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The Mediating Role of Parenting Stress in Methadone-Maintained Mothers' Parenting

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SYNOPSIS

Objective—To (1) examine the subjective experience of parenting stress as a mediator between 2 distal stressors (sociodemographic risk and global psychological maladjustment), and examine the parenting of methadone-maintained mothers, and (2) identify maladaptive and adaptive parenting correlates of specific types of parenting stress.

Design—We analyzed baseline data from interviews conducted with 74 methadone-maintained mothers who expressed interest in a randomized clinical trial study testing the efficacy of a relational parenting intervention. Baseline measures included questionnaires on maternal psychological maladjustment, parenting stress, parenting problems, and children's maladjustment. Three series of hierarchical linear regressions were conducted to test the mediation model and specificity of associations.

Results—Parenting stress mediated the associations between sociodemographic risk and 2 maladaptive parenting domains (aggression and neglect) and between psychological maladjustment and all 5 parenting domains examined (aggression, neglect, affective interactions, limit setting, and autonomy), although correlations were modest. Child-focused stress was associated with higher levels of aggression, limit-setting problems, and restricted autonomy. Stress derived from the mother – child relationship was associated with higher levels of neglect and affective withdrawal.

Conclusions—Although preliminary in nature, results of this study indicate the importance of understanding the role of internal mechanisms (e.g., parenting stress) in the parenting processes of addicted women and examining specific correlates of their parenting problems.

INTRODUCTION

The parenting problems of mothers who become addicted to illicit drugs (i.e., heroin and cocaine) cover a broad range of dimensions. Physical abuse, neglect, abandonment, and foster placement have commonly been reported in substance-abusing families (Chaffin, Kelleher, & Hollenberg, 1996;Mayes, 1995). Observations of parenting deficiencies among drug-addicted women have spanned an increasingly wide range of parenting domains, indicating poor attachment, involvement, and responsiveness; harsh and punitive verbal interactions; and inconsistent, over-controlling approaches to discipline (see Mayes, 1995, for a review). In contrast with commonly held views that illicit drug use impairs parental functioning across a broad spectrum of domains, however, a number of recent findings in developmental research point to the complexity of parenting processes among drug-addicted mothers and the need to closely examine underlying processes and mechanisms linking risk factors with maladaptive parenting. For example, in studies involving direct observation of drug-addicted mothers' parenting interactions with their children, parenting quality has often shown considerable heterogeneity, ranging from poor to adequate (Jeremy & Bernstein, 1984;Hans, Bernstein, & Henson, 1999;Hofkosh et al., 1995). Moreover, findings from recent studies examining correlates of maladaptive parenting suggest that parenting difficulties among addicted mothers are more often a function of specific environmental and psychosocial risk factors that co-occur

with maternal addiction, rather than drug use alone (Bernstein & Hans, 1994;Howard, Beckwith, Espinosa, & Tyler, 1995;Lester, Boukydis, & Twomey, 2000;Suchman & Luthar, 2000). Finally, findings from a number of recent studies, including several ethnographies, indicate that drug-addicted mothers experience high levels of subjective stress in the parenting role (Kelley, 1992,1998), and that much of this stress is related to the unique circumstances of drug addiction (Allen, 1995;Baker & Carson, 1999;Murphy & Rosenbaum, 1999;Raskin, 1993).

Understanding the underlying process and mechanisms of influence between multiple risk factors and parenting has critical implications, not only for better understanding the etiology of maladaptive parenting among drug-addicted women (Belsky, 1993;Rogosch, Cicchetti, Shields, & Toth, 1995), but also for the development of empirically based parenting treatment interventions. In this study, using a parenting stress theoretical framework (Abidin, 1990;Webster-Stratton, 1990), we were interested in determining if two stressors commonly associated with maternal drug addiction — sociodemographic disadvantage and psychological maladjustment — function as distal stressors, the effects of which on parenting are *mediated* by the subjective stress addicted mothers experience in the parenting role. In other words, we sought to determine if the limited socioeconomic and psychological resources common among drug-addicted mothers impair their capacity for tolerating the everyday stresses and strains of parenting, and if this reduced tolerance for stress, in turn, compromises their experience of efficacy in specific parenting domains. We also sought to determine if specific sources of stress in the parenting role were differentially associated with problems in specific parenting domains.

Sociodemographic Risk and Maternal Addiction

Although drug abuse is not limited to the lower socioeconomic strata, the majority of mothers who move beyond experimentation with illicit drugs (i.e., heroin and cocaine) to become drug-dependent are most often single, minority members living below poverty level with limited access to educational resources and financial mobility (Brunswick & Titus, 1998;Haack, 1997;McMahon & Luthar, 1998;National Center on Addiction and Substance Abuse, 1996). Membership in low socioeconomic strata is therefore a common risk factor among heroin-addicted mothers enrolled in methadone maintenance programs. In the extant literature on parenting, socioeconomic status (SES) has typically been measured using a combination of occupational status and education level, and low SES has generally been linked with more authoritarian, controlling, punitive, and restrictive parenting styles (Hoff-Ginsberg & Tardif, 1995;Luthar, 1999). In several studies involving methadone-maintained mothers, investigators have found low SES to be a better predictor of poor parenting interactions (Bernstein, Jeremy, Hans, & Marcus, 1984) and restrictive parenting styles (Suchman & Luthar, 2000) than drug abuse per se. Education level alone may be a better predictor of parenting than occupational status among addicted mothers for several reasons: First, mothers are more likely to leave the workforce to rear their children, and education level has been a more stable and therefore better predictor of maternal parenting than occupational status (Hoff-Ginsberg & Tardif, 1995). Second, the occupational status of drug-addicted mothers often fluctuates for several possible reasons: Many drug-addicted mothers have traditional views of gender roles and therefore prefer to remain at home as primary caregivers (Finkelstein, 1994;Taylor, 1993). Like nonaddicted mothers, their status as primary caregiver precludes their participation in the workforce. Moreover, the addictive lifestyle of drug-addicted mothers and their partners engenders a chaotic schedule and engagement in antisocial behaviors that substantially interfere with maintaining stable, long-term employment. Consequently, it is important to consider how occupational status and education level might differentially confer parenting problems among drug-addicted mothers.

In addition to SES, a second socioeconomic predictor of addicted mothers' parenting is family size. In a study involving methadone-maintained mothers and a comparison group, Suchman and Luthar (2000) found that large family size (i.e., more than three children) conferred greater risk for methadone-maintained mothers' involvement with and protection of their children.

Psychological Maladjustment and Maternal Addiction

Accumulating evidence suggests that maternal psychopathology is also linked with maladaptive parenting among drug-addicted mothers (Beckwith, Howard, Espinosa, & Tyler, 1999;Hans et al., 1999) and may, in fact, be a better predictor of maladaptive parenting than drug abuse, per se. Howard et al. (1995), for example, found that, within a cohort of cocaine-using mothers, those who exhibited the most severe psychological symptoms continued to demonstrate the least sensitive caregiving of their 6-month-old infants even after reducing their drug use.

More so than any particular psychiatric diagnosis, nonspecific factors of mothers' psychological distress, such as the severity and duration of depressive symptoms and other mood states, have accounted for differences in addicted mothers' parenting quality (Beckwith et al., 1999). Maternal depression, for example, has been linked with poor attentiveness and lower sensitivity toward infants (Ball, Mayes, DeToso, & Schottenfeld, 1997;Howard et al., 1995) and higher levels of rejection toward school-aged children (Hans et al., 1999). Maternal hostility has also been found to predict punitiveness toward children and to moderate associations between drug use and punitiveness among drug-abusing mothers (Miller, Smyth, & Mudar, 1999). Although interpersonal isolation or loneliness, another common indicator of poor psychological adjustment among addicted mothers (see Luthar & Suchman, 1999;McMahon & Luthar, 2000), has received less attention for its impact on their parenting, overwhelming evidence that insularity influences a wide range of parenting deficits among nonaddicted mothers (see Webster-Stratton, 1990) suggests that it may have deleterious implications for addicted mothers' parenting as well.

Parenting Stress and Maternal Addiction

Several empirical studies have indicated that, in comparison with non-addicted mothers, drug-addicted mothers experience higher levels of parenting stress, including stress derived from child characteristics, dissatisfaction with the mother – child relationship, and impingement of the parenting role on the mother's own well-being (Harmer, Sanderson, & Mertin, 1999;Kelley, 1992,1998). Specific parenting stresses and strains unique to drug addiction have been well-documented in a number of descriptive studies involving extensive interviews with heroin- and cocaine-using women (see Murphy & Rosenbaum, 1999;Rosenbaum, 1981;Sterk, 1999;Taylor, 1993). Stresses derived from child characteristics, for example, often center on complications of premature birth (e.g., low birth weight, irritability) and children's "failures" to meet mothers' unrealistic expectations for development (Raskin, 1993; Taylor). Dissatisfaction with the mother – child relationship often begins with the experience of rejection, if infants do not to bond securely (Raskin), and may continue if older children do not to meet mothers' unmet emotional needs for nurturance and support (Levy & Rutter, 1992). Addicted mothers have also reported considerable personal guilt and shame as parents about the potential biological harm conferred by drug abuse (Kelley, 1992; Raskin) and its concomitant lifestyle (e.g., exposure to violence, physical abuse, and sexual abuse; Baker & Carson, 1999) on their children, and about their reliance on others for childcare (Baker & Carson; Taylor) and loss of child custody to foster homes (Allen, 1995; Murphy & Rosenbaum). Mothers have also reported fears that society and professional service providers might view them as "bad mothers" and align more strongly with their children (Raskin).

Parenting Stress Model

In the parenting stress literature, there is considerable evidence suggesting that a parent's capacity to cope with the everyday stresses and strains of parenting mediates the association between more distal stressors (e.g., socioeconomic disadvantage) and parental efficacy in a number of interaction domains (see Abidin, 1992;Mash & Johnston, 1990;Webster-Stratton, 1990). Proponents of parenting stress models (Abidin, 1992; Webster-Stratton) have also suggested that a parent's psychological resources (e.g., depression, irritability, insularity, and so forth) cause deficits in coping responses to parenting stress, which, in turn, result in problematic parent – child interactions (see Crnic & Acevedo, 1995; Webster-Stratton). In such instances, maternal psychopathology, much like sociodemographic disadvantage, functions as a "distal" stressor, the effects of which on parental functioning are mediated by the capacity to cope with the everyday stresses and strains of parenting. Based on mediating models of parenting stress, it is plausible, then, that the subjective parenting stress experienced by addicted mothers in the parenting role is the underlying mechanism that links socioeconomic disadvantage and psychological maladjustment, respectively, with problems reported in various maladaptive and adaptive parenting domains. The case for considering addicted mothers' psychopathology as a "distal" stressor is supported by the fact that, for the majority of addicted women, psychopathology is longstanding with onset typically preceding motherhood (Beckwith et al., 1999;Luthar, Cushing, Merikangas, & Rounsaville, 1998) and substance abuse (Hans et al., 1999;Mayes & Bornstein, 1996). Guided by the literature summarized earlier and conceptualizations of parenting stress as a mediator, in this study we considered sociodemographic disadvantage and psychological maladjustment to be "distal" stressors, the effects of which on parenting would be mediated or "explained" by mothers' tolerance for stress in the parenting role.

Bidirectional Patterns in Parent – Child Relationships

Bidirectional patterns have long been apparent across a broad range of parent – child interactions (Allen, Hauser, O'Connor, Bell, & Eickholt, 1996;Ge, Conger, Lorenz, Shanahan, & Elder, 1995;Stice & Barrera, 1995). Parents of children who are more difficult to rear may face greater demands for tolerance, patience, and care and are therefore more likely to be overwhelmed by parenting responsibilities and at risk for parenting problems (Rogosch et al., 1995). Given the prevalence of psychosocial risk and parenting stress among addicted mothers, we expected that caring for a child whose behavior was particularly difficult to manage would further heighten mothers' risk for stress and maladaptive parenting. Perhaps the most challenging child characteristic for any parent to manage is aggression. In comparison with normal children, aggressive children tend to elicit strong, undercontrolled parental feelings of frustration and anger as well as inconsistent interactive styles that vacillate between authoritarian, power-assertive, coercive responses, and responses characterized by passivity, permissiveness, and lack of involvement (Eisenberg et al., 1999;Rubin, Stewart, & Chen, 1995). In one study involving 120 methadone-maintained mothers, Suchman and Luthar (2000) found that mothers who viewed their children as having externalizing problems were more likely to report having difficulties employing appropriate and effective discipline strategies. Although the specific dynamics of reciprocity in parent –child interactions are beyond the scope of this study (for reviews, see Rogosch et al.; Rubin et al.), we were interested in determining if behavioral maladjustment in children would affect mediational patterns of association among parenting stress, distal risk, and parenting problems.

Maladaptive and Adaptive Parenting Domains

Because the parenting problems of substance-abusing mothers cover a broad range of domains that have direct implications for children's psychosocial development, we were interested in examining the mediating role of parenting stress in parenting processes that involve a number

of maladaptive and adaptive parenting domains. Among maladaptive domains, the single most critical in relation to children's psychosocial development is a mother's risk for child maltreatment (i.e., verbal/physical abuse and neglect; see Rogosch et al., 1995). Among adaptive domains, we were interested in tapping three broad areas — affective interactions, appropriate discipline, and promotion of autonomy — that have been identified in the parenting literature as critical parenting behaviors for promoting children's psychosocial development (see Belsky, 1984;Dishion & McMahon, 1998;Heinicke & Ponce, 1999).

Specificity of Associations

We were also interested in examining how specific sources of parenting stress (e.g., stress emanating from child characteristics, the mother – child relationship, and impingement of the parenting role on the mother's well-being) might be differentially associated with specific parenting domains (e.g., aggression, neglect, affective interactions, and so forth). Based on the theoretical perspective that parenting problems are multiply determined (see Belsky, 1993), during the last 2 decades developmental researchers have identified demographic and psychological correlates of maladaptive parenting (for a review see Rogosch et al., 1995) including, more recently, correlates of maladaptive parenting among substance-abusing mothers (Beckwith et al., 1999;Hans et al., 1999;Suchman & Luthar, 2000). In the case of parenting stress, there are some indications in the general parenting literature that parents who are continually stressed by their children's problematic temperaments and behaviors struggle to control their own negative affect toward their children and often resort to maladaptive parenting strategies, including aggression and excessive control (Holden & Banez, 1996;Rubin et al., 1995). We therefore expected that mothers in this study who were stressed about their children's temperaments and behaviors would report problems controlling their own aggression and fostering appropriate limits with their children. Likewise, we expected that mothers who derived little satisfaction from the mother – child relationship would report problems with emotional withdrawal from and neglect of their children.

In sum, the major hypotheses examined in this study were as follows:

1. Associations between sociodemographic factors (i.e., occupation, education, and family size) and parenting problems will be mediated by the subjective experience of parenting stress (with education accounting for more variance than occupational status in parenting problems).
2. Associations between maternal psychological maladjustment (i.e., depression, anger, and loneliness) and parenting problems will be mediated by the subjective experience of parenting stress.
3. Patterns of mediation established for Hypotheses 1 and 2 will persist even when children's maladaptive behavior is taken into account.
4. The subjective parenting stress that mothers attribute to their children's temperaments and behaviors will be related to their reports of aggression and hostility toward their children.
5. The subjective parenting stress that mothers attribute to dissatisfaction with the mother – child relationship will be related to their reports of emotional withdrawal and neglect in the mother – children relationship.

METHODS

Participants

The sample consisted of 74 mothers, recruited from three methadone clinics in New Haven, CT, Mothers completed baseline measures prior to participation in a randomized clinical trial

testing the efficacy of a relational parenting intervention (see Luthar & Suchman, 2000). Data collected during these baseline interviews were analyzed for this study. Mothers were eligible to participate in the study if they were enrolled in methadone maintenance at the time of recruitment had at least one child under 16 years of age, and reported having parenting problems. Exclusion criteria included suicidality, homicidality, and cognitive impairment. Demographic characteristics for the participants are presented in Tables 1 and 2. The majority of women were single mothers (72.9%) between 30 and 40 years of age, $M = 35.3$, $SD = 5.6$, who had completed at least a partial high school education (97.3 %) and were unemployed at the time of the interview (90.5 %), although the majority had some lifetime experience in the work force (78.6%). On average, the mothers had 1.8 children under 16 years of age in their custody. Among the target children selected by mothers to be the focus of their assessments, 56.8 % were boys, and the majority (87.9%) were over 4 years of age.

Procedures

Research assistants recruited mothers on site at the methadone clinics. Mothers who expressed interest in participating in the treatment study met individually with research assistants for consent procedures and baseline interviews to ensure ample assistance with reading and comprehension of questionnaires. During the 3-hr baseline interviews, mothers completed questionnaires pertaining to their own psychosocial adjustment and parenting practices as well as their children's behavioral adjustment. For the parenting and child assessments, mothers were asked to focus on one child about whom they were most concerned; demographic characteristics of these "target" children are reported in Tables 1 and 2. Mothers were paid $15 for completing the baseline assessments. On completion of baseline interviews, mothers were randomized to one of two treatment conditions, an adjunct relational parenting intervention or treatment-as-usual in the methadone clinics (mothers receiving the parenting group also continued to receive treatment-as-usual throughout the study). Mothers remained in their respective treatment conditions for 6 months and were assessed at posttreatment and at 6-month follow-up (see Luthar & Suchman, 1999,2000, for further details.)

Sociodemographic Risk

Sociodemographic factors were assessed with a brief demographics questionnaire. Education and occupation levels were defined using guidelines from Hollingshead Two-Factor Index of Social Position (Hollingshead & Redlich, 1958). We considered the Two-Factor Index to be a more stable measure of mothers' SES than the Four-Factor Index because the presence of other contributors to the household income of addicted mothers is typically sporadic. Rather than using a composite SES score comprised of education and occupation, we considered each as a separate variable to examine their unique contributions to the overall model. We defined family size as the number of children in the mother's custody at the time of the interview and assessed it with the demographics questionnaire.

Psychological Maladjustment

Depression—The Short Form Beck Depression Inventory (BD1–SF; Beck & Beck, 1972) is a 13-item questionnaire that assesses general depression. Rated on a 4-point scale, the BDI–SF has demonstrated good construct validity (Foelker, Shewchuk, & Niederehe, 1987;Leahy, 1992) and convergent validity with the standard BDI (Gould, 1982). The BDI–SF has also demonstrated good internal consistency for samples of female participants (Leahy, 1992) and methadone-maintained patients (Reynolds & Gould, 1981). For this sample, Cronbach's alpha coefficient was .89.

Anger—The State–Trait Anger Expression Scale (Spielberger, 1996) is a 44-item questionnaire rated on a 4-point scale that assesses the experience and expression of anger.

Three 8-item subscales each pertain to the degree to which anger is expressed. These include Anger/Out, the expression of anger aggressively toward others (e.g., "When angry or furious, I strike out at whatever infuriates me."); Anger/In, the extent to which anger is experienced but suppressed (e.g., "When angry or furious, I boil inside."); and Anger/Control, monitoring of the expression of anger (e.g., "When angry or furious, I control my behavior."). Considered together, these three subscales yield a composite score, Anger Expression, that was used in this study. This composite has been widely used and has demonstrated good convergent and divergent validity. Cronbach's alpha coefficient for this sample was .83.

Loneliness—The Revised UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980) is a 20-item questionnaire that assesses the global dimension of loneliness. The revised scale includes 10 positively worded items (e.g., "I can find companionship when I want it.") and 10 negatively worded items (e.g., "There is no one I can turn to.") that are each rated on a 4-point scale. The measure has been widely used and has demonstrated good psychometric properties, including discriminant and construct validity (Hartshorne, 1993;Knight, Chisolm, Marsh, & Godfrey, 1988;Russell, 1996), Cronbach's alpha coefficient was .83 for this sample.

Parenting Stress

The Parenting Stress Index–Short Form (PSI–SF; Abidin, 1995) is a 36-item questionnaire that measures stress level experienced within the parenting role. Rated on a 5-point scale, the measure contains three subscales pertaining to parenting stress: The Difficult Child (DC) subscale assesses the degree to which parents are bothered by behavioral characteristics of their children that make them difficult to manage (e.g., "My child makes more demands on me than most children."). The Parent–Child Dysfunctional Interaction (P–CDI) subscale focuses on the degree to which parents are satisfied with their children's abilities to meet their expectations (e.g., "My child rarely does things for me that make me feel good."). The Parental Distress (PD) subscale determines the distress parents experience as a function of personal factors that are directly related to parenting (e.g., "I find myself giving up more of my life to meet my children's needs than I ever expected."). The PSI–SF subscales have demonstrated good internal consistency among substance-abusing mothers (Kelley, 1998) and concurrent validity with the full-length PSI (Abidin, 1995). For this sample, Cronbach's alpha coefficients were .90, .88, and .88 for the DC, P–CDI, and PD subscales, respectively.

Children's Maladaptive Behavior

The Externalizing composite score from the Parent Rating Scale (PRS) of the Behavioral Assessment System for Children (BASC; Reynolds & Kamphaus, 1992) served as the measure of children's maladaptive behavior. Separate PRS forms are available for different age groups of children: the Preschool (ages 4–5), Child (ages 6–11), and Adolescent (ages 12–18) versions, with 131, 138, and 126 items, respectively, all rated on 4-point scales. *T* scores above 60 on this subscale indicate clinically significant problems (Reynolds & Kamphaus). The BASC–PRS has demonstrated good psychometric properties including internal consistency, interrater reliability, and concurrent validity (Adams & Drabman, 1994;Flanagan, 1995;Kamphaus & Frick, 1996). For this sample, Cronbach's alpha coefficients were .70, .89, and .92, respectively, for the Preschool, Child, and Adolescent versions.

Parenting Problems

Maladaptive parenting—The Parental Acceptance–Rejection Questionnaire (PARQ; Rohner, 1991) is a 60-item survey that determines a parent's stance on an acceptance–rejection continuum in relation to her child. The PARQ consists of four subscales, including Warmth/Affection, Aggression/Hostility, Neglect/Indifference, and Undifferentiated Rejection. Two of these scales were used to measure mothers' maladaptive parenting: The Aggression/Hostility

subscale focuses on the mother's harsh verbal interactions (e.g., "When my child does something wrong, I threaten or frighten her.") and physical abuse (e.g., "I hit my child even when he may not deserve it.") directed toward her child. The Neglect/Indifference subscale focuses on the mother's lack of attention to her child's needs (e.g., "I forget things I am supposed to do for my child."). Each subscale contains 15 items rated on a 4-point scale and has demonstrated good internal consistency; and convergent, discriminant, and construct validity (Rohner, 1986,1991). For this sample, Cronbach's alpha coefficients were .85 for the Aggression/Hostility subscale and .75 for the Neglect/Indifference subscale.

Adaptive parenting—The Parent–Child Relationship Inventory (PCRI; Gerard, 1994), a 78-item self-report measure rated on a 4-point scale, served as the measure for adaptive parenting. The PCRI consists of six subscales, including Communication, Involvement, Limit Setting, Autonomy, Satisfaction, and Support. Four of these subscales were used to assess mothers' positive interactions with their target children. The Communication (capacity to talk and empathize with children) and Involvement (expressed interest in children's activities) subscales were used to assess mothers' affective interactions with their target children. To minimize the likelihood of a Type I error, the Communication and Involvement subscales from the PCRI, which were empirically and conceptually related, $r = .61$, were summed to form a composite Affective Interaction index, Cronbach's $\alpha = .88$. The Limit Setting subscale was used to assess mothers' ability to provide appropriate discipline. The Autonomy subscale was used to assess mothers' ability to promote their children's independence. The PCRI has demonstrated adequate psychometric properties including construct and concurrent validity (Gerard, 1994;Heinze & Grisso, 1996) and internal consistency for other samples of low SES and methadone-maintained women (Suchman & Luthar, 2000). For this sample, Cronbach's alpha coefficients ranged between .60 and .80, with a median of .77.

RESULTS

Data Reduction, Descriptive Data, and Intercorrelations

Means and standard deviations for all variables are presented in Table 2. Mothers' mean scores on all psychological adjustment and parenting stress indexes approached the clinical cutoff scores that correspond with clinical maladjustment. Mean scores on two parenting indexes (neglect and autonomy) approached or surpassed the clinical cutoff scores, whereas mean scores for aggression, affective interaction, and limit setting were within normal limits. In all measured domains except anger, aggression, affective interaction, and limit setting, at least 40% of the mothers had mean scores beyond the clinical cutoff. Sixty nine of the 74 mothers (93.2%) met criteria for clinical risk on at least one of the psychological or parenting domains. In short, the descriptive data confirm that, overall, the majority of mothers in this sample reported being at risk for psychological maladjustment and/or parenting problems.

Intercorrelations among variables (Table 3) were generally in expected directions. Mothers' age and children's age and gender each correlated with at least one maternal variable (either psychological maladjustment or parenting) and were therefore retained as covariates in subsequent analyses. Psychological maladjustment and sociodemographic risk variables were generally correlated with parenting stress and parenting indexes, with the exception of depression, which was not correlated with any parenting variable. Depression was nevertheless retained for subsequent analyses because covariates can possibly obscure its association with parenting. The magnitude of correlations between psychological maladjustment and parenting stress variables, which ranged between .15 and .55 with a median of .27, indicated a maximum shared variance of 30%, suggesting that the variables represented related but distinct constructs. Associations among the three parenting stress indexes and the maladaptive and adaptive parenting indexes were generally in expected directions, with the exception of three pairs of

variables (of 15 total), which were not significantly intercorrelated. The magnitude of correlations between parenting stress variables and other parenting variables, which ranged between .04 and .65 with a median of .37, indicated a maximum shared variance of 42%, suggesting that the variables represented related but distinct constructs. Children's externalizing behavior correlated with two of the five parenting domains (affective interactions and limit setting).

Mediation Analyses

To test the linkages of the mediation model (see Baron & Kenny, 1986), three series of hierarchical regression analyses were conducted. In the first series, parenting stress was regressed on sociodemographic risk and psychological maladjustment, respectively, to confirm associations between the mediator and independent variables. The second series of regression analyses involved examining variance in maladaptive and adaptive parenting explained by sociodemographic risk and psychological maladjustment, respectively, without the inclusion of parenting stress as a mediator in the model, to confirm associations between each of the independent variables and the dependent variables. The third and final series of regression analyses involved determining if the addition of parenting stress resulted in a meaningful reduction in the strength of association between the independent variables (sociodemographic risk and psychological maladjustment, respectively) and the maladaptive and adaptive parenting domains.

In all analyses, mothers' age and target children's age and gender were entered into the model first as covariates. Sociodemographic factors, which tend to be antecedent to psychological maladjustment, were entered second.

Given the small sample, and guided by Cohen's (1988, p. 80) suggestion that, even in the absence of statistical significance at the .05 level, effect sizes (*d*) approximating .5 (which corresponds to an R^2 value of .09) can represent meaningful levels of variance, we considered all correlations corresponding to medium effect sizes, $d = .5$, meaningful.

Parenting stress—In the first series (see Table 4), covariates accounted for marginally significant variance in relationship-focused stress, $R^2\Delta = .10$, $p < .10$, with children's age explaining the most unique variance. After covariates were taken into account, sociodemographic factors predicted meaningful variance in child-focused parenting stress, $R^2\Delta = .14$, $p < .05$; relationship-focused stress, $R^2\Delta = .12$, $p < .05$; and parent-focused stress, $R^2\Delta = .10$, $p < .05$. Among the sociodemographic variables, education level and family size explained unique significant variance in parenting stress, whereas occupation level did not explain significant unique variance in any parenting stress domain. Psychological maladjustment predicted significant variance in parent-focused stress, $R^2\Delta = .39$, $p < .001$, and marginally significant but meaningful variance in child-focused stress, $R^2\Delta = .09$, $p < .10$, $d = .5$, and relationship-focused stress, $R^2\Delta = .09$, $p < .10$, $d = .5$. Loneliness predicted unique variance in child-focused and relationship-focused stress, whereas anger and depression predicted unique variance in parent-focused stress.

Maladaptive parenting—In the second series of analyses involving maladaptive parenting domains (see Table 5), the covariate block accounted for significant variance in maternal aggression, $R^2\Delta = .13$, $p < .05$, with children's age and gender explaining the most unique variance. After covariates were taken into account, the sociodemographic block explained significant variance in aggression, $R^2\Delta = .14$, $p < .01$, and neglect, $R^2\Delta = .12$, $p < .05$. Within the sociodemographic block, education and family size explained unique variance in aggression, and family size explained unique variance in neglect. The psychological maladjustment block explained significant variance in maternal aggression, $R^2\Delta = .09$, $p <$.

05, and neglect, $R^2\Delta = .12$, $p < .05$. Anger explained unique variance in aggression and loneliness explained unique variance in neglect. In the third series of analyses in which parenting stress was entered as a mediator in Block 2, associations of sociodemographic factors with maternal aggression and neglect were reduced by 71% and 67%, respectively, and associations of psychological maladjustment with maternal aggression and neglect were reduced by 33% and 67%, respectively.

Adaptive parenting—In the second series of analyses involving adaptive parenting domains (see Table 6), the covariate block accounted for significant variance in affective interactions, $R^2\Delta = .13$, $p < .05$, with children's age accounting for significant unique variance. After covariates were taken into account, the sociodemographic block did not explain significant variance in any adaptive parenting domain. Psychological maladjustment explained significant variance in affective interactions, $R^2\Delta = 10$, $p < .05$; limit setting, $R^2\Delta = .13$, $p < .05$; and autonomy, $R^2\Delta = .11$, $p < .05$. Loneliness explained unique variance in affective interactions and limit setting, whereas anger and depression explained unique variance in autonomy. In the third series of analyses in which parenting stress was entered as a mediator in Block 2, associations of psychological maladjustment with affective interactions, limit setting, and autonomy were respectively reduced by 40%, 85%, and 27%. (Associations of sociodemographic adjustment with adaptive parenting domains were not examined because they did not explain significant variance in the second series of regression analyses.)

Repeated Mediation Analyses Controlling for Children's Maladjustment

To determine if children's behavioral maladjustment altered the patterns of mediation identified earlier, we repeated the three series of analyses described earlier with data from a subset of mothers who had completed baseline measures of children's maladjustment for target children between 4 and 16 years of age. In each series of analyses, externalizing scores were entered into Block 1 with other covariates. Results of these analyses demonstrated similar patterns of mediation: On average, parenting stress reduced associations between sociodemographic risk and maladaptive parenting by 51%, between psychological maladjustment and maladaptive parenting by 66%, and between psychological maladjustment and adaptive parenting by 46%.

Sources of Parenting Stress and Associated Parenting Behaviors

Specific associations between parenting stress and self-reported parenting domains are also presented in Tables 5 and 6. After variance due to covariates was taken into account, child-focused stress predicted significant unique variance in maternal aggression, $R^2 = .10$, $p < .001$; limit setting, $R^2 = .14$, $p < .001$; and autonomy, $R^2 = .08$, $p < .05$; beta values indicated that increases in child-focused stress were associated with higher levels of maternal aggression, more limit setting problems, and more restricted autonomy. Relationship-focused stress predicted significant unique variance in neglect, $R^2 = .28$, $p < .001$, and affective interactions, $R^2 = .14$, $p < .001$; beta values indicated that increases in relationship-focused stress were associated with higher levels of neglect and lower levels of positive affective interactions. Parent-focused stress was not associated with any parenting domain.

DISCUSSION

In this study, our primary aim was to examine how complex internal mechanisms contribute to the parenting problems of drug-addicted women. Guided by prior conceptualizations of parenting stress (see Abidin, 1990;Webster-Stratton, 1990), we examined the role of subjective parenting stress as a mediator in the associations between two known risk factors commonly associated with maternal addiction — sociodemographic risk and psychological maladjustment — and addicted mothers' parenting (including maladaptive and adaptive domains). Results of

this study, although modest, indicate that subjective parenting stress mediates the relation between sociodemographic risk and maladaptive parenting, and between psychological maladjustment and both domains of parenting (maladaptive and adaptive). The findings provide preliminary support for the hypothesis that, in the parenting processes of drug-addicted mothers, sociodemographic risk and psychological maladjustment function as distal stressors, the effects of which on parenting are partially explained by the level of subjective stress mothers experience in the parenting role.

Our second aim in this study was to examine specific associations between sources of parenting stress and problematic parenting domains. As we had expected, when addicted mothers viewed their children's temperaments and behaviors as a source of parenting stress, mothers were more likely to report parenting problems involving verbal and physical aggression, ineffective discipline, and excessive control (restriction of children's autonomy). Alternatively, when mothers reported dissatisfaction and stress in the mother – child relationship, they were more likely to report parenting problems involving neglect and withdrawal from involvement in their children's day-to-day activities. Each finding is discussed, in turn, next.

Sociodemographic Risk as a Distal Stressor

In extant literature focusing on sociodemographic risk and parenting, socioeconomic disadvantage has generally been linked with more problematic parenting styles among drug-addicted (Suchman & Luthar, 2000) and nonaddicted mothers (Hoff-Ginsberg & Tardif, 1995;Luthar, 1999). In this study, when parenting stress was tested as a mediator, associations between sociodemographic risk and maladaptive parenting (i.e., aggression and neglect) were reduced, on average, by 69%. Even after children's maladaptive behavior was taken into account, average reduction in variance was 51%. Consistent with prior work (see Mash & Johnston, 1990;Webster-Stratton, 1990), these findings suggest that previously established associations between sociodemographic risk and maladaptive parenting among drug-abusing mothers may be explained by an attenuation in mothers' tolerance for the everyday stresses and strains of parenting. In other words, it is plausible that sociodemographic risk functions, in part, as a distal stressor, reducing mothers' tolerance for parenting stress, which, in turn, increases their propensity for aggression and neglect.

Sociodemographic risk was not associated with any adaptive parenting behavior. This finding is consistent with prior studies (Hoff-Ginsberg & Tardif, 1995) showing that, although low-SES parents use harsher discipline and more excessive control with their children than their high-SES counterparts, efforts to sustain positive affective connections and involvement are comparable. This finding is also consistent with results of a recent study (Suchman & Luthar, 2000) examining simultaneous influences of heroin addiction, sociodemographic risk, and children's maladaptive behavior on three adaptive parenting domains (affective interactions, limit setting, and autonomy), which showed that sociodemographic risk only explained variance in autonomy. The apparent contradiction in the parenting styles of low-SES mothers —excessive control yet strong interest and involvement — may be explained as an adaptive response to living in environments where children's exposure to violence, crime, and other health hazards is high (see Luthar, 1999).

As expected, education level, which may be the most stable indicator of SES among drug-using mothers, was a better predictor of parenting stress and maladaptive parenting than occupation level. This finding points to the importance of carefully considering the relevance of commonly used indexes of SES and other sociodemographic measures that may have limited construct validity with specific populations (e.g., drug-addicted adults, women, and so forth).

Psychological Maladjustment as a Distal Stressor

In previous studies focusing on antecedents of maladaptive parenting among drug-addicted mothers, maternal psychopathology, particularly nonspecific factors of psychological distress (Beckwith et al., 1999), has been directly linked with a broad range of problematic parenting behaviors. In this study, when parenting stress was tested as a mediator, associations between psychological maladjustment and maladaptive parenting (i.e., aggression and neglect) were reduced, on average, by 50%, and associations between psychological maladjustment and adaptive parenting (i.e., affective interactions, appropriate limit setting, and promotion of autonomy) were reduced, on average, by 51%. When children's maladaptive behavior was taken into account, average reductions in variance were 66% for maladaptive parenting and 46% for adaptive parenting. Consistent with prior work (Crnic & Acevedo, 1995;Webster-Stratton, 1990), these findings suggest that previously identified associations between maternal psychopathology and parenting may be explained, in part, by an attenuation in mothers' tolerance for the everyday stresses and strains of parenting. Stated differently, it is plausible that mothers' psychological maladjustment causes a reduction in tolerance for parenting stress, which, in turn, compromises mothers' sense of efficacy in the mother – child relationship.

Specificity of Associations

Addicted mothers are commonly viewed as grossly inadequate parents whose psychological disturbance is so pervasive that it affects the full spectrum of parenting domains (see Luthar, Cushing, & McMahon, 1997). In this study, however, we found that associations between parenting problems and parenting stress reflected greater specificity. Parenting problems involving aggression and poor discipline, for instance, were more likely to arise when mothers were stressed by their children's characteristics and behaviors. This finding is consistent with evidence that abusive mothers, in comparison with nonabusive mothers, tend to view their children as having significant behavioral and temperament problems and as more difficult to rear (Mash & Johnston, 1990;Whipple & Webster-Stratton, 1991). An attachment theory perspective of child maltreatment may help to illuminate the relational context in which these specific associations arise. The cluster of parenting behaviors associated with child-focused stress in this study — aggression, ineffective discipline, and restriction of children's autonomy — are parent characteristics that have been previously associated with more dismissive attachments to children, attachments that are often driven by parents' perceptions of their children as victimizers and antagonists (Rogosch et al., 1995).

Our results also indicated that parenting problems involving neglect and withdrawal were more prevalent when mothers were stressed and dissatisfied about their relationships with their children. This finding is consistent with explanations of maternal neglect and withdrawal as manifestations of inconsistent attachment in the mother – child relationship (Rogosch et al., 1995). When mothers experience high levels of ambivalence about their connections with children, they tend to show a lack of responsiveness and withdrawal, as well as feelings of helplessness and fewer expectations for their children (Rogosch et al.).

It is noteworthy that, overall, mothers' age, and children's age and gender only accounted for significant unique variance in one parenting stress dimension, and in just two of the six parenting domains. This lack of covariation may be an indication that mothers in this sample generally experience parenting stress and parenting problems universally regardless of children's age or gender, and that these problems may not ameliorate with accumulated experience in the parenting role. The overall pattern of findings in this study also suggests that the parenting stress and parenting problems experienced by methadone mothers are more likely to be a function of mothers' internal disturbances and children's problematic behavior.

Limitations

Because of a number of limitations, results of this study should be considered preliminary and primarily of heuristic value for future research endeavors. As a test of mediation involving several series of regression analyses with data from a small sample, this study yielded a number of modest correlations and medium effect sizes. Although the restricted sample might also be viewed as having conferred heightened stringency in our statistical testing, increasing the likelihood of failure to obtain statistical significance for associations that in reality are robust (Type II errors), further replications of this work with larger samples of mothers are warranted before findings can be considered conclusive.

The cross-sectional design is a second limitation that precludes interpretations about the direction of causality. Whereas psychological disturbance and parenting stress can clearly affect women's parenting, for example, it is also plausible that mothers who see themselves as ineffective parents become vulnerable to heightened psychological disturbance, or come to experience higher feelings of stress in the parenting role. It is also possible that ineffective parenting leads to greater emotional-behavioral disturbance in children that then leads to greater parenting stress. Replication of this study using a longitudinal design may help clarify the order of occurrences among variables.

A third limitation is our sole reliance on self-report measures. Further examination of the patterns of association identified in this study, using independent measures of parenting behavior and child adjustment, are necessary to confirm the patterns of association identified here. This limitation notwithstanding, there are two issues that warrant consideration in this regard. First, if the data were highly confounded by shared method variance, the likelihood of finding a global, diffuse set of equally strong associations among *all* constructs examined would have increased substantially. Instead, there were distinct patterns of mediation *and* specific links between particular stress indexes and parenting behaviors in directions that were hypothesized based on conceptual and theoretical arguments. Second, self-reported data constitute the only route toward developing a phenomenological understanding of women's cognitive and emotional experiences as parents. In prior quantitative studies, drug-addicted mothers have typically been studied in terms of their attitudes and behaviors toward children, their psychiatric symptoms, and their demographic risks, rather than their internal responses to motherhood (see Luthar, Doyle, Suchman, & Mayes, 2001).

Finally, any generalization of findings from this sample to other mothers in methadone treatment is constricted by the mothers' unique motivation to participate in a parenting intervention.

Research and Clinical Implications

Limitations notwithstanding, results of this study underscore the complexity of internal mechanisms that are associated with addicted mothers' parenting processes and add to a growing body of literature (Beckwith et al., 1999;Hans et al., 1999;McMahon & Luthar, 2000;Suchman & Luthar, 2000) showing that addicted mothers, like any other population, are a heterogeneous group of women whose parenting strengths and difficulties vary and are likely determined by complex mechanisms involving multiple risk factors. Specifically, our findings suggest that, in addition to identifying multiple risk and protective factors (e.g., low SES, psychopathology and so forth) associated with maternal addiction, there is a need for research that examines the role of internal mechanisms (e.g., responses to parenting stress, perceptions of parenting, and so forth) in determining how risk factors will ultimately affect parenting behavior and child development.

In many ways, our work builds on the conceptual models of Belsky (1984),Abidin (1992), and others (Webster-Stratton, 1990) in which parents' characteristics (e.g., personality, psychopathology) are central in determining how environmental stresses will influence their parenting and their children's well-being. Our aim in this study has been to take this theoretical position one step further by acknowledging that mothers' own perceptions of their experiences in the parenting role may also be critical to understanding how characteristics of the environment and parent exert an impact on parenting behavior and children's adjustment. This perspective is particularly critical for addiction and family research, as investigators move beyond the commonly held view that drug addiction alone is responsible for global parenting deficits and, instead, begin examining motherhood within a developmental context, as a complex process involving environmental and internal mechanisms that are not yet fully understood.

Further research in several specific directions will build on this current effort to understand the role of internal mechanisms in the parenting processes of addicted women. Perhaps the most important replication of this work involves examining how tolerance for parenting stress mediates associations between distal risk factors and directly observed parenting behavior and child outcomes. Because of fears about losing custody of children and other impending legal problems, drug-addicted mothers often feel pressured to distort reports about interactions with their children (see Mayes, 1995). Direct observation and evaluation of parenting interactions and child outcomes will provide an essential, additional source of information that can add validity to our current findings. Future research also needs to move beyond global definitions of parenting stress (i.e., child-focused, mother-focused, and so forth) to examine how addicted mothers' perceptions of parenting stress that is unique to addiction (e.g., bonding difficulties with irritable infants, transitions to parental authority, absence of social/societal support) act as determinants in the parenting process. Finally, there is a need to examine other internal mechanisms (e.g., mothers' internal representations of the parent – child relationship) as determinants in the parenting process of addicted women. Parenting research with nonaddicted (e.g., Biringen, Matheny, Bretherton, Renouf, & Sherman, 2000;Crittenden, Lang, Claussen, & Partridge, 2000;Soares, Fremmer-Bombik, Grossmann, & Silva, 2000) and addicted mothers alike (e.g., Goodman, Hans, & Cox, 1999;Schuler, Black, & Starr, 1995) has already established that mothers' internal representations of parenting influence their subsequent behaviors and their children's development. More research is necessary to understand how these perceptions might also function as mediators.

For clinical practice, our findings underscore the need for interventions that target not only addicted women's personal maladjustment, but also, more specifically, the unique constellation of stresses experienced by drug-addicted mothers in the parenting role. Our results suggest that, if interventions for addicted mothers only address their personal maladjustment, feelings of stress as parents are likely to remain and influence their parenting behaviors in negative ways. On the other hand, if interventions directly target parenting stress by addressing dilemmas that are particularly salient for addicted mothers (i.e., clarifying effects of maternal drug use on children, establishing developmentally appropriate expectations, contending with social stigmatization, and so forth), the adverse effects of overall distress on parenting are likely to become attenuated. Consistent with this suggestion, clinical trial data indicate that therapeutic interventions that directly address addicted mothers' parenting stress can effectively reduce child maltreatment risk and also foster adaptive parenting behaviors (see Heinicke et al., 1999;Luthar & Suchman, 1999,2000).

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TABLE 1

Demographic Characteristics of the Sample

	%
Marital status	
Never married	40.5
Married or with partner	21.7
Separated/divorced	32.4
Widowed	5.4
Ethnicity	
European American	67.6
African American	23.0
Latin American	9.4
Education	
College/university graduate	2.7
Partial college training	20.3
High school graduate/GED	43.2
Partial high school	31.1
Junior high school	2.7
Occupation[a]	
Executive	2.8
Administrative, clerical	32.5
Skilled, semiskilled, unskilled	43.3
Unemployed, welfare	21.4
Employment status[b]	
Employed (full- or part-time)	9.5
Unemployed	90.5
Target children	
Male	56.8
Age (years)	
Under 4	12.1
4–5	8.1
6–11	44.6
12–16	35.2

Note. $N = 74$.

[a]Highest occupation level attained during lifetime; corresponds to Occupational Scale levels from the Hollingshead Two-factor Index of Social Status (Hollingshead & Redlich, 1958).

[b]Current employment status at the time of the interview.

TABLE 2

Mother and Child Variables

	M	*SD*	Clinical Cut-Off Score[a]	Percentage of Sample Beyond Clinical Cut-Off
Mother's age	35.29	5.59	—	—
Children's age	11.89	3.07	—	—
Years of education (mother)	11.20	1.90	—	—
Family size	1.80	1.18	—	—
Children's externalizing[b]	55.59[c]	33.32	>60[d]	27
Psychological maladjustment				
Depression	8.24	6.32	>8[e]	51
Anger	57.00	10.10	>56[d]	18
Loneliness	45.63	8.75	>48[e]	43
Parenting stress				
Child-focused	31.67	10.56	>33[d]	43
Relationship-focused	25.87	9.21	>26[d]	45
Parent-focused	31.68	9.75	>33[d]	45
Maladaptive parenting				
Aggression	27.57	7,44	>36[e]	19
Neglect	29.13	5.19	>27[e]	54
Adaptive parenting				
Affective interactions	46.31	10.44	<40[d]	34
Limit setting	46.33	9.15	<40[d]	30
Autonomy	40.39	8.52	<40[d]	43

[a] Corresponds to cutoff scores beyond which clinical maladjustment is likely.

[b] $n = 65$ children between 4 and 16 years of age.

[c] Italicized values represent *T* Scores.

[d] Clinical cutoff scores were provided by authors of measures in administration manuals.

[e] Clinical cutoff scores ($M + 1SD$) were derived from published means and standard deviations cited in Gould (1982);Franz (1990);Hartshorne (1993); Russel, Peplau, and Ferguson (1978); and Russel, Peplau, and Cutrona (1980).

TABLE 3

Correlations Among AH Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Covariates																	
1. Mothers' age	—																
2. Children's age	.42**	—															
3. Children's gender[a]	.16	.09	—														
Sociodemographic factors																	
4. Education level	.16	−.17	.18	—													
5. Occupation level	.04	−.26*	−.15	.27*	—												
6. Family size	.11	.23	−.01	−.16	−.18	—											
Psychological maladjustment																	
7. Depression	−.02	.04	−.09	.01	.12	.14	—										
8. Anger	−.34**	−.12	−.16	−.12	.04	.12	.32**	—									
9. Loneliness	.14	.00	−.15	.03	−.06	.04	.44**	.19	—								
Parenting stress																	
10. Child-focused	−.08	.15	−.03	−.34**	−.12	.28*	.15	.25*	.25*	—							
11. Relationship-focused	−.06	.21	−.15	−.29*	−.13	.33**	.17	.27*	.27*	.72*	—						
12. Parent-focused	−.07	.00	−.17	−.25*	−.03	.26*	.55**	.51*	.42*	.54**	.59**	—					
Child maladjustment																	
13. Externalizing (n=65)	.14	.19	,17	.01	.03	.19	.16	−.01	−.07	.41**	.30**	.10	—				
Maladaptive parenting																	
14. Aggression	.08	.24*	−.24*	−29*	−.02	.38**	.03	.30*	.14	.60**	.56**	.37**	.10	—			
15. Neglect	.03	.10	−.08	−.19	.09	.28*	.09	.24*	.26*	.50**	.60**	.37**	.14	.66**	—		
Adaptive parenting																	
16. Affective interactions	−.12	−.28*	.00	.05	.07	−.18	−.17	.01	−.30*	−.31**	−.50**	−.17	−.37**	−.20	−.40**	—	
17. Limit setting	.05	−.06	.14	.21	.05	−.19	−.19	−.30**	−.31**	−.65**	−.54**	−.44**	−.42**	−.44**	−.39**	.44**	—
18. Autonomy	.11	.13	−.04	.09	.14	.14	.23	−.17	−.04	−.31**	−.16	−.04	.01	−.10	−.02	−.01	.20

[a] 0 = male, 1 = female.

* p<.05.

** p<.01.

TABLE 4

Hierarchical Regressions Testing Associations Between Independent Variables (Socioeconomic Disadvantage and Psychological Maladjustment) and Mediator Variables (Parenting Stress)

		Parenting Stress					
		Child-Focused		Relationship-Focused		Parent-Focused	
	Step	B[a]	R^{2b}	B	R^2	B	R^2
Covariates	1		.05		.10†		.03
Mother's age		−.19	.03	−.18	.02	−.07	.00
Child's age		.24	.05†	.30	.07*	.05	.00
Child's gender*		−.02	.00	−.14	.02	−.16	.02
Sociodemographic factors	2		.14*		.12*		.10*
Education level		−.29	.07*	−.18	.04†	−.20	.04†
Occupation level		.04	.00	.01	.00	.03	.00
Family size		.24	.05*	.28	.07*	.25	.06*
Psychological maladjustment	3		.09†		.09†		.39***
Depression		−.05	.01	−.06	.00	.36	.09**
Anger		.13	.01	.17	.02	.32	.08**
Loneliness		.27	.05*	.24	.05*	.18	.02†
Total R^2			.28		.31		.39

[a] Standardized beta weights.

[b] Values presented in the first row of each block represent change in R^2; values presented in subsequent rows of each block represent unique R^2.

[c] 0 = male, 1 = female.

† $p < .10$.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

TABLE 5

Hierarchical Regressions With and Without Test of Parenting Stress as a Mediator in Model for Maladaptive Parenting

		Aggression				Neglect			
		Without Mediation Test		With Mediation Test[a]		Without Mediation Test		With Mediation Test[a]	
	Step	B[b]	R^{2c}	B	R^2	B	R^2	B	R^2
Covariates	1		.13*		.13*		.02		.02
Mother's age		.01	.00	−.01	.00	.06	.00	.06	.00
Child's age		.25	.05*	.27	.06*	.08	.00	.08	.00
Child's gender[d]		−.26	.06*	−.27	.07*	−.09	.01	−.09	.01
Parenting stress	2				.34***				.37***
Child-focused				.26	.10***			.16	.03
Relationship-focused				.20	.02			.53	.28***
Parent-focused				−.02	.00			−.02	.00
Sociodemographic factors	3		.14**		.04		.12*		.04
Education level		−.21	.05*	−.05	.00	−.20	.03	−.07	.01
Occupation level		.11	.01	.09	.00	.20	.03	.19	.04
Family size		.32	.09**	20	.03	.27	.07*	.11	.01†
Psychological maladjustment	4		.09*		.06*		.12*		.04
Depression		−.20	.03	−.18	.02	−.17	02	−.10	.01
Anger		.30	.07**	.26	.04*	.21	.03	.14	.02
Loneliness		.13	.01	−.06	.00	.31	.07*	.17	.03
Total R^2			.32		.57				.46

[a] With parenting stress tested as a mediator in Block 2.

[b] Standardized beta weights.

[c] Values presented in the first row of each block represent change in R^2; values presented in subsequent rows of each block represent unique R^2.

[d] 0 = male, 1 = female.

† $p < .10$.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

TABLE 6

Hierarchical Regressions With and Without Test of Parenting Stress as a Mediator in Model for Adaptive Parenting

		Affective Interactions				Limit Setting				Autonomy			
		Without Mediation Test		With Mediation Test[a]		Without Mediation Test		With Mediation Test[a]		Without Mediation Test		With Mediation Test[a]	
	Step	B[b]	R^{2c}	B	R^2	B	R^2	B	R^2	B	R^2	B	R^2
Covariates	1		.13*		.14*		.03		.03		.03		.03
Mother's age		.10	.01	.12	.01	.07	.00	.08	.00	.14	.01	.14	.01
Child's age		−.39	.12**	−.41	.13**	−.10	.01	−.11	.01	.04	.00	.04	.00
Child's gender[d]		−.03	.00	−.01	.00	.13	.02	.14	.02	−.09	.01	−.09	.01
Parenting stress	2				.19				.42***				.12*
Child-focused				.09	.00			−.56	.14***			−.43	.08*
Relationship-focused				−.58	.14***			−.11	.00			−.01	.00
Parent-focused				.12	.01			−.06	.00			.20	.02
Sociodemographic factors	3		.02		.01		.05		.00		.05		.06
Education level		.02	.00	−.06	.00	.16	.02	−.05	.00	.11	.01	.02	.00
Occupation level		−.04	.00	−.04	.00	−.02	.00	.01	.00	.16	.02	.17	.02
Family size		−.14	.02	−.05	.00	−.16	.02	.01	.00	.15	.02	.22	.04†
Psychological maladjustment	4		.10*		.06		.13*		.02		.11*		.08†
Depression		−.01	.00	−.11	.01	.03	.00	−.03	.00	.34	.08*	.28	.04†
Anger		.10	,01	.09	.01	−.22	−.04†	−.16	.02	−.26	.05*	−.26	.04†
Loneliness		−.34	.08**	−.23	.03†	−.27	.05*	−.08	.00	−.15	.02	−.05	.00
Total R^2			.25		.40		.21		.48		.20		.29

[a] With parenting stress tested as a mediator in Block 2.

[b] Standardized beta weights.

[c] Values presented in the first row of each block represent change in R^2; values presented in subsequent rows of each block represent unique R^2.

[d] 0 = male, 1 = female,

† $p < .10$.

* $p < .05$.

** $p < .01$.

*** $p < .001$.