these associations moderated by child behavior?**

Results show that child behavior did not significantly moderate either cross-lagged effect and indicate that the presence of child problem behavior does not alter the strength of the effect of parents' observed use of positive parenting practices at Time 1 on parents' reported use of positive parenting practices at Time 2 or the effect of parents' reported use of positive parenting practices at Time 1 on parents' observed use of positive parenting practices at Time 2.

Research Question 2. **Are changes in parents' use of positive parenting practices (observed) associated with changes in parenting self-efficacy between baseline and when children are in second grade?**

The second primary hypothesis was that changes in parents' observed use of positive parenting practices would be associated with similar changes in parenting self-efficacy. Results showed that the cross-lagged effect of observed parenting practices at Time 1 on parenting self-efficacy at Time 2 as well as the cross-lagged effect of

parenting self-efficacy at Time 1 on observed parenting practices at Time 2 were not significant. These results suggest that as parents change their behavior, they are not experiencing significant associated changes in their self-efficacy or vice versa. Bivariate correlations between observed positive parenting practices and parenting self-efficacy were also not significant across time points. These findings align with prior research suggesting that parents who use more positive parenting strategies do not necessarily feel more efficacious in comparison to parents who use lower levels of positive parenting strategies and that parents who feel more efficacious do not necessarily use higher levels of positive parenting strategies than parents who feel less efficacious (Brody et al., 1999). Though parents who feel less efficacious may be more motivated to seek out support, these findings suggest that parents who feel more efficacious also stand to benefit from parent education and support and are worth targeting for intervention.

Research Question 2a. **Are these associations moderated by child behavior?**

Results show that child behavior did not significantly moderate the effect of parenting self-efficacy at Time 1 on parents' observed use of positive parenting practices at Time 2, indicating that the presence of child problem behavior does not alter the strength of the effect of parenting self-efficacy on later observed positive parenting practices. However, results show that child behavior did significantly moderate the effect of observed positive parenting practices at Time 1 on parenting self-efficacy at Time 2 (p = .035). Notably, this moderating effect was significant for children at medium or high risk for behavior problems (estimate = -0.542, SE = 0.128, t-value = -4.22, p-value = <.001), but was non-significant for children not at risk for behavior problems (estimate = 0.058, SE = 0.160, t-value = 0.363, p-value = .717). Results indicate that among parents

of children at medium or high risk for behavior problems in particular, increases in observed use of positive parenting practices were associated with decreased levels of parenting self-efficacy later on. This aligns with prior research suggesting that the presence of child problem behavior can negatively impact parents' self-efficacy (Sanders & Woolley, 2005). These findings also suggest that parents who are experiencing child behavior problems despite their use of positive parenting strategies may be at higher risk for experiencing decreases to their parenting self-efficacy over time. This group may represent parents who feel that they have "tried everything" and may even represent parents who have already accessed some form of parent education or training and are still not seeing desired behavior change in their children. The results of this study suggest that parents who engage in high levels of positive parenting practices with children who exhibit higher levels of problem behavior may benefit from intervention and support surrounding their feelings of parenting self-efficacy.

Research Question 3. **Are changes in parents' perceptions of their use of positive parenting practices (reported) associated with changes in parenting self-efficacy between baseline and when children are in second grade?**

The third primary hypothesis was that changes in parents' reported use of positive parenting practices would be associated with similar changes in parenting self-efficacy. Results showed that the cross-lagged effect of reported parenting practices at Time 1 on parenting self-efficacy at Time 2 was statistically significant (p-value = .014), indicating a causal effect between parents' reports of their parenting practices and later self-efficacy. Increases in parents' reports of their use of positive parenting practices at Time 1 were associated with increases in parents' self-efficacy at Time 2. In addition, the

cross-lagged effect of parenting self-efficacy at Time 1 on reported parenting practices at Time 2 approached statistical significance (p-value = 0.092), suggesting that as parents experience changes in their parenting self-efficacy, they experience associated changes in their perceptions of their use of positive parenting practices. Given that both cross-lagged effects were either statistically significant or approaching statistical significance, there is support for the presence of a causal effect for both paths, although more robust evidence exists supporting the causal effect between parents' reported use of positive parenting practices at Time 1 on parenting self-efficacy at Time 2. These findings suggest that parents who perceive and report that they are implementing increased levels of positive parenting practices are more likely to experience increased parenting self-efficacy. The fact that this association exists for parents' reported use of positive parenting practices, but not for parents' observed use of positive parenting practices indicates that parents perceptions of their parenting behavior may matter more than their actual parenting behavior when considering parenting self-efficacy. These findings suggests that changing parents' perceptions of their parenting behavior may be an effective way to intervene upon parenting self-efficacy, even in the absence of behavioral change.

Research Question 3a. **Are these associations moderated by child behavior?**

Results show that child behavior did not significantly moderate the effect of parents' reported use of positive parenting practices at Time 1 on parenting self-efficacy at Time 2, indicating that the presence of child problem behavior does not alter the strength of the effect of reported parenting practices on later self-efficacy. However, results show that child behavior did significantly moderate the effect of parenting self-efficacy at Time 1 on reported positive parenting practices at Time 2 (p = .004). Notably,

this moderating effect was significant for children not at risk for behavior problems (estimate = 0.225, *SE* = 0.088, *t*-value = 2.87, *p*-value = .004), but was non-significant for children at medium or high risk for behavior problems (estimate = 0.058, *SE* = 0.160, *t*-value = 0.363, *p*-value = .717). These results provided support for a causal effect, indicating that among parents of children not at risk for behavior problems in particular, increases in parenting self-efficacy were associated with increased levels of reported use of positive parenting practices later on. These findings suggest that parents who feel efficacious and do not experience problem behavior in their children may be most likely to experience positive changes in the ways that they perceive and report on their use of positive parenting practices. Parents who feel efficacious and do not experience problem behavior in their children may also be more motivated to increase their use of positive parenting practices, likely because the strategies are effective for them in preventing or limiting problem behavior in their children. This aligns with prior research supporting this link between parenting self-efficacy and child behavior and that parents who feel more efficacious are more likely to seek out parenting education (Mouton & Roskam, 2005; Spoth & Conroy, 1993).

Implications for Practice

Implications of the current study emphasize the fact that links between parent cognitions and behavior are complex and not well understood, highlighting the need for more research investigating links between parents' observed and reported behavior and parenting self-efficacy. There is ample evidence to support the effect of positive parenting behavior as well as the effect of parent-focused intervention programs on promoting positive behavioral outcomes for children. In order to better understand how

parenting behavior and cognitions change in positive ways, the current study examined the associations between observed parenting practices, reported parenting practices, parenting self-efficacy, and child behavior in a sample of 157 parent-child dyads exposed to business-as-usual supports.

Findings indicate that there are discrepancies between parents observed and reported use of positive parenting practices and that parents may not have knowledge of what constitutes positive parenting or an accurate awareness of their use of parenting strategies that are considered to be positive and effective. This finding suggests that by measuring either reported or observed parenting practices in research or clinical settings, we may be capturing an accurate representation of either parents' use of positive parenting strategies *or* parents' perceptions regarding their use of positive parenting strategies, but not necessarily both. Understanding parents' behavior as well as their perceptions of their behavior may represent a particularly important component of intervention as it allows for a better understanding of how parents' knowledge and understanding of positive parenting practices aligns with their behavior.

Findings also indicate that over time, parents' observed use of positive parenting strategies does not significantly influence their parenting self-efficacy or vice versa. Further, parents who experienced increases in their observed use of positive parenting practices experienced decreases in their parenting self-efficacy over time. This effect was stronger for parents of children at risk for behavior problems and suggests that for parents of children with higher levels of problem behavior, positive changes in parenting behavior are not necessarily met with positive changes in parenting self-efficacy. Given the fact that higher levels of parenting self-efficacy have been linked to increased quality

of parent-child interactions (Tucker et al., 1998) and intervention engagement (Garvey, Julion, Fogg, Kratovil, & Gross, 2006), while lower levels of parenting self-efficacy have been linked to parents' use of coercive discipline (Bugental & Cortez, 1988), it may be important for clinicians and interventionists to track both positive parenting practices as well as parenting self-efficacy. It is important that those working with parents understand that even when using positive parenting strategies, parents of children with higher levels of problem behavior are at increased risk for experiencing decreased self-efficacy, which may cause them to lose the motivation to engage in positive parenting strategies.

Additionally, findings of the current study show that increases in parents' reported use of positive parenting strategies caused increases in parents' self-efficacy at a later time point. Further, increases in parenting self-efficacy were associated with increased parent-reported use of positive parenting strategies at a later time point. This effect was stronger for parents of children not at risk for behavior problems and suggests that by intervening upon parents' behavior, clinicians may be able to positively alter parents' feelings of self-efficacy. These findings also suggest that by increasing parenting self-efficacy, clinicians may be able to indirectly and positively affect parents' use of positive parenting strategies. However, an important consideration to note is that parents of children at risk for problem behavior may not experience the same positive effects on their parenting behavior after experiencing increases to their parenting self-efficacy. This evidence supports the need for clinicians to differentiate parent support for parents of children with and without problem behavior.

Limitations & Future Directions

Despite the contributions of the current study to the literature on associations between parent cognitions and behavior, the present study is not without limitations. First, data for the current study was drawn from a larger, longitudinal, randomized controlled trial study, meaning that that data available for analysis in the current study was limited to what was originally collected and could not be informed by the aims or research questions of the current study. Regarding measures, items used to assess parents' observed and reported use of positive parenting practices were selected from the survey and coding items that were available. While there was an attempt to select items that assessed similar constructs (e.g., "caregiver praises and provides support for the child's effort with the task" in the COIMP and "Thinking about your parenting within the last month, did you notice and praise your child's good behavior?" in the parent survey), these measures were not perfectly aligned, nor designed to assess identical behaviors. Given the fact that these measures assessed similar, but different, behaviors, comparisons of parents' observed and reported use of positive parenting practices should be interpreted with caution. Future research should aim to develop direct observation and self-report measures of positive parenting practices that are more closely aligned in order to provide more interpretable findings.

Further, it is important to note that participants were relatively homogenous in terms of their demographic features. Additionally, most child participants were identified as not at risk for behavior problems. Taking these factors into consideration, there was a restricted range of variability within the data. Future research should aim to replicate the current study with children who engage in more variable levels of problem behavior,

especially given the findings that the current study yielded suggesting that parents of children with and without behavior problems experience changes in their parenting cognitions and practices differently. Since children generally did not engage in high levels of problem behavior, the interpretability of some coding and survey data is also limited. For example, given the fact that few children engaged in high levels of problem behavior in the videotaped parent-child interactions, most parents within the sample engaged in high levels of positive parenting practices. Based on the literature surrounding child problem behavior, parents may have been more likely to engage in harsh or coercive parenting practices in the presence of child problem behavior, which may have produced more variability in parent observation data.

In addition, items on the parenting self-efficacy measure were used to assess parents' level of confidence in handling various child problem behaviors. Given that this sample as a whole engaged in low levels of problem behavior, data gathered from the parenting self-efficacy items may be less relevant. Future studies should include more self-efficacy items which assess parents' level of confidence in implementing positive parenting practices without necessitating the presence of child problem behavior. Regarding child behavior, a limitation of the current study is that child behavior was only assessed via parent report. In order to gather a more accurate representation of a child's behavior, future studies should obtain data from multiple informants or complement parent-reported data with direct observation data. For all parent-reported variables including parents' reported use of their use of positive parenting practices, parenting self-efficacy, and child behavior, there is opportunity for bias and inaccuracy.

An interesting aspect of the current study is that it involved participants enrolled in a business-as-usual control condition. Data for participants in the current sample reflected that their observed parenting practices, reported parenting practices, and self-efficacy remained relatively stable over time. Given that the current study aimed to assess how changes in one variable are associated with changes in another, this study would be worth replicating using a sample exposed to some parent education or intervention program. This may allow for more robust findings regarding how these variables change over time.

Finally, the current study analyzed data from 157 parent-child dyads between when children entered kindergarten and finished second grade. While this time represents a particularly formative and important stage of development for children, future studies should aim to assess whether changes in parenting cognitions and practices look different for parents of children at different developmental stages and/or over a longer period of time. With a larger, more representative and heterogeneous sample assessed at multiple time points over a longer span of time, more complex path analysis models may be used to more accurately assess relationships and associations between variables as they change over time.

Conclusion

Limitations notwithstanding, the current study contributes to the limited literature examining associations between parenting cognitions and practices. Results indicated that changes in parents' observed use of positive parenting practices were not associated with changes in parents' self-reported use of positive parenting practices. Changes in parents' observed use of positive parenting practices were also not associated with changes in

parents' self-efficacy. Child behavior did significantly moderate the effects of observed parenting practices on later parenting self-efficacy. This moderating effect was stronger for parents of children at risk for behavior problems than for parents of children not at risk for behavior problems. Changes in parents' self-reported use of positive parenting practices were associated with changes in parents' self-efficacy, supporting a causal relationship of higher levels of self-reported use of positive parenting practices on later levels of parents' self-efficacy. Child behavior did significantly moderate the effects of parenting self-efficacy on later positive parenting practices. This moderating effect was stronger for parents of children not at risk for behavior problems than for parents of children at risk for behavior problems.

Given the influence of positive parenting on promoting favorable long-term outcomes for children and the wealth of literature supporting the link between parent-focused interventions and positive changes in child behavioral outcomes, it is necessary to further investigate how parents' behavior and cognitions change over time. In doing so, researchers and clinicians can better understand how parent behavioral change occurs and use this information to inform intervention recruitment and treatment.

APPENDIX A: POSITIVE PARENTING SURVEY ITEMS

Thinking about parenting your child in the past month, did you…

Quality Time:

	Never	Rarely	Sometimes	Often	Very Often
Spend time with your child in ways that were fun for both of you?	O	O	O	O	O
Stand back and let your child work through problems that s/he might be able to solve (such as doing difficult homework)?	O	O	O	O	O
Do an enjoyable activity together?	O	O	O	O	O
Help your child learn a new skill (e.g., sports, cooking, etc.)?	O	O	O	O	O
Involve your child in household chores?	O	O	O	O	O

Positive Parenting:

	Never	Rarely	Sometimes	Often	Very Often
Notice and praise your child's good behavior?	O	O	O	O	O
Reward your child when s/he did something well or practiced a new skill?	O	O	O	O	O

Proactive Parenting:

	Never	Rarely	Sometimes	Often	Very Often
Avoid struggles with your child by giving clear choices (e.g., offering a choice between different activities)?	O	O	O	O	O
Warn your child before a change of activity was required?	O	O	O	O	O
Plan ways to prevent problem behavior (e.g., limiting contact with certain friends, not leaving your child unsupervised while doing certain activities)?	O	O	O	O	O

Give reasons for your requests (e.g., "You need to wash your hands to keep from getting sick")?	O	O	O	O	O
Use humor when trying to get your child to follow through with everyday tasks or responsibilities?	O	O	O	O	O
Break tasks into small steps ("Please make your bed and pick up your dirty laundry", rather than "Clean up your room")?	O	O	O	O	O
Prepare your child for a challenging situation (such as starting a new school or going into a stressful situation)?	O	O	O	O	O

Limit Setting:

	Never	**Rarely**	**Sometimes**	**Often**	**Very Often**
Speak calmly with your child when you were upset with him/her?	O	O	O	O	O
Stick to your rules and not change your mind?	O	O	O	O	O
Explain what you wanted your child to do in clear and simple ways?	O	O	O	O	O
Tell your child what you would like him/her to do when s/he is doing something you don't like?	O	O	O	O	O
Tell your child how you expected him/her to behave (such as at a family gathering)?	O	O	O	O	O
Set rules on your child's problem behavior that you were willing to enforce?	O	O	O	O	O
Make sure your child followed the rules that you set?	O	O	O	O	O

APPENDIX B: CODER IMPRESIONS (COIMP) ITEMS

A. Free play

Is the caregiver in-sync or engaged with the child (e.g. focused on the same task/toy; this can include a parent who is sitting back quietly but is attentive to the child)

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

Is the caregiver in-sync with the child's emotions (e.g. demonstrates warmth; attempts to make the task an overall positive experience; manages and/or responds to child's cues)

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

B. Cleanup

Caregiver provides appropriate feedback for child compliance (e.g. praise like "good job cleaning up so quickly!")

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

C. Duplo

Caregiver uses strategies to assist the child that are sensitive but not overly intrusive (e.g., guides and encourages; verbal structure without being overly directive; allows child to work through the problems on their own)

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

Caregiver praises and provides support for the child's **effort** with the task, no matter if the child's answers are right or wrong (e.g. caregiver is not focusing on the final product; "you're working so hard to finish this!"

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

D. Homework

Caregiver stimulates cognition and learning (e.g. parent teaches what math symbols mean; uses big word, then explains its meaning)

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

Is the caregiver in-sync or engaged with the child (e.g. focused on the same task/toy; this can include a parent who is sitting back quietly but is attentive to the child)

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

Is the caregiver in-sync with the child's emotions (e.g. demonstrates warmth; attempts to make the task an overall positive experience; manages and/or responds to child's cues)

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

Caregiver praises and provides support for the child's **effort** with the task, no matter if the child's answers are right or wrong (e.g. caregiver is not focusing on the final product; "you're working so hard to finish this!"

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

E. Book

Caregiver asks questions and uses other strategies (e.g., commenting, providing examples, pointing) to involve child in book-reading

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

F. General Family Interaction

Does the caregiver encourage positive child behavior with praise and/or incentives? (e.g. "good job!; "keep going like that and you'll be an expert")

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

Does the caregiver set limits firmly and sensitively? (i.e. without using aversive control techniques such as yelling, anger, criticism, threats)

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

Does the caregiver follow through with requests or directives to assure compliance and/or cooperation? (e.g. parent gives command and if child doesn't comply the parent continues to direct the child until they have done what the parent asked; parent asks child to put a toy away and continues to do so if child doesn't comply immediately)

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

Is the caregiver appropriately contingent in responding to positive or compliant child behavior? (e.g. praising child for following a direction; generally positive when child is pro-social/obedient; praises or encourages child's efforts)

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

Does the caregiver give the child choices? ("What toy would you like to play with?"; "Shall we play with the kitchen set first, or the animals first?"

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

Does the caregiver communicate to the child in calm, simple and clear terms? (e.g. doesn't use big words that the child doesn't understand; communicates what they want to the child clearly; doesn't get annoyed/frustrated with the child)

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

Does the caregiver give understandable, age appropriate reasons for behavior change?

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

Does the caregiver adjust or define the situation so as to assure the child's interest, success and comfort (e.g. making a game, reframing the activity, explains concept in a different way if child doesn't understand)

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

Does the caregiver redirect the child to more appropriate behavior if the child becomes off task, uncooperative or misbehaves? (e.g. child leaves room and parent calls the child back in and tells them to sit down; child starts complaining during a focused task, parent says "no, it's time to do this activity now")

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

Does the caregiver seem to be responsive to the child's feelings? (e.g. "I know you're getting frustrated"; "don't worry, you don't need to get it exactly right!")

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

Does the caregiver use verbal structuring to make the task manageable? (e.g. dad says "lets first take all the blocks out of the bucket, then look for the biggest pieces, then we can find the smaller ones")

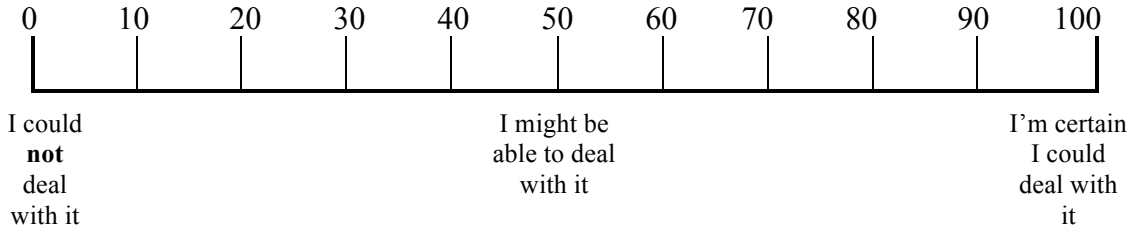
Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

Does the caregiver show affection and/or love for the child during the observation session? (e.g. parent smiles; general overall warmth; positive physical contact)

Not at All				Somewhat				Very Much
1	2	3	4	5	6	7	8	9

APPENDIX C: PARENTING SELF-EFFICACY SURVEY ITEMS

For the next 6 items, please use the following scale from 0 to 100.



1. Your child refuses to do what he/she has been told _____

2. Your child gets upset when he/she does not get his/her own way _____

3. Your child acts defiantly when asked to do something _____

4. Your child argues with you about rules _____

5. Your child constantly seeks attention _____

6. Your child whines _____

APPENDIX D: CHILD BEHAVIOR SURVEY ITEMS

For each of the following items, please fill in the bubble for Not True, Somewhat True, or Certainly True. Please answer all of the items considering what has happened in the **last month** as best as you can, even if you are not absolutely certain.

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	O	O	O
Restless, overactive, cannot stay still for long	O	O	O
Often complains of headaches, stomach-aches, or sickness	O	O	O
Shares readily with other youth, for example, books, games, food	O	O	O
Often loses temper	O	O	O
Would rather be alone than with other youth	O	O	O
Generally well behaved, usually does what adults request	O	O	O
Many worries or often seems worried	O	O	O
Helpful if someone is hurt, upset or feeling ill	O	O	O
Constantly fidgeting or squirming	O	O	O
Has at least one good friend	O	O	O
Often fights with other youth or bullies them	O	O	O
Often unhappy, depressed or tearful	O	O	O
Generally liked by other youth	O	O	O
Easily distracted, concentration wanders	O	O	O
Nervous in new situations, easily loses confidence	O	O	O
Kind to younger children	O	O	O
Often lies or cheats	O	O	O
Picked on or bullied by other youth	O	O	O
Often offers to help others (parents, teachers, children)	O	O	O
Thinks things out before acting	O	O	O
Steals from home, school, or elsewhere	O	O	O
Gets along better with adults than with other youth	O	O	O

Many fears, easily scared	O	O	O
Good attention span, sees work through to the end	O	O	O
Gets along well with siblings	O	O	O

REFERENCES CITED

Bandura, A. (1971). Social learning theory. New York City, NY: General Learning Press.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215.

Bandura, A. (1989). Regulation of cognitive processes through perceived self-efficacy. *Developmental Psychology, 25*, 729–735.

Bronfenbrenner, U. (1979). Contexts of child rearing: Problems and prospects. *American Psychologist, 34*, 844–850.

Brody, G.H., Flor, D.L., & Morgan Gibson, N. (1999). Linking maternal efficacy beliefs, developmental goals, parenting practices, and child competence in rural single-parent African American families. *Child Development, 70*(5), 1197–1208.

Bugental, D.B. & Cortez, V. (1988) Physiological reactivity to responsive and unresponsive children as modified by perceived control. *Child Development, 59*, 686–693.

Conrad, B., Gross, D., Fogg, L., & Ruchala, P. (1992). Maternal confidence, knowledge, and quality of mother-toddler interactions: A preliminary study. *Infant Mental Health Journal*, *13*(4), 353–362.

Campbell, S.B., Pierce, E.W., Moore, G., Marakovitz, S., & Newby, K. (1996). Boys' externalizing problems at elementary school: Pathways from early behavior problems, maternal control, and family stress. *Development and Psychopathology, 8*, 701–720.

Dawson-McClure, S., Calzada, E., Huang, K., Kamboukos, D., Rhule, D., Kolawole, B., & Brotman, L.M. (2015). A population-level approach to promoting healthy child development and school success in low- income, urban neighborhoods: Impact on parenting and child conduct problems. *Prevention Science, 16*, 279–290.

Dishion, T.J., Mun, C.J., Tein, J.Y., Kim, H., Shaw, D.S., Gardner, F., Wilson, M.N., & Peterson, J. (2017). The validation of macro and micro observations of parent–child dynamics using the Relationship Affect Coding System in early childhood. *Prevention Science, 18*(3), 268-280.

Dishion, T.J., & Kavanagh, K. (2003). Intervening with adolescent problem behavior: A family centered approach. New York, NY: Guilford.

Dishion, T. J., Shaw, D.S., Connell, A., Gardner, F.E.M., Weaver, C., & Wilson, M. (2008). The Family Check-Up with high-risk indigent families: Preventing problem behavior by increasing parents' positive behavior support in early childhood. *Child Development, 79,* 1395–1414.

Dishion, T.J., & Stormshak, E.A. (2007). Intervening in children's lives: An ecological, family-centered approach to mental health care. Washington, DC: American Psychological Association.

Dishion, T.J., Stormshak, E.A., & Kavanagh, K. (2011). Everyday parenting: A therapist's guide for supporting family management practices. Champaign, IL: Research Press.

Eisenberg, N., Fabes, R.A., & Murphy, B.C. (1996). Parents' reactions to children's negative emotions: Relations to children's social competence and comforting behavior. *Child Development, 67*, 2227–2247.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149-1160.

Forgatch, M.S., & Patterson, G.R. (2010). Parent Management Training—Oregon Model: An intervention for antisocial behavior in children and adolescents. Evidence-based psychotherapies for children and adolescents (Vol. 2, pp. 159–178). New York, NY: Guilford Press.

Garbacz, S.A., McIntyre, L.L., Stormshak, E.A., & Kosty, D.B. (in press). The efficacy of the Family Check-Up on children's emotional and behavior problems in early elementary school. *Journal of Emotional and Behavioral Disorders*.

Garvey, C., Julion, W., Fogg, L., Kratovil, A., & Gross, D. (2006). Measuring participation in a prevention trial with parents of young children. *Research in Nursing & Health, 29*, 212-222.

Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry, 38*, 581–586.

Goodman, R. (2001). Psychometric properties of the Strengths and Difficulties Questionnaire (SDQ). *Journal of the American Academy of Child and Adolescent Psychiatry, 40*, 1337–1345.

Goodman, R., & Scott, S. (1999). Comparing the Strengths and Difficulties Questionnaire and the Child Behavior Checklist: Is small beautiful? *Journal of Abnormal Child Psychology, 27*(1), 17–24.

Gross, D. & Rocissano, L. (1988) Maternal confidence in toddlerhood: its measurement for clinical practice and research. *Nurse Practitioner, 13*, 19–29.

Hong, J.S., Tillman, R., & Luby, J.L. (2015). Disruptive behavior in preschool children: Distinguishing normal misbehavior from markers of current and later childhood conduct disorder. *The Journal of Pediatrics, 166*, 723–30.

Masten, A.S., & Cicchetti, D. (2010). Developmental cascades. *Development and Psychopathology, 22*, 491–495.

McWhirter, A.C. & Winter, C. (2015). *Updated Relationship Affect Coding System – Version 2 Kindergarten (RACS-2K)*. An updated version of the original RACS: Peterson, J., Winter, C., Jabson, J. M., & Dishion, T. J. (2008). Relationship affect coding system. Unpublished coding manual, University of Oregon, Prevention Science Institute, Eugene, OR.

Mouton, B., & Roskam, I. (2015). Confident mothers, easier children: A quasi-experimental manipulation of mothers' self-efficacy. *Journal of Child and Family Studies, 24*(8), 2485–2495.

Kindergarten Study Coder Impressions (2015). Unpublished instrument. Prevention Science Institute, University of Oregon, Eugene, Oregon. Developed utilizing coder impressions from: Oregon Parenting Project Coder Impressions (2011), Early Steps Coder Impressions (ESCOIM) (2003), Unpublished instruments. Prevention Science Institute, University of Oregon, Eugene, Oregon.

Lavigne, J.V., Gibbons, R.D., Christoffel, K.K., Arend, R., Rosenbaum, D., Binns, H., & Isaacs, C. (1996). Prevalence rates and correlates of psychiatric disorders among preschool children. *Journal of the American Academy of Child & Adolescent Psychiatry, 35*, 204–214.

McEachern, A.D., Dishion, T.J.,Weaver C.M., Shaw, D.S., Wilson, M.N., & Gardern F. (2012). Parenting Young Children (PARYC): Validation of a Self-Report Parenting Measure. *Journal of Child and Family Studies*, *21*(3), 498-511.

Odgers, C.L., Moffitt, T.E., Broadbent, J.M., Dickson, N., Hancox, R. J., & Harrington, H. (2008). Female and male antisocial trajectories: From childhood origins to adult outcomes. *Development and Psychopathology, 20*, 673–716.

Orrell-Valente, J.K., Pinderhughes, E.E., Valente, E. Jr., Laird, R.D., Bierman, K.L., Coie, J.D., Dodge, K.A., Greenberg, M.T., Lochman, J.E., & McMahon, R.J. (1999). If it's offered, will they come? Influences on parents' participation in a community-based conduct problems prevention program. American Journal of Community Psychology, *27*(6)*,* 753–783.

Patterson, G.R. (1982). A social learning approach to family intervention, vol. 3: Coercive family process. Eugene, OR: Castalia Pub. Co.

Peterson, J., Winter, C., Jabson, J.M., & Dishion, T.J. (2008). *Relationship affect coding system*. Unpublished coding manual, University of Oregon, Child and Family Center, Eugene.

Piquero, A.R., Jennings, W.G., Diamond, B., Farrington, D.P., Tremblay, R.E., Welsh, B.C., & Reingle Gonzalez, J.M. (2016). A meta-analysis update on the effects of early family/parent training programs on antisocial behavior and delinquency. *Journal of Experimental Criminology*.

Reinke, W.M., Herman, K.C., Petras, H., & Ialongo, N.S. (2008). Empirically derived subtypes of child academic and behavior problems: Co-occurrence and distal outcomes. *Journal of Abnormal Child Psychology, 36*,759–770.

Rothman, A.J. (2000). Toward a theory-based analysis of behavioral maintenance. *Health Psychology, 19*(1), 64–69.

Sanders, M.R., Markie-Dadds, C., Rinaldis, M., Firman, D., & Baig, N. (2007). Using household survey data to inform policy decisions regarding the delivery of evidence-based parenting interventions. *Child: Care, Health and Development, 33*(6), 768–783.

Sanders, M. R. & Woolley, M. L. (2001). *Parenting Tasks Checklist*. PFSC, Brisbane.

Sanders, M.R., & Woolley, M.L. (2005). The relationship between maternal self-efficacy and parenting practices: Implications for parent training. *Child: Care, Health and Development, 31*(1), 65-73.

Shaw, D.S., & Bell, R.Q. (1993). Developmental theories of parental contributors to antisocial behavior. *Journal of Abnormal Child Psychology, 21*, 493–518.

Sexton, T.L., & Tuckman, B.W. (1991). Self-beliefs and behavior: The role of self-efficacy and outcome expectation over time. *Personality and Individual Differences, 12*, 725– 736.

Shelleby, E.C., Shaw, D.S., Dishion, T.J., Wilson, M.N., & Gardner, F. (2018). Effects of the Family Check-Up intervention on reducing growth in conduct problems in toddlerhood through school age: An analysis of moderated mediation. *Journal of Consulting and Clinical Psychology,* 86(10), 856-867.

Shinn, M.R., Ramsey, E., Walker, H.M., Stieber, S., & O'Neill, R.E. (1987). Antisocial behavior in school settings: Initial differences in an at risk and normal population. *Journal of Special Education*, *21*(2), 69-84.

Smith, J.D., Dishion, T.J., Shaw, D.S., & Wilson, M.N. (2013). Indirect effects of fidelity to the Family Check-Up on changes in parenting and early childhood problem behaviors. *Journal of Clinical and Consulting Psychology, 81*, 962–974.

Smith, J.D., Dishion, T.J., Shaw, D.S., Wilson, M.N., Winter, C.C., & Patterson, G.R. (2014). Coercive family process and early-onset conduct problems from age 2 to school entry. *Development and Psychopathology, 75*(4), 917–932.

Spoth, R., & Conroy, S. (1993). Survey of prevention-relevant beliefs and efforts to enhance parenting skills among rural parents. *The Journal of Rural Health, 9*, 227–239.

Stormshak, E. A., & Dishion, T. J. (2010). *The Family Check-Up training website*. Available from http://fcu.cfc.uoregon.edu

Swenson, S., Ho, G.W.K., Budhathoki, C., Belcher, H.M.E., Tucker, S., Miller, K., & Gross, D. (2016). Parents' use of praise and criticism in a sample of young children seeking mental health services. *Journal of Pediatric Health Care, 30*(1), 49-56.

Tucker, S., Gross, D., Fogg, L., Delaney, K. & Lapporte, R. (1998). The long-term efficacy of a behavioral parent training intervention for families with 2-year- olds. *Research in Nursing and Health, 21*, 199–210.

van Aar, J., Leijten, P., Orobio de Castro, B., & Overbeek, G. (2017). Sustained, fade-out or sleeper effects? A systematic review and meta-analysis of parenting interventions for disruptive child behavior. *Clinical Psychology Review*, *51*, 153–163.

Vitaro, F., Brendgen, M., Larose, S., & Tremblay, R.E. (2005). Kindergarten disruptive behaviors, protective factors, and educational achievement by early adulthood. *Journal of Educational Psychology, 97*, 617–629.

Wakschlag, L.S., & Hans, S.L. (1999). Relation of maternal responsiveness during infancy to the development of behavior problems in high-risk youths. *Developmental Psychology, 35*, 569–579.

Weisz, J. R., & Kazdin, A. E. (2010). Evidence-based psychotherapies for children and adolescents. New York, NY: Guilford Press.

Wentzel, K.R. (1993). Does being good make the grade? Social behavior and academic competence in middle school. *Journal of Educational Psychology, 85*(2), 357-364.

Werba, B.E., Eyberg, S.M., Boggs, S.R., & Algina, J. (2006). Predicting outcome in parent-child interaction therapy: Success and attrition. *Behavior Modification, 30*, 618–646

Wittkowski, A., Garrett, C., Calam, R., & Weisberg, D. (2017). Self-report measures of parental self-efficacy: A systematic review of the current literature. *Journal of Child and Family Studies, 26,* 2960-2978.