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PARENTING STRESS AND CHILD DISRUPTIVE BEHAVIORS: THE MEDIATING
ROLE OF PARENTAL NEGATIVE TALK

A Capstone Experience/Thesis Project Presented in Partial Fulfillment
of the Requirements for the Degree Bachelor of Arts
with Mahurin Honors College Graduate Distinction
at Western Kentucky University

By

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May 2021

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ABSTRACT

High parental stress and child disruptive behaviors tend to coexist. Furthermore, parental negative talk towards children can impair child functioning later in life. In the present study, we sought to determine whether parental negative talk was a mediating variable between parenting stress and child disruptive behaviors. Fifty-two parent-child dyads from Eastern Kentucky participated in an analog Parent-Child Interaction Therapy (PCIT) behavioral observation and parents were given self-report measures for parenting stress and child disruptive behaviors.

Bivariate and multiple regression analyses were used to predict variance in child disruptive behaviors based on parenting stress with parental negative talk as a mediating variable. Bivariate regression analysis revealed a significant relationship between parenting stress and child disruptive behaviors, $t(1, 50) = 4.646, p < .000$, but multiple regression analysis did not support mediation by parental negative talk in this relationship, $t(2,46) = 1.941, p < .058$. Findings supported the hypothesis that increased levels of parenting stress are related to increased levels of child disruptive behaviors, but findings did not support the hypothesis that parental negative talk during Parent Led Play mediates between parenting stress and child disruptive behaviors.

I dedicate this thesis to my Papaw, Gary McMillin, who is a great inspiration to me to pursue higher knowledge and defend what is good, true, and beautiful.

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SECTION ONE

High levels of parental stress and behavioral disturbances in children are common health issues in the community, and these issues tend to coexist (Deater-Deckard, 2004; Eyberg, Boggs, & Rodriguez, 1992). One effective intervention for treating child disruptive behaviors is Parent-Child Interaction Therapy (PCIT; Eyberg et al., 2005). Acknowledging the significant interaction between parental stress and child disruptive behaviors, PCIT was created to increase positive parenting skills while scaffolding specific dysfunctional patterns of interaction and disruptive behaviors in parent-child relationships (Eyberg & Funderburk, 2011). In PCIT, the parent and child interact in a playroom while a trained PCIT therapist offers coaching to the parent via a bug-in-ear device to help them learn to manage the child's behavior. During this treatment, the therapist frequently codes the interactions using the Dyadic Parent-Child Interaction Coding System (DPICS; Robinson & Eyberg, 1981; Eyberg et al., 2005). Parent training interventions for parent-child dyads have been developed to teach parents to decrease disruptive behaviors in their children and subsequently decrease parental stress.

Behavior observations have a long history of use in clinical and research settings, and the DPICS can be used during PCIT analog behavior observations to code parent-child interactions for clinical, community, and research purposes (Fleming et al., 2017; Wasik, 1989; Eyberg et al., 2005). Analog behavior observations are defined as “the measurement of client behavior in contrived situations designed to be analogous to those encountered in the client's natural environment” (Haynes, 2001, p. 74). In analog PCIT

behavior observations, the parent and child go through four five-minute situations termed Warm-Up Child Led Play (WCLP), Child Led Play (CLP), Parent Led Play (PLP), and Clean Up (CU) while the researchers watch the dyad in a separate room through a one-way mirror and give instructions to the parent using a bug-in-ear device (Eyberg et al., 2005). In the beginning situations of WCLP and CLP, the parent is instructed to let the child lead the play and follow the child's rules (Eyberg et al., 2005). In PLP, the child must play according to the parent's rules, and during CU, the child must pick up all the toys without the parent's help (Eyberg et al., 2005). Each interaction or behavior has a specific definition so that all trained PCIT therapists code the same type of interaction in the same way.

Previous research has indicated that during child-directed play in behavior observations, parental negative attention predicted longitudinal development of conduct problems in children, but research concerning negative attention towards children during parent-directed play when the parent is in control of the situation has not been explored (Eyberg et al., 2005, Fleming et al., 2017). Within DPICS, Negative Talk (NTA) is behavioral one code defined as "a verbal expression of disapproval of the child or the child's attributes, activities, products, or choices. Negative Talk also includes sassy, sarcastic, rude, or impudent speech (Eyberg et al., 2005)." Previous research indicates parental negative attention towards children in child-directed play is a strong predictor of conduct problems over a longitudinal sample and across multiple domains of measurement (Fleming et al., 2017). Due to the connection of parental negative attention to child disruptive behaviors, the goals of PCIT and the parent outcomes associated with

the treatment are to decrease negative parenting behaviors, increase positive attention, enhance the parent-child relationship, and decrease parenting stress (Eyberg et al., 2005).

Assessing Child Disruptive Behaviors and Parenting Stress

Research concerning disruptive behaviors in children suggests persistent disruptive behavior in children is associated with impaired functioning for the child later in life (Chi & Hinshaw, 2002; Bowlby, 1969; Lahey et al., 1995). Approximately 4.5 million children aged 3-17 (7.4%) have a diagnosed behavior problem, and more than 5 in 10 children (53.5%) aged 3-17 years with a behavior disorder received treatment (Ghandour et al., 2019). Children with conduct problems make up the largest single source of referrals to outpatient and inpatient child mental health settings, accounting for one third to one half of the referrals (Schuhmann et al., 1996). By collecting data from the first half of a child's life, it is possible to make strong predictions concerning the child's later adjustment and parent-child relationship, and the degree of excessive parental stress has a strong influence on the development of child disruptive behaviors (Burchinal et al., 2008; Chi & Hinshaw, 2002; Bowlby, 1969; Deater-Deckard, 2004).

The available evidence concerning the effect of parenting stress on children indicates the presence of an excessively stressed parent can influence the child's emotional and behavioral development, and the presence of excessively stressful characteristics within a child are one of the major contributors to the development of disruptive behavioral issues and child maltreatment risk (Bowlby, 1969; Deater-Deckard, 2004; Goodman & Cameron, 1978). As a parent's wellbeing decreases due to significant levels of isolation and role restriction, as measured by the Parenting Stress Index (PSI), the potential for significant child neglect and child abuse increases (Abidin, 2012;

Adamakos et al., 1986; Holden et al., 1989; Kelley, 1992). However, providing support to parents to decrease parenting stress improves child behavioral and mental health outcomes (Whitson & Kaufman, 2017). Furthermore, if a parent produces high scores on the Role Restriction subscale of the PSI, a parent may feel restricted by their role as a parent and feel a lack of freedom in keeping their own self-identity, and this parent will often have a strong resentment and anger towards the child and/or the spouse (Matthews, 1989; Abidin, 2012).

In analog PCIT behavior observations, the parent is given a number of assessments such as the Parenting Stress Index and the Eyberg Child Behavior Inventory (Abidin, 2012; Eyberg & Pincus, 1999). The Parenting Stress Index (PSI) was developed as an at-risk screening tool to assess important facets of the parent-child system (e.g., child characteristics, parent characteristics, family context, and life stress events), and the Eyberg Child Behavior Inventory (ECBI) was designed to measure the frequency of 36 typical conduct problems and disruptive behaviors reported by parents occurring in the home (e.g., oppositional defiant behavior towards adults, inattentive behavior, and conduct problem behavior) for children ages 2 through 16 years (Abidin, 2012; Eyberg & Pincus, 1999).

The aim of the present study is to assess whether there is a connection between parental stress and child disruptive behaviors in a community sample during Parent Led Play (PLP). Further, this study investigates whether parental negative talk observed during an analog behavior observation mediates the relationship between parenting stress and child disruptive behaviors. We hypothesize increased levels of parental stress will be related to increased levels of child disruptive behaviors, and we hypothesize parental

negative talk during PLP will mediate the relationship between parental stress and child disruptive behaviors.

SECTION TWO

Using archival data from a community sample of parent-child dyads from Eastern Kentucky, the participants were given a battery of assessments including a demographics questionnaire, the PSI, and ECBI. All participants engaged in a standard PCIT behavioral observation, and the interactions were coded using the DPICS to determine whether NTA is a mediating variable between parenting stress and child disruptive behaviors.

Behaviors in behavior observations and scores from the assessments are consistent with behaviors and scores outside of the research lab (Zangwill & Kniskern, 1982)

Participants

The present study includes archival data of 52 dyadic community participants from rural Eastern Kentucky. Most caregivers were female (81.4%) while a smaller percentage of caregivers were male (18.6%). Most children participants were male (62.9%), and the remaining children participants were female (37.1%). Parent age ranged from 23-56, $M = 33.5$, $SD = 6.9$; Child age ranged from 2-10, $M = 4.9$, $SD = 2.4$. The racial/ethnic composition of the sample was 4.3% African American, 92.9% Caucasian, 1.4% Hispanic, and 1.4% other. Participants who did not fill out the entirety of the assessments were excluded from analysis. Participants were compensated for their time upon completion of this study.

Procedure

Participants engaged in a standardized analog behavioral observation coded using DPICS (Eyberg et al., 2005; Robinson & Eyberg, 1981). Following the behavioral

observation, parents/guardians were given a battery of self-report measures including a demographics questionnaire, PSI, and ECBI. Data were evaluated in a mediational analysis using linear regression through the Statistical Package for the Social Sciences (SPSS). Mediation analysis using regression requires three paths for analysis: Path c, Path a, and Path b & c' (Barron & Kenny, 1986).

As Figure 1 demonstrates, Path c includes a bivariate linear regression predicting ECBI Intensity T scores from PSI total T scores. Path a includes a bivariate linear regression predicting parental NTA during Parent Led Play (PLP) from PSI total T scores. Path b & c' include a multiple regression analysis predicting ECBI Intensity T scores from parental NTA during PLP and PSI total T scores.

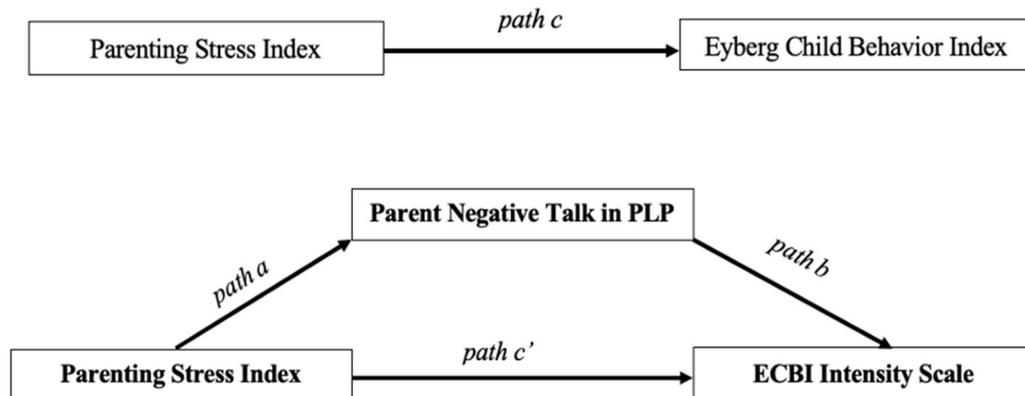


Figure 1. Visual Representation of Regression Analysis.

Measures

To measure parenting stress, parents were given the PSI which is a self-report measure developed in 1983 in response to the need for a measure to assess facets of the parent-child system including child characteristics, parent characteristics, family context, and life stress events (Abidin, 2012). The PSI is a 101-item inventory plus Life Stress

scale designed to evaluate the magnitude of stress in the parent-child system. The PSI is composed of the Child Domain and the Parent Domain which combine to form the Total Stress Scale, and Cronbach's Alpha for the Total Stress Scale is .827 (Abidin, 2012). The Child Domain uses six subscales to gauge the child's sources of stress, and the Parent Domain utilizes seven subscales to evaluate sources of stress related to parent characteristics. Literature supporting the use and validity of the PSI consisted of over two hundred fifty studies when the manual was written, and since then, the PSI has been translated into forty different languages in which the validity has stayed strong and constant in the administration of the PSI in seven other countries (Abidin, 2012).

To measure child disruptive behaviors, parents were given the ECBI which is a measure standardized in 1999 designed to assess 36 typical disruptive behaviors reported by parents of children in treatment for conduct-disordered behavior (Eyberg & Pincus, 1999). The 36 items of the ECBI are rated on two scales: a 7-point Intensity scale which indicates the frequency the behaviors occur and a Yes-No Problem Scale which identifies whether the child's behavior is problematic or not for the parent, and Cronbach's Alpha for the Intensity Scale of the ECBI is .917 (Eyberg & Pincus, 1999). The ECBI Scales also have been found to correlate significantly with the PSI, and in a study of 165 clinic-referred children, the ECBI Problem and Intensity scores were significantly correlated with the PSI Child Domain scores ($r_s = .62$ and $.59$, respectively) and with the Parent Domain Scores ($r_s = .45$ and $.45$, respectively; Eyberg et al., 1992). The construct validity of the ECBI asserts scores for Intensity and Problem scales were significantly associated with child negative affect, nonacceptance, and dominance, and these scales

were not associated with child positive affect or submissiveness during parent-child interactions (Webster-Stratton & Eyberg, 1982).

To measure parental negative talk to the child, participants engaged in a standard PCIT analog behavioral observation coded using DPICS (Eyberg et al., 2005; Robinson & Eyberg, 1981). In a standard PCIT analog behavior observation, each dyad engages in three situations that vary in the degree of parental control or directiveness required: Child-Led Play (CLP), Parent-Led Play (PLP), and Clean-Up (CU; Eyberg et al., 2005). A complete table of codes used in DPICS is shown in the Appendix. The DPICS is a clinically practical, reliable, and valid research instrument that previous research shows correctly classifies 94% of home behavior problems and predicted 61% of the variance in the parent's report of behavior issues within the home (Robinson & Eyberg, 1981).

In the present study, we analyzed scores from the third situation in standard PCIT analog behavior observations, Parent-Led Play (PLP), in which the parent is asked to lead the play between the parent and the child. Inter-coder reliability for Parental NTA has a Kappa of .69 (Eyberg et al., 2005). Archival data was used to run the statistical analyses in SPSS.

SECTION THREE

A bivariate and multiple regression analysis was conducted in order to predict child disruptive behaviors based on parenting stress with parental negative talk as a mediating variable. As shown in Table 1, Path c, $t(1, 50) = 4.65, p < .001$, indicates a significant bivariate regression between parenting stress as measured by the PSI ($M = 49, SD = 7.61, SEM = 1.05$) and child disruptive behaviors as measured by the ECBI Intensity Scale ($M = 52.85, SD = 10.25, SEM = 1.42$). Path a, $t(1, 48) = 0.761, p < .45$, did not indicate a significant bivariate regression between PSI and parental NTA during PLP ($M = 2.08, SD = 3.14, SEM = 0.44$). Path b & c', $t(2, 46) = 1.941, p < .058$, did not indicate a significant multiple regression predicting child disruptive behaviors as measured by the ECBI Intensity Scale from the PSI and parental NTA during PLP. Parental NTA ($M = 2.12, SD = 3.16, SEM = .45$) during PLP was not found to have a high base rate with a total of $N = 49$ parental NTA codes within the current sample.

Table 1. Results for the Mediating Effect

Testing Paths	<i>M</i>	<i>SD</i>	<i>F</i>	<i>P</i>	<i>R</i> ²
Path c*	52.85	10.25	8.92	.041	.302
Path a	49.28	7.71	.003	.450	.000
Path b and c'	52.98	10.45	10.31	.058	.309

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

SECTION FOUR

The aim of the present study was to determine whether there is a connection between parental stress and child disruptive behaviors with parental negative talk as the mediating variable within community samples. Using archival data collected from standardized PCIT behavioral observations, self-report measures of parental stress symptoms, and self-report measures from child disruptive behavior problems, evidence of parental negative talk as a significant mediating variable was not found between parenting stress and child disruptive behaviors. Previous research suggests parenting stress is directly connected to child disruptive behaviors in a clinical sample (Bowlby, 1969; Deater-Deckard, 2004; Goodman & Cameron, 1978). However, the evidence produced from the present study suggests a parent's stress level significantly relates to their child's disruptive behaviors within a convenience community sample as well.

This evidence produces practical implications; helping community parents who experience high levels of stress decrease their stress levels due to being a parent may aid in decreasing disruptive behaviors and benefitting behavioral development in children. Interventions have been developed for teaching adolescents of depressed parents effective coping strategies as preventative measures of childhood depression and anxiety (Compas et al., 2002). Helping parents who experience symptoms of stress due to parenting in order to aid in the development of the child's behavioral growth and maturation, including in a non-referred, community population, remains a necessary area of intervention for parent-child dyads and positive family functioning.

The present findings are consistent with research regarding the provision of support to parents to decrease and minimize their parenting stress scores and improve the child's behavioral health outcomes (Whitson & Kaufman, 2017). The current significant findings also support research concerning if a parent earns a significant score within the subscales of Isolation and Role Restriction in the PSI, the potential for child abuse and child disruptive behaviors also increases (Holden et al., 1989); prevention efforts within community samples that earn significant scores within the PSI may improve parent-child interactions and child behavioral health and decrease risk of child maltreatment and clinically-significant behavioral problems. However, due to the lack of parental negative talk among community convenience samples as a significant mediating variable between parenting stress and child disruptive behaviors, community families may seek to decrease parent stress as an influence on child disruptive behaviors rather than isolating decreasing parental negative talk.

Parental negative talk, as previously defined, includes a critical statement that finds fault with the activities, products, or attributes of a child. The present literature concerning negative parent-child interactions suggests when parental well-being and social support decreases, the potential for significant child neglect and child abuse increases, and when parents neglect childcare responsibilities, sometimes due to parental stress, the potential for significant child neglect increases (Adamakos et al., 1986; Kelley, 1992). Further, previous research indicates parental negative attention towards children in child-directed play is a strong predictor of conduct problems over a longitudinal sample and across multiple domains of measurement (Fleming et al., 2017). Due to the lack of literature concerning parental negative talk as a mediating variable between parenting

stress and child disruptive behaviors in community families, the present study serves as a reference concerning future studies of parental negative talk as a mediating variable.

Nevertheless, the current sample contained a community sample of convenience; families characterized by child maltreatment may opt out of such studies; thus, future studies of community samples may expect fewer instances of parental negative talk.

Limitations of the present study included several factors which must be addressed for future research. We had a convenience sample characterized by a lack of gender and ethnic diversity, and future studies should seek to recruit more diverse samples. Lack of diversity in this sample is largely due to the lack of diversity in the geographic region where these data were obtained, and future studies should seek to have a larger sample size with greater diversity. It appears parental negative talk has a low base rate of occurrence in community samples, so sampling from the entire DPICS may boost the base rate of these behaviors and capture more variance. Due to COVID-19, the present study was prohibited from further data collection, so future studies can combine data from additional dyads with archival data to improve the study power, sample diversity, and generalizability of the results. The links between parenting stress and child disruptive behaviors are an important area of future research because although genetic influences from parent to child are important to consider, environmental factors (e.g., parental stress) are influential for positive change.

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APPENDIX: EXAMPLE OF DPICS CODING SHEET

DPICS Coding Sheet

Tape #: _____
 DPICS Segment: _____
 Bold One: _____
 Segment Start Time: _____

Coder: _____
 WCLP CLP PLP CU
 Primary Reliability
 *

Behavior	Count	Total
TA		
BD		
RF		
UP		
LP		
NTA		
DQ		

	AN/CO	NA/NC	NOA/NOC	Total
IQ				
DC				
IC				
PTO				
NTO				