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The Family Stress Model as it Applies to Custodial Grandfamilies: A Cross Validation

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Abstract

There is scant research on how the parenting practices of custodial grandmothers affect the psychological adjustment of grandchildren in their care. Yet, the findings from a handful of prior studies suggest the relevance of the Family Stress Model (FSM) to these caregivers. The present study further tested the FSM with baseline data from 343 custodial grandmothers ($M_{age} = 58.5$ years) enrolled in a clinical trial of the efficacy of interventions for improving the well-being of their families. Not only was this “help-seeking” sample atypical of prior FSM studies, but also unique to the present study was our addition of multiple parenting practices, self-reported and clinical ratings of grandmothers’ distress, and reports of grandchildren’s internalizing and externalizing difficulties from grandchildren and grandmothers. Mplus 7.31 was used to test a model where the effect of grandmother distress on grandchildren’s internalizing and externalizing difficulties was hypothesized to be indirect through five distinct parenting practices. The findings regarding both the measurement and structural models fit the observed data well, and invariance

Conflict of Interest:

The authors declare that they have no conflict of interest.

Ethical approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.” Kent State University provided the IRB approval for the study.

Author Contributions

GS: designed and executed the study, conducted the data analyses, and wrote the paper. BH: co-participated in the design and execution of the study and collaborated in writing the paper. GH: contributed to, and consulted on, matters regarding statistical analyses. WH: collaborated in conducting the analyses, interpreting the findings, and in editing the final manuscript. JMR: was involved with execution of the study (??). FS: participated in the design and execution of the study and collaborated in writing the paper.

was largely found across grandchildren's gender and age (4–7 vs. 8–12). Although grandchildren's self-reported internalizing and externalizing difficulties were unrelated to grandmothers' distress and parenting practices, the grandmothers' reports of these outcomes were generally related to their own distress and parenting practices as hypothesized. However, considerable variation was found across the five parenting practices in terms of their relationships to the other FSM constructs. We conclude that data from multiple informants and measures of assorted parenting practices are essential to future research and practice.

Keywords

custodial grandmothers; custodial grandchildren; parenting practices; Family Stress Model; psychological adjustment

Introduction

In 2012, approximately 4.2 million households in the U.S. contained both grandchildren under 18 and their grandparents, with about one-third having no parent present (U.S. Census Bureau, 2014). Family arrangements like this, known as “custodial” grandfamilies (CGFs), primarily arise from crises related to the birth parent's misfortunes including substance use, divorce, teen pregnancy, mental and physical illness, child abuse and neglect, and incarceration (Pinson-Milburn, Fabian, Schlossberg, & Pyle, 1996). Equal numbers of CGFs are headed solely by a lone custodial grandmother (CGM) or by both grandparents, while less than 1% are headed by a lone grandfather (U.S. Census Bureau, 2010).

The circumstances leading to care, in addition to the daily stress of full-time parenting, have substantial psychological, physical, and social effects on CGMs, who typically assume the major burden of care in raising their grandchildren, and their custodial grandchildren (CGC) (Hayslip & Kaminski, 2005; Hayslip, Fruhauf, & Dolbin-MacNab, 2017). Longitudinal data from national probability samples show that CGMs are more likely to be depressed than their non-caregiving peers and that assuming the care of a grandchild is related to elevated depression (Minkler, Fuller-Thomson, Miller, & Driver, 1997; Strawbridge, Wallhagen, Shema, & Kaplan, 1997; Szinovacz, DeViney, & Atkinson, 1999). Likewise, the rates of internalizing and externalizing difficulties among CGC of diverse ages are higher than children in the general population (Kelley, Whitley, & Campos, 2011; Smith & Palmieri, 2007).

Despite increased recognition that parenting is the main responsibility of CGMs (Dolbin-MacNab, 2006; Dunifon, 2013; Hayslip & Kaminski, 2008), studies have focused chiefly on the overall well-being of these caregivers, while overlooking the impact of family circumstances on CGC (Hayslip & Kaminsky, 2005). An exception, however, involves a series of studies by Smith and his colleagues in which the Family Stress Model (FSM) from the general parenting literature was applied to CGFs.

As depicted in Figure 1, causal links between parental psychological distress, parenting practices, and children's outcomes are delineated in the FSM (Conger, Rueter, & Conger, 2000). First, the heightened negative affect commonly experienced by CGMs is

hypothesized to have direct adverse effects on the overall quality of parenting behaviors. This is consistent with consensus in the parenting literature that even non-clinical levels of negative affect stemming from daily hassles can lead to dysfunctional parenting practices (Conley, Caldwell, Flynn, Dupre, & Rudolph, 2004; Lovejoy, Graczyk, O'hare, & Neuman, 2000). Second, poorer parenting by CGMs is hypothesized to have direct adverse effects on CGC psychological adjustment. It is widely documented in the parenting literature that disrupted parenting associated with caregiver distress leads to both internalize and externalizing difficulties in children (McKee, Colletia, Rakowa, Jones, & Forehand, 2008; Rubin & Burgess, 2002). A fundamental premise of the FSM, therefore, is that parenting quality mediates the relationship between caregiver distress and children's outcomes (Conger et al., 2000).

The studies conducted by Smith and colleagues with CGFs have encompassed such features as expanding FSM external stressors to include those encountered uniquely by grandparent caregivers (Smith, Palmieri, Hancock, & Richardson, 2008); testing the FSM with data obtained from both CGMs and grandfathers from the same household to examine the impact of their marital distress on CGC outcomes (Smith & Hancock, 2010); integrating the FSM with the two-factor model of caregiver appraisal and adjustment (Lawton, Moss, Kleban, Glicksman, & Rovine, 1991) to examine the joint influence of CGM positive and negative emotionality on CGC outcomes (Smith & Dolbin-MacNab, 2012); and blending the FSM with the Stress Process Model (Pearlin, Mullan, Semple, & Skaff, 1990) to explore the direct and indirect effects of CGMs' coping resources on their psychological distress, their parenting practices, and CGC outcomes (Smith, Cichy, & Montoro-Rodriguez, 2015a). Each of these studies was based upon the basic premise of the FSM that a caregiver's psychological distress is influenced by external stressors (e.g., financial hardship) which then exerts a negative indirect impact on the child's outcomes by lessening the quality of the caregiver's parenting practices (Barnett, 2008; Conger et al., 2000). Thus, utilizing the FSM as a framework within which to understand CGFs can help identify the mechanisms through which CGC development may be compromised in families that face complex and unique challenges (Barnett, 2008).

Although the above studies point to the relevance of the FSM for research on CGFs, several key limitations raise concern regarding the validity and reproducibility of their findings. First, because all four studies were conducted with data obtained from the same sample of 733 families and involved identical measures of key constructs, it is uncertain if their findings generalize to other samples of caregiving grandparents. Population validity of this sort is a concern in nearly all social science studies, thereby necessitating external replication (Onwuegbuzie, 2000).

Second, it is also unknown if the FSM would hold up with CGFs if key model constructs were measured differently. The latter is an important issue because it is widely recognized in the parenting literature that variation in measurement leads to inconsistent findings (McLeod, Wood, & Weisz, 2007). Moreover, unlike FSM studies conducted with birth parent families, the studies described above with CGFs did not obtain data on key FSM constructs from multiple informants. This is an important issue as using multiple informants has become the "gold standard" in research with children and families (Renk, 2005).

A third limitation involves the combining of multiple parenting measures into just one or two broader constructs such as “positive parenting” (e.g., Conger et al., 2000) or “dysfunctional parenting” (e.g., Smith et al., 2008). This is problematic in light of recent concerns that the use of broad (or composite) parenting measures may lead researchers to underestimate the relation between parenting practice and children’s outcomes if some parenting sub-dimensions demonstrate significantly stronger associations with child psychological outcomes than do others (McLeod et al., 2007). If specific parenting sub-dimensions are differentially related to children’s outcomes, the use of broad parenting categories may mask such variability.

Purposes of the Present Study

To address the above limitations, the primary aim of the present study was to test the measurement and structural components of the FSM model shown in Figure 1 with baseline data from a sample of 343 CGFs who were enrolled in a randomized clinical trial where the FSM was one of several underlying conceptual frameworks. We not only attempted to cross-validate the basic principles of the FSM with a new sample but we also used a considerably different measurement approach in contrast to that used in past research. A secondary aim was to see if both the measurement and structural aspects of the model are invariant by CGC age groups (4–7 years vs. 8–12 years) (see Brown et al., 2000; Kelley & Whitley, 2003), and by CGC gender (see Hayslip, Shore, Henderson, & Lambert, 1998; Smith & Palmieri, 2007; Smith et al., 2008; Smith et al., 2015a), again, relying on not only a different sample but also substantially different measures, in contrast to prior work. Specifically, we 1) take a multidimensional approach in examining distinct parenting practices rather than framing such practices in more general terms, 2) explore whether the strength of the mediational role of such practices will vary across CGC age and gender, 3) incorporate multi-informant data to measure key constructs, e.g., assessing internalizing and externalizing difficulties with data obtained separately from CGC and CGMs as informants, in contrast to other published work with both birth parents and custodial grandfamilies (Conger et al., 2000; De Los Reyes, Salas, Menzer, & Daruwala, 2013; De Los Reyes et al., 2015; Landers-Potts, et al., 2015; Smith et al., 2008; Smith & Dolbin-MacNab, 2012; Renk, 2005; Smith & Hancock, 2010; Smith et al., 2015a; White, Liu, Nair, & Tein, 2015), and 4) more accurately assess anxiety and depression as distinct but interrelated constructs in relying on both CGM self-reports and clinical ratings of each as indicators of CGM psychological distress impacting the quality of CGM parenting, as per the FSM (see Campbell & Fiske, 1959; Conley et al., 2004; Creswell, Apetroais, Murray & Cooper, 2013; Dietz, et al., 2008; Haynes, Smith, & Hunsley, 2011).

Method

Participants

The participants were 343 CGMs and CGC enrolled in a multi-state randomized clinical trial (RCT) designed to compare two evidenced-based interventions (behavioral parent training and cognitive behavioral skills training) to each other as well as to a theoretically inert control condition. Inclusion criteria were that CGMs had provided care to a CGC between

ages 4–12 for at least three months at her home in complete absence of the CGC's birth parents; were fluent in the English language; were willing and able to attend 10 two-hour long group sessions at a community site; and self-identified as being of either White, Black, or Hispanic origin. The present study focuses on CGMs because they typically provide the bulk of care in all CGF households.

Before recruitment, focus groups of 5–10 grandparent caregivers and experienced practitioners were conducted at each RCT site to inform and refine our recruitment strategies (e.g., provide feedback on their acceptability, identify recruitment sources, and suggest optimal study venues). Formal recruitment then occurred across four states (California, Maryland, Ohio, and Texas), focusing upon the major metropolitan areas in each (i.e., San Bernardino, CA., Baltimore, MD., Cleveland/Akron, OH, Dallas-Ft. Worth Metroplex, TX). The RCT was described to potential participants as providing “information that can help grandmothers get through the difficult job of caring for grandchildren in changing times”. Recruitment involved diverse methods that were similarly implemented across sites including mass media (radio and TV appearances, newspaper-based descriptions of the project); contacts with neighborhood-based organizations who received informational flyers; contacts through school administrators, social service and health care agencies; printed announcements distributed to family courts and children's protective services, and presentations at libraries, to faith communities, at support group meetings, and at community events. To supplement the above convenience-based methods, mailing addresses for randomly selected households with children younger than 18 years of age were purchased and recruitment letters were sent to these households. Our use of these diverse recruitment methods was purposeful to ensure broad representativeness of the eventual sample.

If a CGM was caring for multiple CGC who met study eligibility criteria, then a target CGC was selected by asking the CGM which child was the most difficult to give care to given that a primary intent of the RCT was to reduce CGC emotional and behavioral difficulties through improved parenting and diminished GCM distress. Target CGCs were the reference for all measures completed by CGMs and were informants of their own behavioral difficulties.

Background characteristics for the 343 CGMs and target CGCs are presented in Table 1. The mean age of CGMs was 58.45 ($SD=8.22$), and 7.8 ($SD=2.6$) for the CGC. The age range for CGMs was 40 – 89 years. About equal numbers of CGC were male ($n=175$) or female ($n=168$). Most CGMs were either Caucasian (44%) or African American (43%), followed by Hispanic/Latino (11%), and “other” (1%). Only 38% of CGMs were married, with 51% being divorced or widowed. Most (44%) of the CGMs had completed some college, 19% had a GED or high school diploma, 13% did not complete high school, 13% had bachelor's degrees, and 6% had graduate or professional degrees. Most (44%) of the CGMs were working part-time, 19% were retired, 13% were looking for work, and 13% were working full-time.

Procedure

All measures were collected by trained interviewers at baseline with CGMs first completing a telephone interview followed by in-person interviews where additional data were collected

separately from both the CGM and CGC. In person interviews were conducted either in the CGM's home or in a private room at a community setting (e.g., school, library). This study was approved by the Institutional Review Board at each participating university, and informed consent was obtained from both CGMs and CGC in compliance with IRB requirements.

Measures

The specific indicators for each latent construct depicted in Figure 1 are described below. All reported Cronbach alpha values were derived from the present sample.

GCM Psychological Distress—Indicators of this construct included self-report and clinical ratings of depression and anxiety. Depressive symptoms were self-reported with the 20-item Center for Epidemiological Studies – Depression scale (CES-D; Radloff, 1977). For each item, CGMs endorsed the response that best described how often they had felt a particular way in the past week on a 4-point frequency scale from 0 (*rarely or none of the time - less than 1 day*) to 3 (*most or all of the time - 5 to 7 days*). Potential scores ranged from 0 to 60 ($\alpha = .91$). Anxiety was self-reported with the 5-item Overall Anxiety Severity and Intensity Scale (OASIS; Norman, Hami, Means-Christianson, & Stein, 2006) where items (e.g., “In the past week, how often have you felt anxious?”) are asked on a 5-point scale ranging from 0 “never” to 4 “all the time.” Potential scores range from 0 and 20 ($\alpha = .86$), with higher scores representing greater anxiety.

Ratings of CGM depression and anxiety were conducted in person by graduate students from mental health disciplines who were trained by the first author and achieved satisfactory agreement ($\kappa = .60$ and $.90$ intraclass correlation coefficient) with the gold standard ratings. Depression ratings were obtained with the Montgomery-Asberg Depression Rating Scale (MADRS; Montgomery & Asberg, 1979) a 10-item instrument covering core symptoms of depression. Each symptom is rated on a scale from 0 (no symptoms) to 6 (most extreme symptoms). Interviewers were trained to criterion performance on a semi-structured clinical interview moving from broadly phased questions about symptoms to more detailed ones which allow a precise rating of severity (Williams, unpublished manual). A global score (range = 0 to 60) is formed by adding the rating scores across all 10 symptoms ($\alpha = .87$).

Anxiety ratings were obtained with the Hamilton Anxiety Rating Scale (HAMA; Hamilton, 1959). The HAMA is a widely used both clinically and in research to measure the severity of anxiety symptoms. It has 14 items; each defined by a series of symptoms covering psychic and somatic anxiety. Each item is scored on a scale of 0 (*not present*) to 4 (*severe*), with a total score range of 0–56 ($\alpha = .88$). Interviewers were trained to criterion performance on the Hamilton Anxiety Rating Interview Guide, which contains standardized clinical probes to minimize inter-rater variance (Bruss, Gruenberg, Goldstein, & Barber, 1994).

Parenting Practices—The five specific parenting practices (i.e., inconsistent discipline, harsh/punitive discipline; ineffective discipline; emotional nurturance, and instrumental nurturance) in our model were found via earlier confirmatory factor analyses to be psychometrically sound and distinct factors with the same sample of 343 CGMs used in the

present study (Smith, Merchant, Hayslip, & Hancock, 2015b). These five parenting factors are also among those most widely examined in the parenting literature (Locke & Prinz, 2002). Five single-indicator parenting practice constructs were created by using corresponding scales from the broader parenting literature found by Smith et al. (2015b) via confirmatory factor analysis to be appropriate for use with CGFs. Each latent construct was indicated by its corresponding scale score, and the residual variance of the scale score was then fixed to 1 minus the scale reliability (i.e., the unreliability) times the scale variance to account for measurement error. Measures of the broader constructs of discipline and nurturance were included because these two constructs comprise the most influential parenting mechanisms known to influence adjustment problems in children (Locke & Prinz, 2002). Measures were also selected to be brief, easy to administer via self-report, and to encompass content relevant to children ages 4–12.

Three types of discipline (ineffective, inconsistent, and punitive/Harsh) were measured with the Parenting Practices Inventory (PPI), a 17-item Likert style instrument originally developed for the Fast Track Project to assess key disciplinary styles related to children's adjustment outcomes (Lochman and Conduct Problems Prevention Research Group, 1995). Because the prior work of Smith et al. (2015b) suggested that one Inconsistent and one harsh item be removed when used with CGMs, the PPI was reduced to 15 items in the present study.

CGMs rated the 15 PPI items on a 4-point scale ranging from 0 “never” to 3 “often.” Six items tapped Ineffective discipline (e.g., “How often do you have difficulty controlling your grandchild?”) and summed to a total score with a possible range of 0–18 ($\alpha = .83$). Five items tapped Inconsistent discipline (e.g., “How often does your grandchild manage to get around the rules you set for him/her?”) and summed to a total score with a possible range of 0–15 ($\alpha = .79$). Four items tapped punitive Punitive/Harsh discipline (e.g., “How often do you yell at your grandchild?”) and summed to a total score with a possible range of 0–12 ($\alpha = .73$).

Two measures of nurturance were selected in line with the view that this aspect of parenting involves providing a positive atmosphere for the parent-child relationship and the child's emotional development through both emotional expressions (e.g., communicating acceptance) and instrumental (e.g., playing together) acts (Locke & Prinz, 2002). Instrumental nurturance was measured by the 10-item Supportive Engaged Behavior (SEB) subscale of the Parent Behavior Inventory (Lovejoy, Weiss, O'Hare, & Rubin, 1999). Each item (e.g., “I comfort my grandchild when s/he seems scared, upset, or unsure.”) was rated by CGMs from 0 “not at all” to 5 “very true” and summed to yield a total score with a potential range of 0–50 ($\alpha = .88$). Emotional nurturance was assessed with the 10-item Positive Affect Index which measures the degree to which caretakers report trust, fairness, respect, affection, and understanding between themselves and their child, as well as their perception of how the child feels about them along these same dimensions (Bengtson & Schrader, 1982). CGMs rated each item (e.g., “How much affection do you have toward your grandchild?”) from 0 “none” to 4 “a great amount” and total scores were computed by summing all items (potential range = 0–40; $\alpha = .87$).

CGC Self-Reported Internalizing and Externalizing Difficulties—The Dominic Interactive (DI), a pictorialized computerized self-report of common mental health disorders in childhood was used to measure CGC self-reported internalizing and externalizing symptoms (Valla, Bergeron, & Smolla, 2000). Valla et al. (2000) reported that criterion validity against clinical judgment obtained with the DI (κ values ranged from .64–.88) compares favorably with those obtained with the Diagnostic Interview Schedule for Children Version 2.3 (Shaffer et al., 1996). Kuijpers et al. (2016) recently examined the psychometric properties of the DI with a sample of 8,135 children of ages 6 to 11 across seven European countries and found that in all countries both the reliability values for scale scores were good to high and the underlying factor structure was supported. In a separate work involving the same CGC as in the present study,

In the present study, the CGC responded “yes” or “no” to 89 questions that asked whether they think, feel, or act like Dominic/Terry (a gender specific character) while portrayed in a variety of pictorial scenarios. The DI contains 91 items but two, which dealt with suicide and death, were removed here to make the item pool age-appropriate for younger participants. A trained interviewer was present to assist respondents as needed which was deemed especially important for CGC between ages 4–5.

Three DI subscales were used as indicators of the CGC self-reported Internalizing difficulties: the separation anxiety disorder (SAD) scale ($\alpha = .71$), the generalized anxiety disorder (GAD) scale ($\alpha = .78$), and the major depression/dysthymia (MDD) scale ($\alpha = .79$). Three DI subscales were used as indicators of the CGC self-reported externalizing difficulties: the oppositional defiant disorder (ODD) scale ($\alpha = .73$), the conduct disorder (CD) scale ($\alpha = .81$), and attention deficit hyperactivity disorder (ADHD) scale ($\alpha = .84$). All subscale scores were generated automatically by the DI computerized program (Valla et al., 2000).

CGMs as Informants of CGC Internalizing and Externalizing Difficulties—Two instruments were used to measure CGC internalizing and externalizing difficulties with CGMs as informants: the Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001) and a modified version of the Parent Daily Report (PDR; Chamberlain & Reid, 1987). The PDR consisted of a checklist of internalizing (10 items; e.g., “seemed withdrawn”) and externalizing (12 items; e.g., “disobeyed”) behavior problems. As informants CGMs were asked to indicate the presence of each behavior on a 3-point scale from 0 “not at all” to 2 “a lot” during the past 24 hours. A first administration of the PDR with CGMs took place by phone, with a second taking place in-person within a two week time frame. Scores from the two points were averaged for each item and separate internalizing ($\alpha = .97$) and externalizing ($\alpha = .98$) scores were calculated by summing the averages of their respective items. A total of 326 CGMs completed the PDR ratings at either occasion, of whom 218 completed the PDR at both times. For the remaining 108 CGMs who completed the PDR one just one occasion, data from that time point was used instead of an average across two occasions.

The broadband internalizing and externalizing subscales from the parent-informant version of the SDQ were also used with CGMs as informants. Externalizing difficulties were

assessed by summing the SDQ Hyperactivity-Inattention and Conduct Problems scales (potential range = 0 to 20; $\alpha = .75$), while internalizing difficulties were assessed by summing the SDQ Emotional Symptoms and Peer Problems scales (potential range = 0 to 20, $\alpha = .74$). Each scale contained five items that were rated by CGMs regarding the target CGC behaviors on a 3-point scale from 0 (*not true*) to 2 (*certainly true*). Higher scores indicate greater levels of the measured behavior.

Data Analyses

Analyses were conducted using Mplus 7.31 software (Muthen & Muthen, 1998–2010) with full information maximum likelihood estimation to address missing data, and with a robust maximum likelihood (ML) procedure employed to provide data-model fit indices and parameter standard error estimates adjusted using a Satorra-Bentler (SB) correction (Finney & DiStefano, 2013) to deal with potential non-normality. This is critical given that unadjusted non-normality, which is typical of the measures used here, can contribute to distorted factor analytic results. Model fit was judged by three indices: Comparative Fit Index (CFI); Root Mean Square Error of Approximation (RMSEA); and Standardized Root Mean Square Residual (SRMR).

Missing data occurred among the 343 CGM-CGC dyads and varied according to the measurement modality. Missing data for measures obtained by telephone ranged from 5 to 6 % only, whereas missingness for in-person measures was 20% for data collected from CGMs and 38% percent for data collected from CGC. Missingness on outcome variables was examined as a function of all variables under study, including demographics. Grandmother health was the only variable related to missingness. Thus, in all subsequent analyses, missingness was dealt with by utilizing full information maximum likelihood (FIML) with grandmother health as an auxiliary variable (see, e.g., Enders, 2013). This enabled FIML's assumption that the data are missing at random (MAR) to be met, and hence helped to preserve the representativeness of the sample's information vis-à-vis the population. It is also noteworthy that, given the associations of the variables with missingness to other variables in the model (including but not limited to auxiliary variables), missingness on measures need not translate to a loss of information when it comes to assessing the model as a whole (Savalei & Rhemtulla, 2011) nor parameters within the model (e.g., Savalei & Rhemtulla, 2012). Finally, in addition, Satorra-Bentler robust corrections to fit indices and parameter standard errors were employed to deal with potential nonnormality.

Our first step was to test fit between the observed data from the entire sample and the hypothesized model (Figure 1), with adjustments made to improve model fit as needed. We then followed Byrne's (2012) recommendations for examining multigroup invariance. Baseline models, that included adjustments resulting from the first step described above, were tested separately for each group to identify the best fitting model in terms of both parsimony and substantive meaningfulness. After determining the final baseline model separately for each group, we tested for group invariance in a logically ordered and increasingly restrictive sequence. We first tested for configural invariance of the model across each grouping (i.e., gender and age) under investigation. In these tests, the same

parameters estimated in the baseline model separately by group were then estimated again within a multigroup representation of the baseline model. The fit of the resulting configural (unconstrained) models provided baseline values against which subsequent specified invariance models were compared.

Group invariance of the measurement model was tested by computing model fit for a pooled sample of groups (e.g., male and female) with the hypothesized factor loadings for all latent constructs constrained equal across groups. Fit indices from the fully constrained measurement model were then compared to those of the configural model, and a nonsignificant difference in the Satorra-Bentler chi-square values ($\Delta\chi^2_{SB}$) was supportive of invariance. If the resulting $\Delta\chi^2_{SB}$ was significant, Mplus modification indices (MI) were used to identify which factor loadings differed significantly between groups and equality constraints were released for the identified parameters (Byrne, 2012).

Structural invariance was tested via a procedure that was analogous to that used to examine measurement invariance. With all of the constraints that were imposed in the final model of the test for measurement invariance left in place, all hypothesized causal paths (Figure 1) were constrained to be equal across groups. A $\Delta\chi^2_{SB}$ difference test was then computed and interpreted in the same manner as for the tests of measurement invariance (Byrne, 2012).

We additionally conducted mediational analyses to determine the degree to which CGM parenting practices bear upon the relation between CGM psychological distress and CGC internalizing and externalizing outcomes as depicted in Figure 1. Respectively, these analyses examined (a) the individual indirect effects of CGM distress on CGC internalizing and externalizing symptoms through each of the five separate parenting practices, and (b) the total indirect effects of CGM distress on CGC internalizing and externalizing difficulties through the sum of all five parenting practices. Bootstrapping was employed to increase the validity of these mediational tests (see, e.g., Preacher & Hayes, 2008), and one-tailed significance was employed given the hypothesized directionality of these analyses.

Results

Initial test of the hypothesized model yielded evidence of marginal fit (CFI = .91; RMSEA = .07; SRMR = .05; SB $\chi^2 = 393.42$, df = 149). It also prompted a warning that the residual covariance matrix was not positive definite because the standardized loading of the Dominic MDD scale on the CGC Internalizing construct had a negative standardized residual variance (−.005). In addition, the MI suggested that the following error covariances be added among several indicator variables within the baseline model: (HAMA with MADRS; OASIS with CESD; PDR Externalizing with PDR Externalizing; and Dominic SAD with Dominic GAD). Each of these error covariances were then added to a revised model for the reason that they share some degree of method variance. Also, following Byrne's (2012) advice, the Dominic MDD error variance parameter was fixed to zero in response to the residual covariance warning. The revised baseline model with the above changes yielded good fit (CFI = .97; RMSEA = .04; SRMR = .05; SB $\chi^2 = 242.70$, df = 146) and the residual

covariance matrix warning was eliminated. This revised baseline model was carried forward in all subsequent analyses described below.

Test of the Revised Baseline Model with Each Group

Indices of model fit suggested that data from all groups under investigation fit the revised baseline model well. The range of values for the indices across all groups were: CFI .95 – .98; RMSEA .04 – .05; and SRMR .06 – .065. Whereas no modifications were suggested for either of the two CGC age groups, slight modifications were suggested and made to improve model fit for both CGC genders. Specifically, the error covariance between HAMA and MADRS was removed for females (to eliminate a warning that the residual covariance matrix was not positive definite) and the error covariance between the SDQ Hyperactive and the PDR Externalizing scales was added for males to improve fit.

Tests of Measurement and Structural Invariance by CGC Gender

The configural measurement model, where all factor loadings were unconstrained by CGC gender and the error covariance modifications noted in the above paragraph were included, fit the observed data well (CFI = .97; RMSEA = .045; SRMR = .058; SB $\chi^2 = 392.450$, df = 292). In turn, fit for the same model with all factor loadings constrained equal by CGC gender was nearly as good (CFI = .964; RMSEA = .044; SRMR = .061; SB $\chi^2 = 405.59$, df = 303) with a nonsignificant $\Delta\chi^2_{SB}$ (13.56, df = 11, $p > .05$) between the configural and invariance models.

Structural invariance was then tested by comparing the final measurement model in the preceding paragraph where all hypothesized structural paths in the model (Figure 1) were left unconstrained to the structural invariant model where all structural paths were constrained to be equal by gender (CFI = .96; RMSEA = .045; SRMR = .067; SB $\chi^2 = 447.37$, df = 332). The $\Delta\chi^2_{SB}$ test between these two models was not statistically significant (41.70, df = 29, $p > .05$).

Tests of Measurement and Structural Invariance by CGC Age

The $\Delta\chi^2_{SB}$ test for comparing fit between the measurement configural (CFI = .95; RMSEA = .051; SRMR = .063; SB $\chi^2 = 426.65$, df = 294) to the corresponding measurement invariant (CFI = .95; RMSEA = .055; SRMR = .067; SB $\chi^2 = 462.64$, df = 305) models by CGC age group was statistically significant (35.12, df = 11, $p < .001$). The MI for the invariant model suggested that constraints on the loadings for both Dominic CD scale and the Dominic ODD scale onto the CGC Self-Reported Externalizing factor be removed. In turn, these changes improved model fit (CFI = .95; RMSEA = .051; SRMR = .065; SB $\chi^2 = 437.39$, df = 303) and the corresponding $\Delta\chi^2_{SB}$ was not significant (11.08, df = 9, $p = .270$).

Structural invariance was then tested by comparing the final measurement model in the preceding paragraph where all hypothesized structural paths in the model (Figure 1) were left unconstrained to the structural invariant model where all structural paths were constrained to be equal by CGC age group (CFI = .95; RMSEA = .052; SRMR = .071; SB

$\chi^2 = 483.14$; $df = 332$). The corresponding $\Delta\chi^2_{SB}$ was statistically significant (45.73 , $df = 29$, $p = .025$), and the MI suggested removing the constraint involving the sole pathway from instrumental nurturance to CGM-reported externalizing. After releasing this constraint, fit improved for the structural invariant model ($CFI = .95$; $RMSEA = .050$; $SRMR = .07$, $SB \chi^2 = 471.26$; $df = 331$) and its comparison to the structural configural model was not statistically significant ($\Delta\chi^2_{SB} = 33.95$, $df = 28$, $p = .203$).

Summary of Major Measurement and Structural Findings

Table 2 shows the estimated standardized and unstandardized factor loadings on model constructs by CGC gender and CGC age groups. Regarding CGC gender, all factor loadings were invariant. Regarding CGC age, the loadings of both Dominic CD scale and the Dominic ODD scale onto the CGC Self-Reported Externalizing factor were not invariant. Specifically the standardized Dominic ODD loading was greater for older CGC (.80) than for younger CGC (.56) whereas the standardized Dominic CD loading was greater for younger CGC (.78) than it was for older CGC (.65). Both factor loadings were nonetheless statistically significant for both age groups, and the observed non-invariance was attributable to difference in the magnitude of the respective loadings. In sum, across both CGC age and gender, the measurement model fit the observed data well and evidence for measurement invariance was substantial.

Table 3 shows the estimated standardized and unstandardized path coefficients by CGC gender and CGC age groups. The pathway from instrumental nurturance to CGM-reported externalizing that was not found to be invariant by CGC age is shown in italics. The direct effect of CGM psychological distress on each of the five parenting constructs was nearly identical across all groups. As hypothesized, higher CGM distress was associated with significantly lower emotional nurturance as well as greater levels of harsh, inconsistent, and ineffective discipline (see Table 3). However, the hypothesized pathway from CGM distress to instrumental nurturance was nonsignificant across all groups.

The effect of each parenting construct on CGC internalizing and externalizing outcomes varied and was largely dependent on whether CGMs or CGC was the informant. With CGC as informant, none of the five parenting constructs had significant direct effects on either CGC internalizing or externalizing symptoms. With CGMs as informant, greater harsh and ineffective discipline were both associated with higher levels of CGC externalizing difficulties across all CGC age and gender groups. In contrast, greater inconsistent discipline was associated with lower levels of externalizing difficulties. Emotional nurturance had no significant direct effect on CGC externalizing difficulties across all groupings. Whereas instrumental nurturance had no direct effect on CGC externalizing difficulties for either gender, greater instrumental nurturance was associated with significantly lower externalizing for CGC between ages 4 to 7 only. With respect to CGMs as informant for CGC internalizing symptoms, harsh discipline was the only parenting factor significantly related to higher internalizing across all CGC gender and age groups.

The direct effect of CGM distress on CGC internalizing and externalizing outcomes also varied according to who reported these outcomes. Whereas CGM distress was significantly

related to neither CGC reported internalizing nor externalizing difficulties, higher CGM distress was associated with greater CGC internalizing across all CGC gender and age groups with CGMs as informants. Although the direct effect of CGM distress on CGM reports of CGC externalizing barely reached statistical significance for both age groups, this path was not significant for either CGC gender.

Results of Mediation Analyses

Given that none of the direct pathways involving CGC self-reported internalizing and externalizing difficulties and CGM parenting practices were significantly significant, we restricted our mediational analyses to those total and indirect effects involving CGMs as informants of CGC internalizing and externalizing only. Statistically significant indirect effects of CGM distress on both CGC internalizing ($p < .01$) and externalizing ($p < .01$) difficulties through the sum of all five parenting practices were found. With respect to the indirect effects of CGM distress on CGC internalizing symptoms only harsh/punitive discipline ($p < .05$) emerged as a statistically significant mediator. Regarding the indirect effects of CGM distress on CGC externalizing through each of the five parenting practices, only harsh/punitive discipline ($p < .05$); and ineffective discipline ($p < .01$) emerged as statistically significant mediators. We also conducted the same mediational analyses by CGC age group and gender with the findings being similar to those reported above for the sample as a whole (results are available upon request).

Results of the above findings regarding tests of the structural model are summarized visually in Figure 2, which only those direct effects between latent constructs which were found to be statistically significant for both age and gender groups. Bold pathways in the figure depict those indirect effects where statistically significant mediation was observed.

Discussion

Our aim was to further examine if the basic tenet of the FSM, that the impact of a caregiver's psychological distress on a child's mental health outcomes is primarily indirect through the caregiver's parenting practices, would be upheld by baseline data obtained from 343 custodial grandmothers (CGM) and their target custodial grandchild (CGC) who were enrolled in a RCT investigation. Although prior studies provided initial evidence for the usefulness of the FSM with CGFs (Smith et al., 2008; Smith & Dolbin-MacNab, 2012; Smith & Hancock, 2010; Smith et al., 2015a), they involved only one sample and did not encompass a multi-informant approach as occurred in this study. The present study also examined multiple types of parenting practices, which differs from past examinations of the FSM (including with birth parents) where much broader non-specific parenting constructs were studied. Our findings not only further support for the general applicability of the FSM to CGFs, they also reveal important new information that informs future practice and research.

The self-report data from CGC regarding their internalizing and externalizing difficulties were not significantly related to either CGM psychological distress or to any of the five specific parenting practices included in our model as was hypothesized. This finding is nevertheless meaningful given that this is the first examination of the FSM where reports

from the caregiver and the child were not combined to form a single composite. In turn, our findings reinforce concerns in the literature that combining information across informants may unintentionally mask distinctive patterns that are informant specific (Renk, 2005).

There are several reasons why the non-significant relations found between CGC self-reports of their internalizing and externalizing difficulties with other FSM constructs do not discredit the integrity of our findings. First, even when compared to children themselves, maternal caregivers like CGMs are the most accurate informants of children's emotional and behavioral problems (Renk, 2005). Second, although data from children and their primary caregivers are often discrepant, it must be acknowledged in light of such discrepancy, that caregivers are most likely to seek psychological treatment for the child (De Los Reyes & Kazdin, 2005). Thus, our findings with data from CGMs which support the FSM are useful because they inform the potential involvement of CGMs in seeking and planning treatment for CGC. Third, although it might be tempting to infer that these nonsignificant findings were due the unreliability of CGCs self-reports, our findings were actually quite supportive of the measurement properties for the Dominic Interactive. In fact, past research shows that the low correlations typically found among various informants' reports of children's mental health are not due to poor psychometric qualities of the instruments being used (De Los Reyes et al., 2015).

Our use of both CGM self-report and clinical ratings as indicators of CGM psychological distress adds further validation that this construct is linked significantly to both CGM parenting practices and CGC outcomes as hypothesized by the FSM. No past studies involving the FSM have used such a multi-informant approach to measuring caregiver psychological distress, which permitted us to uniquely account for measurement method variance that may distort family stress model outcomes (e.g., Eddy, Dishion, & Stoolmiller, 1999). Although this particular use of multiple informant data seems at odds with our informant specific data regarding CGC internalizing and externalizing difficulties, this divergence is warranted along two lines: (a) between informant correlations across adult mental health measures are typically considerably higher than those found with respect to children (Achenbach, 2006), and (b) findings for the measurement model of the present study confirm that the clinical ratings and self-reports of CGM distress were indicators of a unitary construct.

Unlike past studies of the FSM that have involved such broadband parenting constructs as "positive" or "dysfunctional" parenting, we examined if five distinct parenting practices would differentially relate to CGM distress and CGM outcomes. We took this approach in light of concerns that use of broadband measures may underestimate the relation between parenting practice and children's developmental outcomes if some parenting sub dimensions demonstrate significantly stronger associations with children's outcomes than others (McLeod et al., 2007). Indeed, our findings lend credence to this concern.

Regardless of CGC gender or age, CGM distress had a statistically significant direct effect on each parenting practice as hypothesized except for emotional nurturance. These findings are consistent with reports in the general parenting literature that a caregiver's emotional distress adversely affects parenting (Elgar, Mills, McGrath, Waschbusch & Brownridge,

2007). That higher CGM distress was significantly related to less instrumental nurturance but not to emotional nurturance suggests that it may be harder for more distressed CGMs to express emotional nurturance (e.g., verbal statements of love) as opposed to expressing instrumental nurturance (e.g., playing a game together). It is also possible that measurement differences accounted for this finding to the extent that our measure of emotional nurturance assessed aspects of mutuality within the CGM-CGC relation (Bengtson & Schrader, 1982) in a manner that was not true for our measure of instrumental nurturance (Lovejoy et al., 1999).

The direct effects that we found between CGM parenting practices and CGC outcomes were remarkably different for internalizing versus externalizing difficulties. For instance, regardless of CGC gender or age, harsh/punitive discipline was the only parenting practice that had a significant direct effect on CGC internalizing symptoms. This is particularly noteworthy in light of recent findings which suggest that harsh discipline is closely linked to not only children's internalizing problems but also to lower cognitive functioning and poor school performance (Hecker, Hermenau, Salmen, Teicher, & Elbert, 2016). The potential adverse effects of harsh discipline may be even more pronounced for CGCs as a result of their likely exposure to a flow of adverse interpersonal events that begins with insecure attachment relationships, moves to negative representational models of the self, and ends in less perceived competence, poorer social functioning, and low self-esteem (Toth & Cicchetti, 1996). It is also noteworthy that nurturance expressed by caregivers plays a very small role in children's internalizing symptoms in comparison to averseness and withdrawal which are both true of harsh discipline (McLeod et al., 2007).

The significant direct effects of parenting practices that we observed on CGM reports of CGC externalizing difficulties were different than those pertaining to internalizing difficulties. Regardless of CGC gender or age, higher externalizing was associated with greater harsh and ineffective discipline. However, a different picture emerged regarding nurturance. Specifically, instrumental nurturance was not related significantly to externalizing for either CGC age or gender group whereas less CGM emotional nurturance was significantly related to greater externalizing for younger CGC only.

The above findings suggest the need for a clear distinction between CGC internalizing and externalizing outcomes, which is further reinforced by the significant direct effect of CGM distress on CGC internalizing that was not similarly found for CGC externalizing. The observed direct effect of CGM distress on CGC internalizing difficulties may be explained in two ways: As noted above, both anxiety and depression are associated with the use of harsh discipline which then leads to increased CGC internalizing symptoms. Greater CGM anxiety and depression could also lead to CGC internalizing symptoms due to such other factors as disengaging from the CGC, being critical, modeling one's own fears and insecurities, discouraging the CGC's self-expression; reducing positive reinforcement, and expressing burden to the CGC (Conley et al., 2004).

The differential direct effects of parenting practices and CGM distress on CGC internalizing versus externalizing difficulties was mirrored in our mediational analyses, where only harsh/punitive discipline was found to mediate significantly the relationship between CGM

distress and CGC internalizing difficulties, In contrast, both harsh/punitive and ineffective discipline were the only two parenting practices found to mediate significantly the relationship between CGM distress and CGC externalizing difficulties. At the same time, however, statistically significant indirect effects of CGM distress on both CGC internalizing and externalizing difficulties through the sum of all five parenting practices were found. Thus, our mediational findings indicate the importance of considering the differential effects of various parenting practice as dissimilar mediators of the relationship between a caregiver's distress and child outcomes.

An unexpected finding was the statistically significant inverse relation that we found between the use of inconsistent discipline by CGMs and CGC externalizing difficulties, which is opposite to what typically observed among birth parents (McKee et al., 2008). This result was surprising given that inconsistent discipline was positively related to CGM distress, harsh/punitive discipline, and ineffective discipline in the present study. We thus reran the model depicted in Figure 1 with inconsistent discipline as the only parenting practice entered, and found a statistically significant positive direct effect of this construct on CGM reported externalizing difficulties (.29; $p < .001$). It appears, then, that a suppression effect resulted between inconsistent discipline and CGC externalizing difficulties when this relation was analyzed in conjunction with the other four parenting practices in our conceptual model (MacKinnon, Krull, & Lockwood, 2010).

Further exploration revealed that this suppression occurred once inconsistent discipline was paired with ineffective discipline. Given that the latter was measured by items that seem to tap the caregiver's perceived self-efficacy at providing discipline (e.g., "How often do you have difficulty controlling _____"?), CGMs may have answered them primarily with respect to their perceived efficacy at parenting. In turn, it is possible that these self-efficacy beliefs may have moderated the relationship between inconsistent discipline and children's externalizing behaviors. This logic is consistent with Neger's (2015) finding that birth parents who engage in lax parenting practices yet feel efficacious may demonstrate confidence and model resilience for their children who in turn show better behavior. It might also be true that parents of children with low levels of behavior problems who report high parenting self-efficacy, but use lax parenting practices may do so because they recognize that well-behaved children respond best to a parenting approach that involves minimal direction or cajoling (Neger 2015). As a whole, these findings reinforce the recent view that "parenting dimensions are not expressed alone but interact with other dimensions in a complex and transactional system" (Zheng, Pasalich, Oberth, McMahon, & Pinderhughes; 2017, p. 282).

Our overall findings that specific parenting practices were differentially associated with both CGM psychological distress and CGC mental health, in regards to both the direct and indirect effects reported here, argues against the use of broad band (or composite) parenting measures which are likely to yield inaccurate results due to the observed heterogeneity among specific parenting practices (McLeod et al., 2007). This concern is further highlighted by our finding that, while only three of the five parenting practices in our model actually mediated the relation between CGM distress and CGM outcomes at the individual level, the sum of all five parenting practices also yielded statistically significant mediation

effect. Thus, looking at the five parenting practices as a unitary mediator could easily mask the more specific mediational effects of individual parenting practices. We further believe the inclusion of multiple and diverse parenting practices within a single model is methodologically important given recommendations to control for the positive aspects of parenting (e.g., nurturance) when examining the relation between the negative aspects (e.g., harsh and inconsistent discipline) and child behavior problems (McKee et al., 2008). In other words, we were able to examine rigorously the impact of each parenting practice above and beyond the influence of the other four practices within our model.

With a few minor exceptions, the findings showed the measurement components of our model to be invariant with respect to CGC age and gender. Regarding CGC gender, we found that the measurement model was completely invariant regardless of whether the target CGC was male or female. Regarding age, the loadings of two Dominic scales onto the CGC self-reported externalizing factor differed significantly between younger and older CGC. The Dominic ODD loaded lower for younger CGC (.56) than for older CGC (.80). The opposite was true for the Dominic CD loading which was higher for younger CGC (.78) than older CGC (.68). In all cases, these differences between loadings by CGC age were of magnitude only and did not involve any cases where the factor loadings were statistically significant for one group but not the other. Thus, in general, our findings regarding measurement invariance suggest that the inferred meanings of model constructs were similar across CGC gender and age groups. This is critical because it assures that structural comparisons made on these latent variables are valid across groups as well (Byrne, 2012).

Our findings further suggest that the structural model was largely invariant by CGC age and gender. The only exception to structural invariance was that the path from emotional nurturance to CGM-reported externalizing difficulties was statistically significant for younger CGC only. It thus appears that young children may benefit more from this particular form of nurturance than their older counterparts. Overall, our findings speak to the importance of viewing emotional and instrumental nurturance as distinct constructs (Locke & Prinz, 2002).

Although both the present findings regarding measurement and structural invariance are remarkably consistent with prior tests of the FSM with CGFs where similar invariance was found (Smith et al., 2008; Smith et al., 2015a), the present study involved not only a different sample but also a considerably different measurement approach. As a whole, the findings across these multiple studies strongly support the robustness and validity of FSM with CGFs.

A major advantage of the FSM as a conceptual model is that it helps to identify the underlying mechanisms that account for intervention change (Barnett, 2008). Consistent with the fundamental logic of the FSM, our findings suggest the both CGMs and CGC may benefit from interventions that are directed toward reducing CGM distress, enhancing CGM parenting skills, or accomplishing both of these objectives simultaneously. For example, as has been found with birth parents, even modest levels of psychological distress in CGMs can disrupt parenting behavior regardless of one's initial skills (Conley et al., 2004). There is also evidence that therapeutic change in a caregiver distress yields improved parenting and

positive outcomes for children even after accounting for the potential mediating effects of improvements in parenting (Shaw, Connell, Dishion, Wilson, & Gradner, 2009). Thus, those CGMs who experience psychological distress yet possess adequate parenting knowledge may benefit from interventions focusing on their distress as the main target of change (Shaw et al., 2009).

It is also possible that some CGMs face minimal distress yet have poor or outdated parenting skills that may either maintain or exacerbate CGC behavioral difficulties that were present when care began or lead to new difficulties (Williamson, Softas-Nall, & Miller, 2003). In fact, many CGMs question both how they raised their own offspring and their current parenting ability (Hayslip & Kaminski, 2005, 2008). For these CGMs, participating in behavioral parent training (BPT) where they receive skills training and are encouraged to increase their positive interactions with the CGC may yield benefits to them and the CGC (Garland, Hawley, Brookman-Frazee & Hurlbut, 2008). However, our finding that not all dimensions of parenting affect child outcomes the same way suggests that practitioners should assess CGMs along multiple dimensions and target parenting skills training to address specific deficiencies in parenting (Zheng et al., 2017). Along these lines, assessing and targeting harsh discipline seems to be especially critical in light of our finding that is associated with both CGC internalizing and externalizing difficulties. Such an approach would also be consistent with the widespread view that harsh and conflictual parenting practices are salient risk factors for the development of children's mental health difficulties (Patterson, 1982).

Another intervention approach that is consistent with both the logic of the FSM and the present findings is to provide interventions to CGMs that combine elements of both BPT and stress reduction techniques (Kazdin & Whitley, 2003). In fact, one prominent BPT intervention known as Triple P was recently adapted specifically for caregiving grandparents to include training for managing the stress, guilt, and frustration associated with renewed parenting responsibilities (Kirby & Sanders, 2014). Likewise, Smith et al. (2015a) recently concluded that interventions are needed to enhance both the parenting practices and coping resources of custodial grandparents. However, others have cautioned that adding such additional components may not only be associated with higher cost and burden but also impede a caregiver's ability to focus on and master parenting skills (Kaminiski, Valle, Filene, & Boyle, 2008).

Limitations and Future Research Directions

There are several limitations of the present study that point to directions for future research. One such limitation is our attempting to infer the causal relations implied by the FSM via cross-sectional data. This concern, however, is mitigated by the fact that many longitudinal studies have supported the FSM with birth parents (Barnett, 2008). In addition, Goodman (2012) found longitudinally that CGC behavior problems were reduced over time when CGMs had better mental health early on, and that improvements in both CGM mental health and in CGM-CGC relationship closeness were associated with positive changes in CGC behavior over time. As for future research, the best way to clarify the direction of causality

in models such as the FSM would be through experimental approaches such as intervention designs (McLeod et al., 2007).

Another limitation is that we did not directly address key contextual factors such as family SES or ethnicity that may influence constructs within our model (Kotchick & Forehand, 2002). We similarly were unable to examine the influence of other family members such as custodial grandfathers who may lack social support and may be unaccustomed to raising a grandchild. Although the FSM appears to be robust across SES and ethnicity with birth parents (Barnett, 2008), the potential role of these contextual forces on parenting practices and outcomes within CGFs requires future investigation.

Finally, unlike the constructs of CGM psychological distress and CGC internalizing and externalizing difficulties, our parenting measures were limited to CGM self-reports. Thus, one might argue that the relations we found between CGM self-reported parenting practices and CGC outcomes measured by CGMs as informant might be due to shared method variance. At the same time, however, it has been claimed in the parenting literature that interview questionnaire measures actually underestimate the magnitude of the association between parenting and children's mental health outcomes when compared to observational measures of parenting (McLeod et al., 2007). The parenting literature also reveals that children's reports of parenting are less reliable and valid than caregiver's reports, especially for children under age nine (Locke & Prinz, 2002). Although our self-report measures of CGM parenting practices were far from ideal, the present findings nevertheless suggest that further research on the impact of CGM parenting on CGC outcomes is warranted. One avenue for such research would be to examine the level of agreement between CGMs and CGC as informants of CGM parenting practices and whether their reports are differentially related to CGC outcomes.

Despite these limitations, our findings reinforce the growing belief that parenting is the central responsibility of custodial grandparents (Dolbin-MacNab, 2006; Dunifon, 2013; Hayslip & Kaminski, 2008). They also confirm the relevance of applying the FSM to CGFs in a manner that explains how the psychological distress of a CGM can affect CGC mental health outcomes both directly and indirectly through diverse types of parenting practices.

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References

- Achenbach TM. As others see us: Clinical and research implications of cross-informant correlations for psychopathology. *Current Directions in Psychological Science*. 2006; 15:94–98.
- Barnett MA. Economic disadvantage in complex family systems: Expansion of family stress models. *Clinical Child and Family Psychology Review*. 2008; 11:145–161. [PubMed: 18491229]
- Bengtson VL, Schrader SS. Parent-child relations. *Research Instruments in Social Gerontology*. 1982; 2:115–186.
- Brown EJ, Jemmott LS, Outlaw FH, Wilson G, Howard M, Curtis S. African American grandmothers' perceptions of caregiver concerns associated with rearing adolescent grandchildren. *Archives of Psychiatric Nursing*. 2000; 14:73–80. [PubMed: 10783525]

- Bruss GS, Gruenberg AM, Goldstein RD, Barber JP. Hamilton anxiety rating scale interview guide: Joint interview and test-retest methods for interrater reliability. *Psychiatry Research*. 1994; 53:191–202. [PubMed: 7824679]
- Byrne, BM. Structural equation modeling with Mplus: Basic concepts, applications, and programming. New York: Routledge; 2012.
- Campbell DT, Fiske D. Convergent and discriminant validation by the multitrait -multimethod matrix. *Psychological Bulletin*. 1959; 56:81–105. [PubMed: 13634291]
- Chamberlain P, Reid JB. Parent observation and report of child symptoms. *Behavioral Assessment*. 1987; 9:97–109.
- Conger, KJ., Rueter, MA., Conger, RD. The role of economic pressure in the lives of parents and their adolescents: The family stress model. In: Crockett, LJ., Silbereisen, RK., editors. *Negotiating adolescence in times of social change*. New York, NY: Cambridge University Press; 2000. p. 201-223.
- Conley, CS., Caldwell, MS., Flynn, M., Dupre, AJ., Rudolph, KD. Parenting and mental health. In: Hogue, M., Long, N., editors. *Handbook of parenting: Theory and research for practice*. Thousand Oaks, CA: Sage; 2004. p. 276-285.
- Creswell C, Apetroaia A, Murray L, Cooper P. Cognitive, affective, and behavioral characteristics of mothers with anxiety disorders in the context of child anxiety disorder. *Journal of Abnormal Psychology*. 2013; 122:26–38. [PubMed: 22905861]
- De Los Reyes A, Augenstein TM, Wang M, Thomas SA, Drabick D, Burgers DE, Rabinowitz J. The validity of the multi-informant approach to assessing child and adolescent mental health. *Psychological Bulletin*. 2015; 141:858–900. [PubMed: 25915035]
- De Los Reyes A, Kazdin AE. Informant discrepancies in the assessment of childhood psychopathology: A critical review, theoretical framework, and recommendations for further study. *Psychological Bulletin*. 2005; 131:483–509. [PubMed: 16060799]
- De Los Reyes A, Salas S, Menzer M, Daruwala S. Criterion validity of interpreting scores from multi-informant statistical interactions as measures of informant discrepancies in psychological assessments of children and adolescents. *Psychological Assessment*. 2013; 25:509–519. [PubMed: 23544400]
- Dietz LJ, Birmaher B, Williamson DE, Silk JS, Dahl RE, Axelson DA, Ryan ND. Mother-child interactions in depressed children and children at high risk and low risk for future depression. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2008; 47:574–582. [PubMed: 18356760]
- Dolbin-MacNab ML. Just like raising your own? Grandmothers' perceptions of parenting a second time around. *Family Relations*. 2006; 55:564–575.
- Dunifon R. The influence of grandparents on the lives of children and adolescents. *Child Development Perspectives*. 2013; 7:55–60.
- Eddy MJ, Dishion TJ, Stoolmiller M. The analysis of intervention change in children and families: Methodological and conceptual issues embedded in intervention studies. *Journal of Abnormal Child Psychology*. 1999; 26:53–69.
- Elgar FJ, Mills RS, McGrath PJ, Waschbusch DA, Brownridge DA. Maternal and paternal depressive symptoms and child maladjustment: The mediating role of parental behavior. *Journal of Abnormal Child Psychology*. 2007; 35:943–55. [PubMed: 17577659]
- Enders, CK. Analyzing structural equation models with missing data. In: Hancock, GR., Mueller, RO., editors. *Structural equation modeling: A second course*. 2. Charlotte, NC: Information Age Publishing; 2013. p. 493-519.
- Finney, SJ., DiStefano, C. Nonnormal and categorical data in structural equation modeling. In: Hancock, GR., Mueller, RO., editors. *A second course in structural equation modeling*. 2. Charlotte, NC: Information Age; 2013. p. 439-492.
- Garland AF, Hawley KM, Brookman-Frazee L, Hurlburt MS. Identifying common elements of evidenced-based psychosocial treatments for children's disruptive. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2008; 5:505–514.
- Goodman R. Psychometric properties of the strengths and difficulties questionnaire. *Journal of the American Academy of Adolescent Psychiatry*. 2001; 40:1337–1345.

- Goodman CC. Caregiving grandmothers and their grandchildren: Well-being nine years later. *Children and Youth Services Review*. 2012; 34:648–654.
- Hamilton M. The assessment of anxiety states by rating. *British Journal of Medical Psychology*. 1959; 32:50–55. [PubMed: 13638508]
- Haynes, S., Smith, G., Hunsley, J. *Scientific foundations of clinical assessment*. New York: Routledge; 2011.
- Hayslip, B., Fruhauf, C., Dolbin-MacNab, M. Grandparents raising grandchildren: What have we learned over the past decade?; *The Gerontologist*. 2017. p. 1-12.doi: gn124, <https://doi.org/10.1093/geront/gnx124>
- Hayslip B, Kaminski PL. Grandparents raising their grandchildren: A review of the literature and suggestions for practice. *The Gerontologist*. 2005; 45:262–269. [PubMed: 15799992]
- Hayslip, B., Kaminski, PL. *Parenting the custodial grandchild: Implications for clinical practice*. New York: Springer; 2008.
- Hayslip B, Shore RJ, Henderson CE, Lambert PL. Custodial grandparenting and grandchildren with problems: Their impact on role satisfaction and role meaning. *Journal of Gerontology: Social Sciences*. 1998; 53B:S164–S174.
- Hecker T, Hermenau K, Salmen C, Telcher M, Elbert T. Harsh discipline relates to internalizing problems and cognitive functioning: Findings from a cross-sectional study with school children in Tanzania. *Psychiatry*. 2016; 16:1–9. DOI: 10.1186/s12888-016-0828-3 [PubMed: 26739960]
- Kaminski JW, Valle LA, Filene JH, Boyle CL. A meta-analytic review of components associated with parent training program effectiveness. *Journal of Abnormal Child Psychology*. 2008; 36:567–589. [PubMed: 18205039]
- Kazdin AE, Whitley MK. Treatment of parental stress to enhance therapeutic change among children referred for aggressive and antisocial behavior. *Journal of Consulting and Clinical Psychology*. 2003; 71:504–515. [PubMed: 12795574]
- Kelley, SJ., Whitley, D. Psychological distress and physical health problems in grandparents raising grandchildren: Development of an empirically based intervention model. In: Hayslip, B., Patrick, J., editors. *Working with custodial grandparents*. New York, NY: Springer; 2003. p. 127-144.
- Kelley SJ, Whitley DM, Campos PE. Behavior problems in children raised by grandmothers: The role of caregiver distress, family resources, and the home environment. *Children and Youth Services Review*. 2011; 33:2138–2145.
- Kotchick BA, Forehand R. Putting parenting in perspective: A discussion of the contextual factors that shape parenting practices. *Journal of Child and Family Studies*. 2002; 11:255–269.
- Kirby JN, Sanders MR. A randomized controlled trial evaluating a parenting program designed specifically for grandparents. *Behaviour Research and Therapy*. 2014; 52:35–44. [PubMed: 24309085]
- Kuijpers R, Otten R, Vermulst A, Pez O, Bitfoi A, Carta M, Goelitz D, Keyes K, Koc C, Lesinskiene S, Mihova Z, Engels R, Kovess V. Reliability, Factor Structure, and Measurement Invariance of the Dominic Interactive Across European Countries: Cross-Country Utility of a Child Mental Health Self-Report. *Psychological Assessment*. 2016; 28:539–548. [PubMed: 26237209]
- Landers-Potts MA, Wickrama KA, Simons LG, Cutrona C, Gibbons FX, Simons RL, Conger R. An extension and moderational analysis of the family stress model focusing on African American adolescents. *Family Relations*. 2015; 64:233–248.
- Lawton MP, Moss M, Kleban MH, Glicksman A, Rovine M. A two-factor model of caregiving appraisal and psychological well-being. *Journal of Gerontology*. 1991; 46:P181–P189. [PubMed: 2071844]
- Lochman JE. Conduct Problems Prevention Research Group. Screening of child behavior problems for prevention programs at school entry. *Journal of Consulting and Clinical Psychology*. 1995; 63:549–559. [PubMed: 7673532]
- Locke LM, Prinz RJ. Measurement of parental discipline and nurturance. *Clinical Psychology Review*. 2002; 22:805–929.
- Lovejoy MC, Graczyk PA, O'Hare EO, Neuman G. Maternal depression and parenting behavior: A meta-analytic review. *Clinical Psychology Review*. 2000; 20:561–592. [PubMed: 10860167]

- Lovejoy MC, Weis R, O'Hare E, Rubin E. Development and initial validation of the parent behavior inventory. *Psychological Assessment*. 1999; 11:534–545.
- MacKinnon D, Krull J, Lockwood C. Equivalence of the mediation, confounding and suppression effect. *Prevention Science: The Official Journal of the Society for Prevention Research*. 2000; 1:173. [PubMed: 11523746]
- McKee L, Colletti C, Rakov A, Jones D, Forehand. Parenting and child externalizing behaviors: Are the associations specific or diffuse? *Aggression and Violent Behavior*. 2008; 13:201–215. [PubMed: 19122818]
- McLeod BD, Wood JJ, Weisz C. Examining the association between parenting and childhood anxiety: A meta-analysis. *Clinical Psychology Review*. 2007; 27:155–172. [PubMed: 17112647]
- Minkler M, Fuller-Thomson E, Miller D, Driver D. Depression in grandparents raising grandchildren: Results of a national longitudinal study. *Archives of Family Medicine*. 1997; 6:445–452. [PubMed: 9305687]
- Montgomery SA, Asberg M. A new depression scale designed to be sensitive to change. *British Journal of Psychiatry*. 1979; 134:382–389. [PubMed: 444788]
- Muthén, LK., Muthén, BO. *Mplus User's Guide*. 6. Los Angeles, CA: Muthén & Muthén; 1998–2010.
- Neger, EN. Do Discipline Style and Parenting Self-Efficacy Interact to Predict Observed Child Behavior? Outcomes from a Representative Sample of Mothers with Young Children. Master's thesis. 2015. Retrieved from <http://scholarcommons.sc.edu/etd/3213>
- Norman SB, Hami CS, Means-Christensen AJ, Stein MB. Development and validation of an overall anxiety severity and impairment scale (OASIS). *Depression and Anxiety*. 2006; 23(4):245–249. [PubMed: 16688739]
- Onwuegbuzie, AJ. Expanding the framework of internal and external validity in quantitative research. Paper presented at the Annual Meeting of the Association for the Advancement of Educational Research (AAER); Ponte Vedra, FL. 2000 Nov.
- Patterson, GR. *Coercive family process*. Castalia; Eugene, OR: 1982.
- Pearlin LI, Mullan J, Semple S, Skaff M. Caregiving and the stress process: An overview of concepts and their measures. *The Gerontologist*. 1990; 30:583–594. [PubMed: 2276631]
- Pinson-Milburn NM, Fabian ES, Schlossberg NK, Pyle M. Grandparents raising grandchildren. *Journal of Counseling and Development*. 1996; 74:548–554.
- Preacher KJ, Hayes AF. Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*. 2008; 40(3):879–891. [PubMed: 18697684]
- Radloff LS. The CES-D scale a self-report depression scale for research in the general population. *Applied psychological measurement*. 1977; 1(3):385–401.
- Renk K. Cross-informant ratings of the behavior of children and adolescents: The “Gold Standard”. *Journal of Child and Family Studies*. 2005; 14:457–468.
- Rubin, KH., Burgess, K. Parents of aggressive and withdrawn children. In: Bornstein, M., editor. *Handbook of Parenting*. 2. Vol. 1. Hillsdale, N.J: Lawrence Erlbaum Associates; 2002. p. 383–418.
- Savalei, V., Rhemtulla, M. Some explorations of the local and global measures of missing information. Paper presented at the 76th annual and the 17th international meeting of the Psychometric Society; Hong Kong. Jul. 2011
- Savalei V, Rhemtulla M. On obtaining estimates of the fraction of missing information from full information maximum likelihood. *Structural Equation Modeling*. 2012; 19:477–494.
- Shaffer D, Fisher P, Davies M, Piacentini J, Schwab-Stone ME, Lahey BB, Bourdon K, Jensen PS, Bird HR, Canino G, Regier DA. The NIMH Diagnostic Interview Schedule for Children Version 2.3 (DISC-2.3): Description, acceptability, prevalence rates, and performance in the MECA Study. *Methods for the Epidemiology of Child and Adolescent Mental Disorders Study*. *Journal of the American Academy of Child and Adolescent Psychiatry*. 1996; 35:865–877. [PubMed: 8768346]
- Shaw DS, Connell A, Dishion TJ, Wilson MN, Gardner F. Improvements in maternal depression as a mediator of intervention effects on early childhood problem behavior. *Development and Psychopathology*. 2009; 21:417–439. [PubMed: 19338691]

- Smith, GC., Dolbin-Macnab, M. A Two Factor Model of Outcomes for Custodial Grandmothers and Grandchildren. In: Hayslip, B., Smith, G., editors. *Resilient grandparent caregivers: A strengths-based perspective*. New York: Routledge; 2012.
- Smith GC, Cichy K, Montoro-Rodriguez J. Impact of coping resources on the well-being of custodial grandmothers and grandchildren. *Family Relations*. 2015a; 64:378–392. [PubMed: 26089583]
- Smith GC, Hancock GR. Custodial grandmother-grandfather dyads: Pathways among marital distress, grandparent dysphoria, and grandchild adjustment. *Family Relations*. 2010; 59:43–57.
- Smith GC, Merchant W, Hayslip B, Hancock GR. Measuring the parenting practices of custodial grandmothers. *Journal of Child and Family Studies*. 2015b; 24:3676–3689. [PubMed: 26594101]
- Smith GC, Palmieri PA. Risk for psychological difficulties in children raised by custodial grandparents. *Psychiatric Services*. 2007; 58:1303–1310. [PubMed: 17914007]
- Smith GC, Palmieri PA, Hancock GR, Richardson RA. Custodial grandmothers' psychological distress, dysfunctional parenting, and grandchildren's adjustment. *International Journal of Aging and Human Development*. 2008; 67:327–367. [PubMed: 19266869]
- Strawbridge W, Wallhagen M, Shema S, Kaplan G. New burdens or more of the same? Comparing adult grandparent, spouse, and adult-child caregivers. *The Gerontologist*. 1997; 17:505–510.
- Szinovacz ME, DeViney S, Atkinson MP. Effects of surrogate parenting on grandparents' well-being. *Journal of Gerontology: Social Sciences*. 1999; 54:302–312.
- Toth SL, Cicchetti D. Patterns of relatedness, depressive symptomatology, and perceived competence in maltreated children. *Journal of Consulting and Clinical Psychology*. 1996; 64:32–41. [PubMed: 8907082]
- U.S. Census Bureau. Coresident grandparents and their grandchildren: 2012. Allegany County, N.Y.: 2010. Retrieved October 22, 2014, from <https://www.census.gov/content/dam/Census/library/publications/2014/demo/p20-576.pdf?eml=gd>
- U.S. Census Bureau. 10 Percent of grandparents live with a grandchild, Census Bureau reports. Allegany County, N.Y.: 2014 Oct 22. Retrieved October 22, 2014, from <http://www.census.gov/newsroom/press-releases/2014/cb14-194.html>
- Valla JP, Bergeron L, Smolla N. The Dominic-R: A pictorial interview for 6- to 11-year-old children. *Journal of the American Academy of Child & Adolescent Psychiatry*. 2000; 39:85–93. [PubMed: 10638071]
- White RM, Liu Y, Nair RL, Tein J. Longitudinal and integrative tests of family stress model effects on Mexican origin adolescents. *Developmental Psychology*. 2015; 51:649–662. [PubMed: 25751100]
- Williams, JBW. Biometrics Research. New York State Psychiatric Institute; Structured Interview Guide for the Montgomery Asberg Depression Rating Scale (SIGMA).
- Williamson J, Softas-Nall B, Miller J. Grandchildren: An exploration of their experiences and emotions. *The Family Journal: Counseling and Therapy for Couples and Families*. 2003; 11:23–32.
- Zheng Y, Pasalich D, Oberth C, McMahon R, Pinderhughes E. Capturing parenting as a multidimensional and dynamic construct with a person-oriented approach. *Prevention Science: The Official Journal of the Society for Prevention Research*. 2017; 18(2):81–291.

Figure 1.
Mediator Model

Note. Error covariances estimated among residuals of all five parenting constructs, and among residuals of all four outcome constructs. Each of the parenting constructs are single indicator factors, grouped together for display purposes but modeled individually as mediators with paths from grandmother psychological distress and paths to outcome constructs.

Figure 2.

Summary of Structural Model Findings

Note. All pathways with arrows were statistically significant for both CGC gender and age groups.

Pathways in bold represent statistically significant mediation of parenting practices between grandmother psychological distress and grandchild outcomes..

Table 1

Demographic Information (N = 343)

Characteristic		<i>M or n</i>	<i>SD or %</i>
Age (Grandmother) (<i>n</i> = 336)		58.45	8.22
Age (Grandchild) (<i>n</i> = 343)		7.81	2.56
Years caring for child (<i>n</i> = 343)		5.21	3.21
Number of children in care		1.78	1.03
Child Gender (<i>n</i> = 343)	Male	175	51
	Female	168	49
	Caucasian	152	44.3
Ethnicity (Grandmother) (<i>n</i> = 343)	African American	149	43.4
	Hispanic/Latino	38	11.1
	Other	4	1.2
Education (<i>n</i> = 343)	Less than high school	46	13.4
	High school graduate or GED	64	18.7
	Some college	152	44.3
	Bachelor's degree	44	12.8
	Graduate or professional degree	21	6.1
	Missing	16	4.7
	Under \$15,000	64	18.7
Family income (<i>n</i> = 343)	\$15,000 – \$30,000	73	21.3
	\$30,000 – \$45,000	52	15.2
	\$45,000 – \$60,000	38	11.1
	\$60,000 – \$75,000	17	5
	\$75,000 or more	42	12.2
	Missing	57	16.6
	Child of son	107	31.1
Relation to grandchild (<i>n</i> = 343)	Child of daughter	184	53.4
	Child of step son	5	1.5
	Child of step daughter	10	2.9
	Child of grandchild	13	3.8
	Offspring of non-biological child	9	2.6
	Caring for grandchild but no relationship specification	15	4.4
	Drug Abuse	162	47.2
	Parent in jail	132	38.5
	Parent mental illness	97	28.3
	Parent physical illness	14	4.1
Reason for care (<i>n</i> = 343)	Death of parent	35	10.2
	Teenage pregnancy	26	7.6
	Divorce	10	2.9
	Parent unwilling to care for child	80	23.3
	Other	43	12.5

Table 2

Estimated Standardized/Unstandardized Factor Loadings by CGC Gender and CGC Age

Latent Factor and Indicators	<i>Grandchild Gender</i>		<i>Grandchild Age</i>	
	Male (n =175)	Female (n = 168)	4–7 (n = 166)	8–12 (n = 177)
CGM Reported Internalizing				
PDR Internalizing	.76/1.00	.81/1.00	.80/1.00	.77/1.00
SDQ Emotional Symptoms	.88/.80	.79/.80	.84/.80	.81/.80
SDQ Peer Problems	.48/.40	.51/.40	.47/.40	.50/.40
CGM Reported Externalizing				
PDR Externalizing	.72/1.00	.81/1.00	.78/1.00	.78/1.00
SDQ Conduct Problems	.86/.60	.82/.60	.87/.57	.78/.57
SDQ Hyperactive/Inattentive	.67/.56	.69/.56	.71/.61	.75/.61
CGC Self Report Internalizing				
Dominic SAD	.47/1.00	.46/1.00	.51/1.00	.45/1.00
Dominic GAD	.78/2.85	.82/2.85	.80/2.86	.82/2.86
Dominic MDD	1.00/3.91	1.00/3.91	1.00/3.91	1.00/3.91
CGC Self Report Externalizing				
Dominic ODD	.70/1.00	.71/1.00	<i>.56/1.00</i>	<i>.80/1.90</i>
Dominic CD	.61/.96	.68/.96	<i>.78/1.93</i>	<i>.65/1.17</i>
Dominic AD	.81/1.18	.80/1.18	.93/1.74	.74/1.74
CGM Psychological Distress				
CES-D	.78/1.00	.74/1.00	.76/1.00	.77/1.00
MADRS	.95/1.02	.96/1.02	.96/1.02	.96/1.02
OASIS	.74/.33	.70/.33	.73/.33	.71/.33
HAMA	.91/.86	.86/.86	.90/.86	.88/.86

Note. All factor loadings were statistically significant ($p < .05$). One indicator per factor had its loading fixed at 1.00 to establish the factor scale. Non-invariant factor loadings are shown in italics.

Table 3

Estimated Standardized/Unstandardized Path Coefficients by CGC Gender and CGC Age

Pathway	<i>Grandchild Gender</i>		<i>Grandchild Age</i>	
	Male (n =175)	Female (n = 168)	4–7 (n = 166)	8–12 (n = 177)
CGM Distress to Emotional Nurturance	-.23/-.12 ***	-.20/-.12 ***	-.25/-.12 ****	-.21/-.12 ****
CGM Distress to Instrumental Nurturance	-.05/-.04	-.05/-.04	-.09/-.05	-.06/-.05
CGM Distress to Inconsistent Discipline	.21/.06 **	.18/.06 **	.20/.07 **	.21/.07 **
CGM Distress to Harsh Discipline	.25/.05 ****	.19/.05 ****	.23/.05 ****	.22/.05 ****
CGM Distress to Ineffective Discipline	.38/.12 ****	.29/.12 ****	.28/.11 ****	.32/.11 ****
Warmth to CGM Report Internalizing	-.11/-.05	-.10/-.05	-.06/-.03	-.06/-.03
Nurturance to CGM Report Internalizing	.12/.04	.12/.04	.14/.06	.18/.06
Inconsistent to CGM Report Internalizing	-.08/-.07	-.08/-.07	-.10/-.08	-.09/-.08
Harsh to CGM Report Internalizing	.24/.30 **	.27/.30 **	.31/.35 **	.28/.35 **
Ineffective to CGM Report Internalizing	.15/.13	.17/.13	.21/.15	.16/.15
CGM Distress to CGM Report Internalizing	.35/.09 ****	.30/.09 ****	.38/.10 ****	.33/.10 ****
Emotional Nurturance to CGM Report Externalizing	-.05/-.04	-.05/-.04	-.01/-.02	-.02/-.02
Instrumental Nurturance to CGM Report Externalizing	-.03/-.02	-.03/-.02	-.18/-.01 **	.10/-.01
Inconsistent to CGM Report Externalizing	-.27/-.32 ****	-.26/-.32 ****	-.25/-.30 ****	-.26/-.30 ****
Harsh to CGM Report Externalizing	.27/.47 ***	.29/.47 ***	.31/.35 ***	.33/.35 ***
Ineffective to CGM Report Externalizing	.67/.77 ****	.72/.77 ****	.66/.75 ****	.61/.75 ****
CGM Distress to CGM Report Externalizing	.09/.03	.08/.03	.12/.05 *	.12/.05 *
Emotional Nurturance to CGC Report Internalizing	-.02/.00	-.02/.00	.04/.01	.04/.01
Instrumental Nurturance to CGC Report Internalizing	.06/.01	.06/.01	.03/.01	.04/.01
Inconsistent to CGC Report Internalizing	.06/.02	.06/.02	.04/.01	.03/.01
Harsh to CGC Report Internalizing	.11/.06	.12/.06	.13/.06	.13/.06
Ineffective to CGC Report Internalizing	.00/.00	.00/.00	.03/.01	.03/.01
CGM Distress to CGC Report Internalizing	.05/.01	.04/.01	.06/.01	.06/.01
Emotional Nurturance to CGC Report Externalizing	-.05/-.02	-.04/-.02	.00/.00	.00/.00
Instrumental Nurturance to CGC Report Externalizing	.11/.03	.10/.03	.09/.02	.13/.02
Inconsistent to CGC Report Externalizing	.03/.02	.03/.02	-.01/00	-.01/00
Harsh to CGC Report Externalizing	.08/.06	.08/.06	.12/.06	.12/.06
Ineffective to CGC Report Externalizing	.06/.03	.06/.03	.05/.01	.04/.01
CGM Distress to CGC Report Externalizing	.03/.00	.02/.00	.10/.01	.10/.01

Note.

*
P < .05;**
p < .01;***
p < .005;****
P < .001

Non-invariant paths are shown in italics

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