Parenting a Child with Autism: Contextual Factors Associated with Enhanced Daily Parental Mood

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Objective To examine the extent to which social support, unsupportive interactions, support services, and disruptive child behaviors predict daily positive and negative mood in parents of children with autism.

Methods Ninety-three parents of children with autism completed initial measures of disruptive child behaviors, and support services, then biweekly measures of daily stress, received emotional and instrumental social support, unsupportive social interactions, and mood over 3 months. Results Greater levels of daily positive mood were associated with more emotional and instrumental support, and less parenting stress and unsupportive interactions. Greater daily negative mood was associated with less emotional support and more parenting stress, unsupportive interactions, and disruptive child behaviors. Emotional support, unsupportive interactions, and disruptive child behaviors moderated the stress–mood relationship.

Conclusions Daily received social support and unsupportive interactions, and disruptive child behaviors are important predictors of daily mood. Identifying interpersonal processes that enhance psychological well-being may inform future parenting interventions.

Key words autism; multilevel modeling; parenting stress; social support; unsupportive social interactions.
interpersonal exchanges. Additionally, received social support may be most beneficial on the day it is received and when it meets specific needs (Helgeson, 1993). However, to date, no study has investigated within-person relations between received support and psychological well-being in parents on a day-to-day basis (i.e., using a repeated measurement methodology).

Social support also has been defined in terms of function. Two common functions of social support are emotional support, which entails behaviors that demonstrate care and concern towards another, and instrumental support, which refers to practical behaviors to assist another (Wills & Shinar, 2000). These social support variables are thought to influence well-being directly (main effects) and through buffering (moderating effects) the detrimental effects of stress (Cohen et al., 2000). Emotional support is posited to affect well-being directly by increasing positive affect and reducing depression, whereas instrumental support is thought to buffer the effects of stress on well-being (Helgeson, 1993).

In general, although variably assessed throughout the parenting literature, social support is thought to enhance psychological well-being and is commonly recommended for parents of children with ASD (e.g., King, King, Rosenbaum, & Goffin, 1999). Nevertheless, the limited extant literature suggests conflicting findings for the main and moderating effects of social support on psychological outcomes in parents of children with ASD and other disabilities. For example, King et al. (1999) found main effects for satisfaction with social support on stress and depression in parents of children with neurodevelopmental disorders. Gray and Holden (1992) found main effects for received social support on parental depression in parents of children with ASD, and Plant and Sanders (2007) found moderating but no main effects for received instrumental social support on parenting stress in mothers of preschool-aged children with disabilities. Conversely, other studies have failed to find significant main or moderating effects for perceived or received social support on psychological outcomes in samples of parents of children with ASD and other neurodevelopmental disorders (e.g., Hastings & Johnson, 2001; Minnes, Woodford, & Passey, 2007). The inconsistencies in these findings may be due to differences in the conceptualization and measurement of social support such as not considering the differential effects of emotional and instrumental support (Kleiboer, Kuijer, Hox, Schreurs, & Bensing, 2006).

Social support for parents of children with ASD has also been defined as the professional or formal services a parent or family receives. Although parents routinely depend on these formal supports, their effect on parental distress and well-being is less clear. In one study of parents of children with neurodevelopmental disorders, support services moderated the relationship between difficult child behaviors and parenting stress (Plant & Sanders, 2007), whereas other studies of similar parents found support services to have no influence on parental stress, depression, or quality of life (Minnes et al., 2007; White & Hastings, 2004). Given that the daily lives of parents of children with ASD are intertwined with formal support, additional research is needed to elucidate the effects of support services on psychological well-being.

Unfortunately, social interactions may not always be beneficial for parents of children with ASD. Studies suggest unsupportive interactions may have a negative impact on psychological well-being beyond that explained by social support (e.g., Finch, Okun, Pool, & Ruehlman, 1999; Ingram, Betz, Mindes, Schmitt, & Smith, 2001). For example, Kleiboer and colleagues (2007) found caregivers for individuals with multiple sclerosis (MS) who received more daily negative interactions experienced higher levels of daily negative mood. In general, children with ASD do not have visible (physical) disabilities, and unsupportive interactions may be especially salient for parents of these children, as outsiders may blame the parent for the child’s behaviors (Gray, 2002). Despite the evidence suggesting a link between unsupportive interactions and parental distress, these factors have not been explored adequately in parents of children with ASD.

Most parenting research has assessed the efficacy of social support by evaluating relationships between retrospective measures of social support processes and general measures of psychological distress (i.e., depressive symptoms, stress). However, there is evidence that our recollections of past events are often biased and inaccurate (Ross, 1989; Todd, Tennen, Carney, Armedi, & Affleck, 2004). Also problematic has been the use of one-time measures and cross-sectional research designs that are useless for investigating contextualized experiences that change from day to day, such as stress and interpersonal interactions. Furthermore, it is possible that received social support influences momentary or daily affective states, such as negative and positive mood, and the accumulation of these daily states predicts psychological distress and well-being (Rook, 2001). Prior research has found significant associations between daily mood and general measures of psychological well-being. For example, daily negative mood has been found to predict depressive symptoms (Cohen, Gunthert, Butler, O’Neill, & Tolpin, 2005), whereas daily positive mood has been found to buffer the effects of daily
stress on depression (Wichers et al., 2007) and to predict “human flourishing” (Fredrickson & Losada, 2005). To advance our understanding of contextual processes such as received social support and unsupportive interactions, it appears beneficial to use a research design that repeatedly assesses daily occurring events (e.g., stress, social support) and outcomes (i.e., negative and positive mood) over time, coupled with a statistical approach that permits the evaluation of within-person relations.

The purpose of this study was to investigate relations between biweekly measures of daily parental stress, received social support, unsupportive interactions, and daily mood in mothers and fathers rearing a child with an ASD. Based on the existing literature, it was predicted that higher levels of emotional and instrumental social support and more support services would predict higher levels of daily positive mood and less daily negative mood. Conversely, unsupportive interactions and disruptive child behaviors were hypothesized to predict lower levels of daily positive and greater daily negative mood. Moderating predictions were more tentative; it was predicted that instrumental social support and support services would buffer the relationship between daily parenting stress and daily negative mood, whereas unsupportive interactions and disruptive child behaviors would intensify the effect of daily parenting stress on daily negative mood.

Method

Participants

This research was part of a larger study investigating adjustment in parents of children with autism. A written advertisement was used to recruit participants from the Autism Center of Virginia (VA) Registry, the VA Treatment Center for Children’s Autism Clinic, and the Central VA and Pennsylvania chapters of the Autism Society of America. Interested parents who contacted the Autism Center of VA Registry were provided with information about the study, and a telephone screening was scheduled. Fulfillment of the eligibility requirements was determined by parent reports and included being a biological or adoptive parent of a child with an ASD and currently responsible for the child’s care. Additionally, participants’ children with ASD were required to (a) have a diagnosis on the autism spectrum from a medical, psychological, or educational professional; (b) have a Social Communication Questionnaire profile (SCQ; Berument, Rutter, Lord, Pickles, & Bailey, 1999) consistent with an ASD diagnosis (SCQ score ≥ 15); and (c) be between 4 and 12 years of age. Postscreening, 113 parents were deemed eligible.

From this initial participant pool, 13 (11%) opted not to participate, and 7 (7%) withdrew prior to completing the study protocol; reasons for nonparticipation or study withdrawal were not given. This resulted in 93 participants—60 mothers and 33 fathers from 69 families—who completed the study protocol (Table I). The average SCQ score was 25.83 (SD = 5.27). Most of the participants’ children with ASD had an Autism Disorder diagnosis (68%, n = 63), and all participated in a daytime educational program. Of the 93 participants, most were Caucasian (87%, n = 81), in a partnered relationship (88%, n = 82), and worked outside the home (70%, n = 65). The median household income was between $40,001 and $60,000.
Initial Measures

Autism Screening
The SCQ–Lifetime Form (Berument et al., 1999) is a 40-item parent report measure derived from the Autism Diagnostic Interview–Revised (ADI-R; Lord, Rutter, & Lecouteur, 1994), a standardized interview based on the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (American Psychiatric Association, 1994), criteria for autism that is designed to assess symptoms in children ages 4 years and older. The SCQ has evidenced good agreement with the ADI-R (Bishop & Norbury, 2002), and a cutoff score ≥15 has a sensitivity of .96 and specificity of .80 for autism versus other diagnoses (Berument et al., 1999). Internal consistency reliability was .85 in the current study.

Demographic Variables
Self-report data were collected on participants’ marital status, gender, ethnicity, education, employment status, household income, and number of children in the home, as well as the following information about their child with an ASD: age, gender, ASD diagnosis, and age first diagnosed with an ASD.

Disruptive Child Behaviors
The Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999) is a 36-item parent-report measure of disruptive and oppositional behaviors that are common in children ages 2 through 16 years. The 36-item intensity scale, used in this study, provides an estimate of the frequency with which these behaviors occur. The ECBI can range from 36 to 252, with higher values representing greater frequency of behaviors. Cronbach’s alpha was .91 in the current study.

Support Services Received
Support services were assessed by asking participants to indicate the number of professional services currently received for their children with an ASD on a 16-item checklist. Professional services differ in their intensity and costs, as well as in the degree of parent satisfaction they engender; this measure did not attempt to disentangle these issues, rather it measured the total number of services utilized by a family. Items included the domains of physical health (e.g., occupational therapy), mental health (e.g., family therapy), education (e.g., after school program), and care support (e.g., respite care). Each domain also contained an “other” category permitting the inclusion of additional services. Scores ranged from 0 to 16, with higher scores indicating more services received.

Daily Measures Collected Biweekly

Daily Stress
Stress was assessed by the method proposed by Stone and Neale (1984) and commonly used in daily process studies (e.g., Park, Armeli, & Tennen, 2004; Todd et al., 2004). Participants were first asked to “reflect on the most demanding, difficult, or bothersome problem of the day related to your child with an autism spectrum disorder,” and then to “briefly describe the event or problem in a few words.” Parents then rated the stressfulness of the event on a 7-point scale from 0 (not at all) to 6 (extremely). To control for other stress on that day, participants provided a rating of “ALL OTHER demanding, difficult, or bothersome events” using a similar 7-point scale.

Unsupportive Social Interactions
Unsupportive social interactions were assessed using the 6-item Blaming scale from the Unsupportive Social Interactions Inventory (USII; Ingram et al., 2001) that measures critical responses received from others. The USII’s validity was evidenced by its ability to explain a significant amount of variance in measures of psychological distress after controlling for stress and social support (Ingram et al., 2001). The USII’s directions were altered to capture daily interactions and to focus on interpersonal responses related to parenting a child with an ASD. The critical responses received that day were rated on a 5-point scale that ranged from 0 (none) to 4 (a lot), with higher scores indicating more critical responses. In the current study, alphas were .86 and .83 at the 12th and 24th time points.

Daily Social Support
Social support was evaluated with a 7-item measure developed by Keefe et al. (2001) to assess daily instrumental and emotional support. Instrumental support was assessed by three dichotomous items that asked participants if anyone helped them solve a problem, gave them needed advice, or shared a viewpoint on a mutual problem. Emotional support was measured by three items that asked if anyone expressed caring and concern for them, listened to their feelings, or complimented them. The final item asked participants to indicate the person who gave them the most support that day from a list of seven options (spouse/partner, friend, child, parent/in-laws, sibling, paid caregiver, and other). Similar brief social support scales have been used effectively in daily process studies (e.g., Holtzman, Newth, & DeLongis, 2004). In the current study, alphas at the 12th and 24th time points were .86 and .82 for instrumental support, and .78 and .80 for emotional support.
Daily Mood
Mood was assessed using the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS is a 20-item scale that separately measures positive and negative affect (Watson & Clark, 1997). Respondents rated how much 20 emotional adjectives (e.g., attentive, strong, nervous, distressed) described their mood on that day using a 5-point scale from 1 (very slightly or not at all) to 5 (extremely). The 10-item Positive Affect and Negative Affect scales are reliable; in the current study, alphas at the 12th and 24th time points were .95 and .94 for positive affect, and .89 and .88 for negative affect.

Procedures
The Institutional Review Board (IRB) at Virginia Commonwealth University approved the study protocol, and informed consent was obtained from participants according to the IRB procedures. Enrolled parents first completed and returned the initial measures by mail. Subsequently, biweekly data were collected in two 12-week waves corresponding to public elementary school terms. Prior to the start of the 12-week data collection period, participants received an instructional letter, examples illustrating how to complete a daily measure, 24 predated measures, and 24 postage-paid return envelopes. Training was provided by telephone to participants in how to complete the measures. Participants were instructed to independently complete one daily measure at the end of each Sunday and Wednesday for 12 weeks and to return the completed measure within 3 days. A twice-weekly measurement procedure was selected to enable the sampling of a wide range of parenting experiences as well as to minimize participant burden. Participation was encouraged, and questions were answered through biweekly email or telephone contact. Participants received up to $48 depending on the number of daily measures returned.

Data Analyses
Tests of the study’s main hypotheses were conducted on data with a multilevel structure; biweekly assessments (depicting daily or within-person variability) nested within individuals (depicting between-person variability) nested within families (depicting between-family variability). The most appropriate statistical technique for nested data is multilevel modeling, which is useful in analyzing longitudinal data, as it effectively handles missing data, serial dependence among observations, and varying time periods between observations (Raudenbush & Bryk, 2002; Singer & Willett, 2003). Furthermore, multilevel modeling enables the influence of person-specific factors on outcome variables to be statistically controlled (DeLucia & Pitts, 2006). In the current study, statistical analyses evaluated the main and moderating effects of variables measured repeatedly at the within-person level (stress, social support, and unsupportive interactions) and variables measured at the between-person level (disruptive child behaviors, and support services) on daily positive and negative mood. Although the study’s main hypotheses were addressed by examining results at the within- and between-person levels of the analyses, the addition of the third level (between-family level) was included to control for the non-independence of data from 48 participants from 24 families in which both parents provided data.

Statistical analyses were conducted in SAS with PROC MIXED. In each multilevel model, intercepts and slopes were permitted to vary at random. Therefore, at the within-person level, each participant was permitted to have his or her own unique relationship between the daily variables (e.g., social support, unsupportive interactions, and mood), which is analogous to estimating unique regression lines for each participant (Singer & Willett, 2003). These unique regression estimates were simultaneously pooled across participants, allowing for estimation of the relationships between predictor variables and daily mood in the population. Statistical models were constructed as follows. First, control variables (SCQ score reflecting ASD symptoms, time since ASD diagnosis, child’s age, number of children in the home, parent education, income, and other daily stress) and predictor variables (disruptive child behaviors, services received, daily parenting stress, social support, and unsupportive interactions) were entered into the models. Next, following Snijders and Bosker’s (1999) recommendations for fitting parsimonious models, nonsignificant terms were removed from the models prior to entering the moderator terms. All between-person level predictors were grand-mean centered and within-person predictors were person-mean centered. To control for the possible influence of previous Wednesday or Sunday parenting stress, social support, and unsupportive interactions on today’s mood, values for previous Wednesday or Sunday parenting stress, social support, and unsupportive interactions were included in the statistical models. Last, to account for the temporal correlation between observations at the within-person level, models were fit using a first-order autoregressive error covariance structure (see Singer & Willett, 2003).

Results
Daily Measure Completion and Descriptive Results
Seventy-four percent, or 1,648 daily measures were returned out of a possible 2,232; this represents a mean
Main Effects: Predicting Daily Mood From Daily Stress, Social Support, and Support Services

The previously described multilevel models were used to test our hypothesis that daily received instrumental and emotional support would predict more daily positive mood and less daily negative mood, and that the number of support services received would predict lower levels of daily negative mood. Results from these analyses are presented in Table III. The proportional reduction in residual variance (pseudo-$R^2$) for the final models were 16% for positive affect and 39% for negative affect. Daily parenting stress significantly predicted lower levels of positive mood ($\beta = -0.78, p < .0001$) and higher levels of negative mood ($\beta = 1.52, p < .0001$). As predicted, on average, more daily instrumental support predicted higher levels of positive mood ($\beta = 0.74, p < .0001$). Similarly, more daily emotional support was significantly associated with higher levels of positive mood ($\beta = 1.27, p < .0001$). Results for negative mood provided mixed support for the study’s hypotheses. As predicted, emotional support had a salutary effect on negative mood. Days characterized by higher levels of emotional support were associated with less negative mood ($\beta = -0.46, p < .01$). However, instrumental support was not significantly associated with negative mood. Finally, results failed to support predictions that support services received would be inversely associated with daily negative mood. Similarly, no relationship was

### Table II. Daily Measure Descriptive Data

<table>
<thead>
<tr>
<th></th>
<th>$M$</th>
<th>$SD$</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parenting stress</td>
<td>3.08</td>
<td>1.85</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Positive mood</td>
<td>28.73</td>
<td>9.98</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Negative mood</td>
<td>17.47</td>
<td>7.65</td>
<td>10</td>
<td>49</td>
</tr>
<tr>
<td>Instrumental support</td>
<td>1.30</td>
<td>1.22</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Emotional support</td>
<td>2.01</td>
<td>1.09</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Unsupportive interactions</td>
<td>0.23</td>
<td>0.54</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

Note. Statistics are based on aggregated daily values across 1,648 observations. Unsupportive Interactions, Unsupportive Social Interactions Inventory—Blaming scale.

### Table III. Results Predicting Daily Mood from Daily Supportive and Unsupportive Social Interactions

<table>
<thead>
<tr>
<th>Fixed effects</th>
<th>Daily positive mood</th>
<th>Daily negative mood</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>$SE$</td>
</tr>
<tr>
<td>Intercept</td>
<td>27.56****</td>
<td>0.96</td>
</tr>
<tr>
<td>Gender</td>
<td>2.93*</td>
<td>1.47</td>
</tr>
<tr>
<td>Parenting stress*</td>
<td>-0.78****</td>
<td>0.10</td>
</tr>
<tr>
<td>Instrumental support*</td>
<td>0.74****</td>
<td>0.17</td>
</tr>
<tr>
<td>Emotional support*</td>
<td>1.27****</td>
<td>0.19</td>
</tr>
<tr>
<td>Support services received</td>
<td>0.20</td>
<td>0.47</td>
</tr>
<tr>
<td>Unsupportive interactions*</td>
<td>-0.93*</td>
<td>0.39</td>
</tr>
<tr>
<td>Disruptive behavior</td>
<td>-0.04</td>
<td>0.03</td>
</tr>
<tr>
<td>Parenting stress* × Instrumental support*</td>
<td>0.14</td>
<td>0.10</td>
</tr>
<tr>
<td>Parenting stress* × Emotional support*</td>
<td>-0.31**</td>
<td>0.12</td>
</tr>
<tr>
<td>Parenting stress* × Unsupportive interactions*</td>
<td>0.49*</td>
<td>0.24</td>
</tr>
<tr>
<td>Parenting stress* × Support services received</td>
<td>-0.10†</td>
<td>0.05</td>
</tr>
<tr>
<td>Parenting stress* × Disruptive behavior</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Autoregressive (1) error covariance</td>
<td>0.15***</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Note. Gender, Change in daily mood for fathers as compared to mothers; Unsupportive Interactions, Unsupportive Social Interactions Inventory—Blaming scale; Disruptive behavior, Eyberg Child Behavior Inventory—Intensity scale.

*aVariable measured at the daily level.

$^p < .10; ^* p < .05; ^** p < .01; ^*** p < .001; ^**** p < .0001.$

return rate of 18 measures per participant ($SD = 7.70$). Most daily measures were received within 7 days of the date printed on the measure. When the number of daily measures returned was correlated with the 12 initial measures, only one correlation was significant ($p = .03$), suggesting that persons who completed more daily measures had higher household incomes.

The mean scores, standard deviations, and ranges for the daily variables are presented in Table II. Aggregating across participants and the 24 time points, daily mood averaged 28.73 ($SD = 9.98$) for positive affect and 17.47 ($SD = 7.65$) for negative affect, parenting stress averaged 3.08 ($SD = 1.85$), supportive interactions averaged 2.01 ($SD = 1.09$) for emotional support and 1.30 ($SD = 1.22$) for instrumental support, and unsupportive interactions averaged .23 ($SD = .54$).
found between the number of services received and daily positive mood.

**Main Effects: Predicting Daily Mood From Daily Unsupportive Interactions and Child Behaviors**

As predicted, higher levels of daily unsupportive interactions were associated with lower levels of daily positive mood ($\beta = -0.93, p < .05$). Similarly, days characterized by more unsupportive interactions were related to higher levels of daily negative mood ($\beta = 2.79, p < .0001$). Results partially supported the prediction concerning disruptive child behaviors. Higher levels of disruptive child behaviors predicted more daily negative mood ($\beta = 0.05, p < .01$), but the association between disruptive behaviors and daily positive mood was not significant.

**Moderating Effects: Predicting Daily Mood From Social Support, Unsupportive Interactions, Parenting Stress, Support Services, and Disruptive Child Behaviors**

Predictions about the moderating or buffering role of daily social support and unsupportive interactions on the daily parenting stress–mood relationship were not supported by the data. Neither instrumental support nor emotional support moderated the relationship between daily parenting stress and negative mood. However, emotional support was found to moderate the daily parenting stress–positive mood relationship in the opposite direction to what was predicted ($\beta = -0.31, p < .01$). Days characterized by high levels of parenting stress and emotional support predicted lower levels of positive mood, whereas days with low levels of parenting stress and high levels of emotional support were associated with higher levels of positive mood. Similarly, unsupportive social interactions did not moderate the stress–negative mood relationship but did moderate the stress–positive mood relationship ($\beta = 0.46, p < .05$). Contrary to predictions, higher levels of parenting stress and more unsupportive social interactions predicted higher levels of positive mood, whereas days characterized by lower levels of parenting stress and more unsupportive interactions were associated with decreased positive mood.

Additionally, support services did not significantly moderate the daily parenting stress–positive mood relationship but did moderate the daily parenting stress–negative mood relationship opposite to predictions ($\beta = 0.13, p < .01$). More support services and elevated levels of daily stress predicted more daily negative mood. Consistent with our predictions, disruptive child behaviors moderated the daily parenting stress–negative mood relationship ($\beta = 0.01, p < .001$), but not the daily parenting stress–positive mood relationship. Higher levels of disruptive child behaviors and elevated levels of daily stress predicted more daily negative mood.

**Discussion**

This study examined daily parenting stress, received social support, unsupportive interactions, and daily mood in parents of children with ASD. Results confirm the role of daily parenting stress in predicting daily positive and negative mood. These results parallel other daily process studies of parents (DeLongis, Capreol, Holtzman, O’Brien, & Campbell, 2004), caregivers (Kleiboer et al., 2007), and college students (Park et al., 2004). Consistent with our first prediction, daily received social support was associated with positive and negative mood. Greater emotional and instrumental support predicted higher levels of daily positive mood. Correspondingly, greater daily emotional support, but not instrumental support, predicted lower levels of negative mood. The lack of association between daily instrumental support and negative mood may reflect the fact that simply providing help is insufficient. Perhaps, for instrumental support to be beneficial, it must meet a specific need or come from an individual perceived as understanding the child with an ASD. The findings concerning relations between received emotional support and positive mood are similar to a daily process study on couples living with MS (Kleiboer et al., 2006). Conversely, Kleiboer et al. (2006) did not find received instrumental support to predict daily positive mood, nor did they find received emotional or instrumental support to predict negative mood. These discrepant findings may be because the current study sampled daily experiences over a longer period (12 weeks as opposed to 2 weeks) and captured a broader range of experiences. It is also possible that parents of children with ASD experience different, and perhaps more difficult, daily challenges than can be influenced by social support.

Daily unsupportive interactions were also found to be associated with daily mood as predicted. Fewer daily unsupportive interactions were associated with higher levels of daily positive mood. Correspondingly, fewer daily unsupportive interactions predicted lower daily negative mood. Results concerning unsupportive interactions and negative mood are consistent with prior daily process research on couples living with MS (Kleiboer et al., 2007), and relations between unsupportive interactions and positive mood are similar to daily process research on seniors (Rook, 2001). This is the first study to investigate relations between daily unsupportive interactions and mood in parents of children with ASD.
Hypotheses concerning the buffering effects of daily received social support on parenting stress were largely unsupported by the data. These findings suggest that daily emotional support only buffers the effects of daily parenting stress on daily positive mood at low stress levels. However, it is feasible that our support measure could not capture the intensive support required on high stress days. Similarly, results regarding the moderating effects of unsupportive interactions on the daily stress—positive mood relationship were not fully supported by the data. Days characterized by low parenting stress and more unsupportive social interactions were associated with decreased positive mood as expected. However, when higher levels of daily stress were accompanied by more unsupportive interactions, daily positive mood increased. Although counterintuitive, these findings are similar to a daily process study by Caspi, Bolger, and Eckenrode (1987). These authors proposed that when an individual experiences several highly stressful events, a stress threshold might be reached such that additional stressors (e.g., unsupportive interactions) have little effect on daily mood.

As expected, disruptive child behaviors were positively associated with higher levels of daily negative mood. Furthermore, the relationship between disruptive child behaviors and negative mood was moderated by daily parenting stress; on more stressful days, higher levels of disruptive behaviors predicted higher levels of daily negative mood. These results are reflective of retrospective studies that found disruptive child behaviors predictive of higher levels of psychological distress in parents of children with neurodevelopmental disorders (e.g., Abbeduto et al., 2004; King et al., 1999). Additionally, support services often play a central role in the lives of parents of children with ASD, in particular to help with challenging behaviors and to help children develop various life skills. Although the present study’s measure of support services was not designed to account for the intensity (i.e., frequency and duration) or appropriateness of the support services, results suggest that the number of support services a family received was not associated with daily mood. Indeed, contrary to predictions, support services moderated the stress—negative mood relationship such that more support services and greater daily stress predicted increased daily negative mood. Support services often require parents to organize their schedules, interact with others, and bring their children to the appointment; juggling these added demands may be stressful and lead to higher levels of daily negative mood.

A supplementary finding was that mothers reported higher levels of daily negative mood as compared to fathers. Almeida and Kessler (1998), who reported similar findings from a daily process study of married couples, found gender disparities in daily mood to diminish once daily stressors were considered. In the current study, gender differences in daily mood may also reflect differences in childcare responsibilities and/or exposure to different parenting stressors.

This study has several limitations that should be considered when interpreting the results. First, the lack of ethnic diversity, relatively high socioeconomic status, oversampling of mothers, and absence of a comparison group limit the generalizability of these results. Second, there were considerable missing data. Although the amount of missing data in this study is similar to other daily process studies (e.g., Gil et al., 2003) and managed statistically, it is possible that unforeseen factors (e.g., lack of time or energy) added to the missing data. Third, the results are based solely on self-report data. Fourth, even though positive mood was assessed as an outcome, participants reported only stressful or difficult parenting events. Thus, little is known of the positive events that may have influenced mood. A final limitation is that causal inferences are not possible since the constructs of interest (e.g., social support and mood) were assessed simultaneously each day.

The daily experience of parenting a child with an ASD is complex, and research is needed to examine the influence of additional within- and between-person factors on daily mood. For example, does the nature of the relationship between the parent and the person providing support affect mood? Additionally, the stressful events identified by participants on the daily stress measure, not analyzed for this paper, may be informative as these specific events may have differential effects on daily parental well-being. The effect of providing support to one’s partner or another parent also should be investigated as the giving of support has been found to influence daily mood (Kleiboer et al., 2007). As well, examining whether the effects of supportive and unsupportive exchanges change meaningfully over time and at key moments (i.e., after diagnosis, school transitions, during puberty) may generate clinically relevant findings.

The study’s findings have several practical implications. Providing emotional support (i.e., listening or expressing empathy) has a beneficial effect on mood and perhaps on psychological well-being. Clinicians working with parents of children with ASD may consider encouraging partners/spouses to offer regular basic emotional support. Additionally, unsupportive responses have a detrimental impact on daily mood and well-being, and it may
be important to assist parents to develop strategies to manage these responses. Moreover, assisting parents to cope effectively with disruptive child behaviors may reduce parents’ daily distress and improve their well-being.

This is the first study to use a repeated measurement design to investigate the direct and moderating effects of contextual factors on daily positive and negative mood. Variables with the strongest effect on daily mood were received emotional and instrumental support and unsupportive interactions. As well, difficult child behaviors and support services predicted more negative mood at high levels of parenting stress. Study findings highlight the significant role contextual factors can have in fostering the daily well-being of parents of children with ASD.

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