The Mediating Role of Positive Emotion Socialization on Maternal Alexithymia’s Detrimental Impact Towards Child’s Adaptive Regulatory Capacity

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submitted to
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by
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Abstract

The current study examined the relations between maternal alexithymia and child’s negative outcomes in the form of behavioral problems and adaptive regulatory capacity, as indexed by respiratory sinus arrhythmia (RSA). It also explores the main and mediating role of positive emotion socialization. Participants consisted of 155 mother-child dyads within a 25-mile radius of a college in Southern California (Mothers \( M_{\text{age}} = 33.1 \) years, SD=5.5; Children \( M_{\text{age}} = 42.01 \) months, SD=4.68; 51% male children). The Toronto Alexithymia Scale-26 (TAS-26) and the Child Behavior Checklist (CBCL) were given to mothers to report on alexithymic traits and their child’s internalizing and externalizing behaviors, respectively. Child’s adaptive regulatory capacity was measured through baseline RSA. Emotion socialization was measured and coded from a lab based observational task. Results from the current study suggested that alexithymia was associated with increased behavioral problems but had no impact on RSA. However, positive emotion socialization was also predictive of children’s baseline RSA levels.

Key Words: alexithymia, positive emotion socialization, capitalization, RSA, behavior problems
Table of Contents

Introduction.................................................................................................................. 6
Method ......................................................................................................................... 10
Results......................................................................................................................... 15
Discussion................................................................................................................... 19
Limitations and Future Directions ............................................................................. 21
Conclusion .................................................................................................................. 23
References.................................................................................................................. 24
Appendix A ............................................................................................................... 33
Appendix B ............................................................................................................... 35
Appendix C ............................................................................................................... 37
Appendix D ............................................................................................................... 41
Table 1 ..................................................................................................................... 43
Table 2 ..................................................................................................................... 44
Table 3 ..................................................................................................................... 45
Table 4 ..................................................................................................................... 46
Figure 1 ................................................................................................................... 47
Figure 2 ................................................................................................................... 48
Introduction

Dynamics between parenting practices and consequent child outcomes are some of the most commonly researched areas in the area of developmental psychology, focusing on a wide range of concepts like parenting styles, child influence on parenting, and parenting practices in the broader context (for a targeted review, see Morris et al., 2013). Additionally, the intergenerational effects of clinical mental and physical health concerns are studied extensively, both in terms of hereditary predisposition as well as long-term consequences (Seifer & Dickstein, 2000; Smith, 2004). However, parental traits that don’t necessarily meet clinical levels of emotional dysfunction, such as alexithymia, are less studied. How these traits impact parental ability to emotion socialize their children especially in a positive context has rarely been researched, while no research has examined the psychophysiological effects that emotional competency towards positive emotions has on children’s adaptive regulatory capacity.

Alexithymia

Alexithymia is a clinical trait conceptualized as constriction in emotional functioning, a lack of imagination, and the inability to appropriately describe emotions with words (Sifneos, 1973). The trait is associated with affect-related disorders such as depression and post-traumatic stress disorder (Frewen et al., 2008; Honkalampi et al., 2000). However, alexithymia has rarely been looked at in the context of parenting and the possible negative consequences it may have on children’s outcomes.

A few studies however suggest the importance of examining alexithymia on child outcomes. The “Difficulty in identifying feelings” component of the Toronto Alexithymia Scale predicted higher infant “duration of orienting,” which is associated
with later effortful control in the child (Kantonen et al., 2015). Higher levels of maternal alexithymia are also associated with lower quality of mother-infant relationships (Yürüm et al., 2014). In the context of low interpersonal violence (IPV), perceived maternal alexithymia was negatively related to adult child’s mood regulation, whereas in high IPV, it was positively associated with better negative mood regulation, which suggests that it may serve as a protective factor (Cashman, 2010).

**Emotion Socialization and Capitalization**

Emotion socialization is how children learn about emotions from others and their environment (Denham et al., 2007). Research has shown that parents play a significant role in the emotion socialization of their children through their a) reactions to their child's emotional displays; b) discussion of emotion; and c) emotional expressiveness within the family (Eisenberg et al., 1998). Emotion socialization can be both supportive and unsupportive. For parents who engage in supportive emotion socialization behaviors, their children have better emotion regulation (Cole et al., 2009) and empathy (Taylor et al., 2013) with less internalizing problems (Katz & Hunter, 2007; Stocker et al., 2007). On the other hand, parents who are nonsupportive in their emotion socialization behaviors have children who experience more negative emotionality and coping (Eisenberg et al., 1996, 1999), emotion dysregulation (Lunkenheimer et al., 2007), and other internalizing problems including anxiety, depression, and self-harm (Boucher et al., 2013; Engle & McElwain, 2011; Schwartz et al., 2012). However, most of the literature focuses on how mothers socialize or downregulate their child’s negative emotions (Johnson et al., 2017). Mothers’ attention refocusing and joint mother-child reframing when their child experiences disappointment was associated with lower intensity of
expressed anger and sadness in the child (Morris et al., 2011). Emotion socialization is studied much less in the context of positive events and positive emotions. Some research has shown that parents who verbalize positive emotions have children who find communicating their emotions less difficult (Le et al., 2002). Positive emotion socialization has also been found to be negatively correlated with internalizing and externalizing problems in children (Mirabile et al., 2018). However, physiological and other behavioral outcomes are less clear.

In order to look at emotion socialization in the context around positive emotions, capitalization research poses a promising parallel. Capitalization is an individual’s positive reaction to a partner’s disclosure of good news (Gable et al., 2004). This concept is often seen in couples and associated with better relationship wellbeing (Gable et al., 2006). Few studies have looked at how parents use capitalization, except in cross-cultural contexts (Yang et al., 2020). Parents’ ability to capitalize with their children has important implications for the emotional development and health outcomes of their child as they reach different developmental stages.

Child’s Adaptive Regulatory Capacity: RSA and Behavior Problems

Respiratory Sinus Arrhythmia (RSA) is a psychophysiological indicator of resting and measures when heart rate variability synchronizes with respiration. RSA reflects a response from the autonomic nervous system (ANS), which allows for the rapid, back-and-forth communication between the body’s organs and the brain when responding to arousing stimuli in the environment (Berntson et al., 2007; Dawson et al., 2007). As an indicator, RSA is specifically a response from the parasympathetic nervous system (PNS), which regulates overall physiological homeostasis through “rest and digest”
ALEXITHYMIA, EMOTION SOCIALIZATION, AND APATIVE REGULATORY CAPACITY

operations. This functions in contrast to the stress response operations and “fight or flight” response common to the sympathetic nervous system (SNS). RSA and the PNS regulate the return to homeostasis through the vagus nerve, which will function as a sort of “vagal break.” When encountering stressful stimuli in the environment, this vagal break will disengage, effectively allowing the heart rate to increase (Lipschutz et al., 2017). However, upon the absence of a threat, the vagal brake will activate and slow down heart rate. Individuals with higher resting RSA levels have indicated a stronger ability to re-engage the vagal brake and decrease cardiac function, thus regulating their stress response and overall emotional arousal (Bornstein & Suess, 2000; Lipschutz et al., 2017). In stressful situations where negative affect, hostility, and conflict occur, baseline RSA is a marker of flexible responding and serves as a protective factor against the deleterious effects of these interactions (Gyurak & Ayduk, 2008). Higher baseline RSA is also associated with better emotion regulation (Porges et al., 1994) and possibly higher levels of emotionality and sociability (Beauchaine et al., 2001).

**Purpose of the Present Study**

Identifying the mechanism behind the intergenerational effects of alexithymia has important developmental and social implications on children of parents with alexithymic traits. Emotional deficiencies in mothers are predictive of poor adaptive regulatory capacity and behavior problems in their children which suggests that mothers with alexithymic traits may lack the emotional repertoire necessary to emotionally socialize their children. However, research around alexithymia and child’s negative outcomes is sparse and rarely addresses maternal alexithymia. Rather, it tends to focus on how maternal abuse or poor parenting can lead to the development of alexithymia in children.
Likewise, how capitalization affects a child's physiological and behavioral outcomes has yet to be studied. Understanding how maternal alexithymia plays a role in a child's outcomes through the effect of capitalization illuminates how positive emotion socialization can serve as a protective factor against the detrimental impact of maternal alexithymia on a child's health and behavioral outcomes. Furthermore, a focus on positive emotion socialization builds on the literature around positive psychology and the development of positive physiological and behavioral outcomes in children as a result of distinct positive interactions, rather than solely focusing on down-regulating negative emotional responses.

The current study investigates the mediating effect of capitalization on the relationship between maternal alexithymia and child’s negative outcomes (RSA and negative behaviors). We hypothesized that higher levels of maternal alexithymia would be associated with higher levels of behavioral problems and lower RSA levels. This relationship is expected to be explained by capitalization. We predicted that higher levels of capitalization could act as a protective factor despite the potential negative influence of mother’s alexithymia.

**Methods**

**Participants**

The target sample consisted of mother-child dyads from a 25-mile radius of a college in Southern California. Dyads were chosen through stratified sampling to be invited to participate in a two-part study advertised for mothers to spend quality time with their children while helping the college to learn about emotions and parent-child
relationships. Mothers were compensated $50 after completion of each visit. Participation was contingent on the following conditions: the child to participate in the dyad could have a maximum of three other siblings and had to be aged between 36 and 48 months. The current study focuses on select tasks that the mother and child were asked to complete during the second visit.

The resulting sample used for analysis in the current study included 155 mothers (mean age 33.1 years old, SD 5.5) and their preschool-aged children (mean age 42.01 months old, SD 4.68; 49% female, 51% male). The sample was racially diverse (37.7% White, 30.5% More than one race (Latinx), 10.8% Latinx only, 10.2% Asian/Asian-American, 6% More than one race (non-Latinx), 1.8% Black/African-American, and .6% American Indian or Alaska Native only) and socioeconomically diverse (half of the mothers in the sample had a household income below “$60,000-$80,000”). Lastly, on average, mothers had an education level between community and a bachelor’s degree.

Procedure

Mothers and their children were invited to the laboratory for the study. Upon arrival, mothers reported on basic demographic data about herself and her child. Alexithymia, behavioral problems, control variables, and demographics were assessed via self-report through questionnaires given to moms. During the visit, Children’s RSA levels were collected via Mindware technology for a duration in which child was first calm and then would experience an intentional stressor. Towards the end of the visit, children would play a series of games and win a prize. The dyad was instructed to have conversations around the positive event and these conversations were coded for capitalization. Details of each measure are described below.
The implemented protocol received approval by the college’s institutional review board and informed consent for both mom and child were secured at the start of each visit from every mother, as children were still minors.

Measures

Alexithymia

Maternal Alexithymia was measured using the 26-item Toronto Alexithymia Scale (TAS-26) (Taylor, Ryan, & Bagby, 1985). Scores were summed holistically and to account for the following factors: (1) “ability to identify and distinguish between feelings and bodily sensations” [Questions 1*, 4, 8, 10, 12*, 14, 17, 20, 22, 25, 26; α = .83], (2) “ability to describe feelings” [Questions 3, 6*, 8, 9*, 12*, 22, 23; α = .72], (3) daydreaming [Questions 2, 5*, 15*, 16*, 18; α = .64], and (4) “externally-oriented thinking” [Questions 7, 11*, 13*, 19, 21*, 24*; α = .69] - (Asterisks indicate reverse coded items). Each statement corresponded to one of the factors and was to be rated based on a scale from 1-5 ranging from “Strongly Disagree” to “Strongly Agree.”

Emotion Socialization

Maternal emotion socialization was measured through behavioral coding of capitalization and a survey measure capturing maternal response to their child’s negative emotions.

Capitalization. To capture capitalization, we staged a positive event and had mothers discussed the event with the child afterwards. Specifically, children played a series of three games with the Child Research Assistant, in which the child is intended to win. Children receive stickers for winning each game. After counting the amount of stickers the child had, they would then be congratulated on winning and brought a variety
of prizes to choose from. Mom and child were then asked to discuss various aspects of
the child winning the previous games, such as the prize, the gameplay with the RA, the
child’s feelings, etc. Videos were then transcribed and quality checked. Transcripts were
then coded with a behavioral coding scheme designed to assess capitalization through the
following categories: Mom’s use of positive emotion words, Mom eliciting from child to
share, Mom providing details about the positive event, Mom’s affirmation of child,
Mom’s praise of child. Every time the criteria was met for the respective categories, a
point was given to it. After coding all transcripts with each category, scores were
summed to create a total maternal capitalization score. Because all conversations were
coded by two RAs who worked through discrepancies with the study’s Principal
Investigator, \( \alpha = 1.00 \).

**Supportive Parenting.** We wanted to examine the role of capitalization
independent of how parents responded to children’s negative emotions so parental
emotion socialization following a child's negative emotions was measured through the
Coping with Children’s Negative Emotions Scale (CCNES), which had mothers report on
how they would likely respond to their young child’s (preschool through elementary
school) negative affect in stressful situations (Fabes et al., 1990). The survey consists of
six 12-item subscales which include the following: Distress Reactions (\( \alpha = .7 \)), Punitive
Reactions (\( \alpha = .69 \)), Expressive Encouragement (\( \alpha = .85 \)), Emotion-Focused Reactions (\( \alpha
= .8 \)), Problem-Focused Reactions (\( \alpha = .78 \)), and Minimization Reactions (\( \alpha = .78 \)) (Fabes
et al., 2002). Mom’s would report on the likelihood of certain responses from seven
options that increased in frequency (1 = “Very Unlikely” to 7 = “Very Likely”).

*Child Outcomes*
Adaptive Regulatory Capacity: RSA. Child adaptive regulatory capacity was calculated via the baseline Respiratory Sinus Arrhythmia (RSA) levels collected during a portion of the visit where Mom and Child were separated so Child could watch a series of videos. In order to measure children’s RSA, we used the MindWare Technologies LTD. Psychophysiology Lab System. This included the MindWare BioNex 8-slot chassis hardware, used for physiological acquisition, the BioLab Acquisition Software (Model 60-0107-00), Version 3.3, used for recording data, and Heart Rate Variability (HRV) Analysis Software (Model 60-0600-00), Version 3.2, used to analyze the data. The electrodes used to connect the children to the Psychophysiology Lab System were the MindWare Pediatric ECG electrodes. First, Child would be instructed to sit as still as possible to watch a calming fish video for three minutes to establish a baseline for RSA while the child RA would leave the room. Afterwards, the child RA would return and play a separate, more emotionally arousing video clip from Fantasia for four minutes to activate and evaluate the efficiency of RSA and the vagal brake. Upon completion, the child was disconnected from the attached electrodes.

Behavior Problems. The child’s internalizing and externalizing behaviors were measured using the Child Behavior Checklist (CBCL/1.5-5), which had mothers report on their child’s behavior in the moment and within the past two months (Achenbach & Rescorla, 2001). Ninety-nine problem items were scored based on the following syndrome scales: Emotionally Reactive, Anxious/Depressed, Somatic Complaints, Withdrawn, Attention Problems, Aggressive Behavior, and Sleep Problems. These items were also scored based on the following DSM-oriented scales: Affective Problems, Anxiety Problems, Pervasive Developmental Problems, Attention Deficit/Hyperactivity
Problems, Stress Problems, Autism Spectrum Problems, and Oppositional Defiant Problems. Broadband scales of internalizing problems (calculated by summing the Anxious/depressed, Withdrawn-depressed, and Somatic Complaints subscale scores; $\alpha = .75$) and externalizing problems (calculated by summing the Attention problems and Aggressive Behavior subscale scores; $\alpha = .92$) were also scored, and were the primary variables used in this study. Moms would report on how true the problem item was by selecting one of three options that increased in frequency (0 = “Not True (as far as you know),” 1 = “Somewhat or Sometimes True,” 2 = “Very True or Often True”). Open-ended questions were also included to obtain qualitative information on behavior, though these answers were not used for the purposes of this study. Each of the subscales was summed based on the items that fell within that category.

**Results**

**Preliminary Analysis**

Descriptive statistics are shown in Table 1, listing the means and standard deviations of mother and child variables for study participants. For the Alexithymia measure, both the subscales and total scores were used in the analysis. Under the subscales, Ability to Identify and Distinguish Between Feelings and Bodily Sensations was highly associated with Ability to Describe Feelings. Because the two subscales were so highly correlated, they were combined when used in the analysis. The broadband scales for internalizing and externalizing problems in the CBCL were combined as well during analysis due to the two being highly correlated.
Relationships between maternal alexithymia, capitalization, and RSA and behavior problems are shown in Table 2. Alexithymia is negatively correlated with the CCNES Supportive Parenting measure, which suggests that the more alexithymic traits mothers display, the less supportive their parenting behaviors are in response to their child’s negative emotions. Additionally, maternal alexithymia is significantly positively correlated with a child’s behavior problems, so the more alexithymic traits a mother has, the more behavior problems her child will have. Capitalization was positively associated with child baseline RSA scores suggesting that increased maternal capitalization is related to better adaptive regulatory capacity in their children. However, CCNES was also positively associated with baseline RSA levels indicating that more supportive parental behavior towards a child’s negative emotions is likewise related to higher baseline RSA levels. Thus, it is still unclear whether the two concepts operate distinctly or overlap in their effect. Nonetheless, it reveals that supportive and positive emotion socialization generally has a significant effect on a child’s adaptive regulatory capacity.

Because demographic variables such as child age, gender, and maternal education level are not significantly correlated with any of our model’s variables, there does not appear to be any statistical justification to control for them initially. However, child age and gender will be controlled for in our following analyses due to findings that suggest these demographic variables are related to certain child outcomes. CCNES will be controlled for in analyses relating to capitalization so their individual relations to a child’s negative outcomes can be distinguished.

**Relations Between Capitalization and Child’s Negative Outcomes**
Hierarchical regression analyses were conducted to examine whether or not capitalization predicted child’s negative outcomes independent of child age and gender. Table 3 reports the summary of results from the regression analysis predicting a child’s RSA levels. None of the demographic variables were associated outside of age, so they were not considered in the model. We were interested in whether maternal capitalization could account for the variance in children’s adaptive regulatory capacity independent of individual differences in age. Therefore, age entered in the first step and emotion socialization as well as capitalization was entered in the second step. The overall model was significant \( F(3, 72) = 3.88, p = .037 \). Combined, these variables predicted 11% of the variance in child RSA levels. The \( F \) change was significant, \( F(2, 72) = 4.47, p = .01 \). Only capitalization was a significant predictor of child RSA, \( b = .27, p = .02 \).

The next regression analysis predicted a child’s behavioral problems. We were interested in whether maternal capitalization could account for the variance in children’s behavioral problems independent of individual differences in child gender and age. Therefore, for the first step of the equation, age and gender were entered. Combined, these variables predicted 2% of the variance in a child’s behavioral problems, \( F(2, 107) = 1.32, p = .27 \). Next, to see if emotion socialization would increase the variance explained above the control variables, we added capitalization and CCNES to Step 2 of the model. Combined, these variables predicted 3% of the variance in a child’s behavioral problems, \( F(4, 107) = .8, p = .52 \). The \( F \) change was insignificant, \( p = .74 \).

**Relations Between Alexithymia and Child’s Negative Outcomes**

Hierarchical regression analyses were conducted to examine whether or not maternal alexithymia was predictive of a child’s negative outcomes, independent of child
age and gender. Table 4 reports the summary of results from the regression analyses predicting a child’s behavioral problems. Therefore, for the first step of the equation, age and gender were entered. Combined, these variables predicted 2% of the variance in a child’s behavioral problems, $F(2, 141) = 2.51, p = .08$. Next, to see if maternal alexithymia would increase the variance explained above the control variables, we added alexithymia to Step 2 of the model. Combined, these variables predicted 7% of the variance in a child’s behavioral problems, $F(3, 141) = 4.79, p = .003$. The F change was significant, $p = .003$.

The next regression analysis predicted a child’s RSA levels. We were interested in whether maternal alexithymia could account for the variance in children’s RSA levels independent of individual differences in child gender and age. Therefore, for the first step of the equation, age and gender were entered. Combined, these variables predicted .2% of the variance in a child’s behavioral problems, $F(2, 85) = .1, p = .9$. Next, to see if maternal alexithymia would increase the variance explained above the control variables, we added alexithymia to Step 2 of the model. Combined, these variables predicted .3% of the variance in a child’s RSA levels, $F(3, 85) = .07, p = .98$. The F change was insignificant, $p = .93$.

**Does capitalization mediate the effects of maternal alexithymia on Child’s negative outcomes?**

For completeness sake, the final set of analyses was to examine the extent to which capitalization mediated the relationship between maternal alexithymia and child’s baseline RSA levels, as well as maternal alexithymia and child’s internalizing/externalizing behaviors. Bootstrapping analyses were conducted using SPSS
macro Process (Hayes, 2013). The advantages of this statistical method are the following: it does not depend on the assumption of a normal sampling distribution (MacKinnon et al., 2004; Preacher & Hayes, 2004; Shrout & Bolger, 2002) and the amount of inferential tests is minimized, which reduces the likelihood of Type I error. For one of the mediation models, child baseline RSA was entered as the dependent variable and behavior problems was entered as the dependent variable for the second model. For both models, maternal alexithymia was entered as the predictor variable and capitalization was entered as the proposed mediator. Both models controlled for child age, gender, and the CCNES (measure for parental supportiveness of negative emotionality in children). Maternal alexithymia (the independent variable) was not a significant predictor of child’s baseline RSA levels nor child’s behavior problems and capitalization did not mediate either relationship. The mediation results are summarized in Figure 1 and Figure 2.

**Discussion**

The primary purpose of this study was to consider how capitalization mediates the relationship between maternal alexithymia and a child’s negative outcomes. The findings from this study indicate that alexithymia is associated with perceptions of behavioral problems of children, but must be through other mechanisms, not capitalization like we had hypothesized. Different parenting and disciplinary styles in alexithymic mothers compared to non-alexithymic mothers rather than emotion socialization could relate to certain negative child outcomes more so than capitalization. Negative parental response to negative emotions has been shown to have a stronger influence on risk pathways in accordance with negativity bias where people learn from and use negative information
more than positive information (Johnson et al., 2017; Vaish et al., 2008). Another
mechanism to consider is mothers’ responsiveness to emotions and emotional events that
come up for their child. How quickly she reacts and what kind of reaction she decides to
give appears to be related to a child’s social and emotional competency (Brophy-Herb et
al., 2011).

Nonetheless, the results reveal that independent of negative emotion socialization,
capitalization was significantly associated with child RSA. This finding suggests that
capitalization has an effect that is above and beyond general parental supportiveness
where significance in capitalization acts as a distinct influence from parents that are
generally supportive. Some studies have proposed that capitalization maximizes the
benefits of positive experiences while perceived support functions as a buffer for negative
events, providing stress relief and coping assistance (Cohen & Wills, 1985; Thoits, 1986).
However, new research has found that according to relational regulation theory,
capitalization and perceived support can be closely tied, with both constructs being
relevant to favorable affect and helping close others with self-regulation (Shorey &
Lakey, 2011). While capitalization and support are associated in their influence on
relationship satisfaction in couples, they have been found to be distinct in their impact
and their relative effect over time (Logan & Cobb, 2013). Our results support these more
recent findings in suggesting that capitalization plays a separate and distinct role from
supportiveness. However, given that previous research has been conducted in the context
of partners, more research is required to determine whether these findings are
consistently found in parenting relationships and if capitalization and perceived parental
support function simultaneously in aiding emotion regulation as opposed to
oppositionally in positive and negative situations respectively. Additionally, a reliable and consistent measure indicating a child’s report of perceived support instead of or in addition to mothers’ would be required to make conclusions of the same magnitude.

**Limitations and Future Directions**

Some limitations in this study should be considered. One limitation is mothers’ self-report of child behavioral problems because she also self-reports on the alexithymia scale. Because both the predictor and outcome variables are self-reported by the mom, there is a possibility for bias, whether conscious or unconscious, in which she reports the situation more favorably than it actually is. This would be especially likely in the CCNES and CBCL, where mothers might want to appear more or less restrictive than they actually are. However, because we coded the capitalization variable and used a physiological measure for child’s outcomes, these results can act as a check so that we can identify and even out responses that are biased.

Another limitation is that the structure of the current study is correlational so we can’t assume causality between capitalization and child’s RSA levels. Even though it’s unlikely for a child’s RSA levels to cause moms to capitalize more, we cannot assume the direction of this relationship without further research. A more directional structure and implementation of specific standardized requirements can assist in creating the foundation for more causal assumptions to be made.

Generalizability is also a limitation because our sample size did allow us to look at differences across cultures. Even though we had a pretty diverse racial spread of mothers, the total numbers for each category was not nearly enough to reach significance.
It would be helpful to expand the study in both size and diversity so that cultural differences can be examined. Given the existing research indicates that emotion socialization has differential effects on children between Chinese immigrant and European American dyads, possible cultural differences remain to be seen between Latinx, Asian American, and Black American communities in comparison with European American ones.

Future research should look into the role of fathers in emotion socialization and what kind of differential impacts they play in comparison to mothers’ roles. Mothers have been shown to be more supportive and accepting of their children’s negative emotions than fathers are (Stocker et al., 2007). Furthermore, fathers are more likely to respond to their child’s negative emotions in a way that is punitive or minimizing of their experience (Brand & Klimes-Dougan, 2010; Hastings & De, 2008). Looking at the trends in fathers’ alexithymic traits as well as their capitalization capabilities has also been relatively unstudied, and it would be interesting to compare the data of fathers to that of mothers to see if these patterns are upheld.

Another promising area to further study is how a child’s developmental period can impact the relationship between parental emotion socialization and the child’s outcomes. Some evidence suggests that in adolescence, peers begin to grow in their influence on emotion socialization (von Salisch, 2001). However, it is unclear the extent to which each of these influences impact an adolescent’s outcomes and whether or not one influence takes precedent over the other as they age (Miller-Slough & Dunsmore, 2016).
Finally, it would be beneficial to create an intervention or training study where mothers are taught how to capitalize with their children and are assigned to do so over a controlled period of time. By teaching moms emotion socialization practices, it may be able to increase their emotion fluency and emotion coaching abilities. Through the effects of this intervention, we can possibly get closer to the links of causality and directionality between emotion socialization and a child’s outcomes in a way that builds on the results of the current study.

Conclusion

In sum, the findings in this study indicate that while capitalization is not the mechanism which mediates the relationship between alexithymia and a child’s negative outcomes, it does play a significant role in its relationship with a child’s adaptive regulatory capacity. These results illuminate the complex relationship between parenting, affect-related traits, and child behavioral and physiological development, which warrants further study in future research.
References


ALEXITHYMIA, EMOTION SOCIALIZATION, AND APATIVE REGULATORY CAPACITY


ALEXITHYMYIA, EMOTION SOCIALIZATION, AND APATIVE REGULATORY CAPACITY


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https://doi.org/10.1037/a0032894


https://doi.org/10.3109/13651501.2014.940055
Appendix A

Toronto Alexithymia Scale – 26 (TAS-26)

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Somewhat disagree</th>
<th>Neither agree nor disagree</th>
<th>Somewhat agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>When I cry, I always know why</td>
<td>○</td>
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<td>○</td>
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<td>Daydreaming is a waste of time</td>
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<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I wish I were not so shy</td>
<td>○</td>
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<td>○</td>
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<tr>
<td>I am often confused about what emotion I'm feeling</td>
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<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>I often daydream about the future</td>
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<tr>
<td>I seem to make friends as easily as others do</td>
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<td>○</td>
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<tr>
<td>Knowing the answers to problems is more important than knowing the reasons for the answers</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>It is difficult for me to find the right words for my feelings</td>
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<td>○</td>
<td>○</td>
<td>○</td>
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</tr>
<tr>
<td>I like to let people know where I stand on things</td>
<td>○</td>
<td>○</td>
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<td>○</td>
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<tr>
<td>I have physical sensations that even doctors don't understand</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>It's not enough for me that something gets the job done; I need to know why and how it works</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>I'm able to describe my feelings easily</td>
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<td>○</td>
<td>○</td>
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<td>○</td>
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<tr>
<td>Statement</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
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<tr>
<td>I prefer to analyze problems rather than just describe them</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>When I'm upset, I don't know if I'm sad, frightened, or angry</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>I use my imagination a great deal</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>I spend much time daydreaming whenever I have nothing else to do</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
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<tr>
<td>I am often puzzled by sensations in my body</td>
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<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>I daydream rarely</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
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<tr>
<td>I prefer to just let things happen, rather than understand why they turned out that way</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>I have feelings that I cannot quite identify</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Being in touch with emotions is essential</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I find it hard to describe how I feel about people</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>People tell me to describe my feelings more</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>One should look for deeper explanations</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I don't know what's going on inside me</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I often don't know why I'm angry</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Appendix B

Positive Emotion Socialization Coding Scheme

A. The most important component of the current study is to capture positive emotion socialization behaviors.

B. 
+ Labeling emotions
+ Eliciting from the child to share their emotional experience.
+ Sharing in the emotional experience “I feel great playing with you too.”
+ Provide details about the emotional experience.
+ Extension (e.g. “Do you want to play with Mommy again?”)
+ Affirmation
+ Praising the child.
+ Global Positive Affect mother shows (scale of 1-3)
+ Engagement (sheer amount of verbal engagement)

C. The coding scheme aims at capturing maternal positive emotion socialization behaviors in nine domains: labeling, eliciting, sharing, detailing, extending, affirming, praising, engaging, and overall positive affect. Each of the sections will include a variety of behaviors that fit these categories. When each behavior occurs, a “1” will be added in the appropriate section. Behaviors that are absent or negative will remain the default “0”. If the behavior needs further clarification, a # symbol will be noted. Each behavior will be counted as each clause in every sentence.

D. Although the coding scheme focuses on positive emotions, both positive and negative words will be noted for the use of emotion words.

E. Labeling emotions is similar to LIWC such that an emotional word is categorized as positive or negative except when a word repeats.

F. Details can be in the form of a question. For example, “Then we baked cookies together, right?” would be considered detailing rather than eliciting.

G. The positive memory of choice will be the portion that is coded. Conversations that stray from the initial conversation will not be coded.

H. Global positive affect and engagement are scored at the end based on the entire conversation.
   a. Global positive affect is scored on a scale from 1-3
   b. Engagement is the sheer amount of verbal engagement.
I. Each of the mother’s clauses can only be coded as one of the following categories, with the exception of “labeling emotions.”

a. **Labeling emotions**
   i. Tells child how they were feeling
      1. Ex: “I was happy we spent all that time together.”
   ii. Tells child how child was feeling

   Note: Unless a phrase is repeated exactly the same, count each time an emotion is said.

b. **Eliciting from child to share their emotional experience**
   i. Details
      1. Ex. “Do you remember what happened next?”
   ii. Emotions
      1. Ex: “How did that make you feel?”

   Note: One question equals one eliciting, no matter how many independent phrases are within the sentence.

c. **Sharing in the emotional experience**
   i. Agreeing with child
   ii. Ex: “I feel great playing with you too.”

d. **Provide details about the emotional experience**
   i. Describes who, what, when, where, when
      1. Ex: “We played together at home.”
   ii. Describes emotions around the experience

e. **Extension**
   i. Offers more affection or time for the future
   ii. Ex: “Do you want to play with Mommy again?”

f. **Affirmation**
   i. Validates child’s experience
      1. Ex: (repeating what child says)
      2. “Aw, that’s nice”
   ii. Categories:
      1. Simple affirmations (“Yeah”)
      2. Affirmations (“You’re right”)
      3. Affirmations with qualifications (“I know, but/and etc”)
   iii. When “yeah” is attached to another affirmation, the latter takes priority

g. **Praising the child**
   i. Offers praise
      1. Ex: “I’m so proud of you for winning!”
Appendix C

COPING WITH CHILDREN’S NEGATIVE EMOTIONS SCALE (CCNES)

Purpose: To measure the degree to which parents perceive themselves as reactive to young children’s (preschool through early elementary school) negative affect in distressful situations. Six subscales are derived that reflect the specific types of coping response parents tend to use in these situations.

SUBSCALES

1. Distress Reactions (DR). These items reflect the degree to which parents experience distress when children express negative affect.

Scoring: Mean of: 1B, 2A, 3A, 4D, 5E, 6C, 7C, 8C, 9B, 10A, 11B, 12D.

2. Punitive Reactions (PR). These items reflect the degree to which parents respond with punitive reactions that decrease their exposure or need to deal with the negative emotions of their children.

Scoring: Mean of: 1A, 2F, 3F, 4A, 5D, 6D, 7E, 8E, 9E, 10B, 11C, 12E.

3. Expressive Encouragement (EE). These items reflect the degree to which parents encourage children to express negative affect or the degree to which they validate child’s negative emotional states (i.e., “it’s ok to feel sad.”)

Scoring: Mean of: 1E, 2E, 3E, 4B, 5F, 6E, 7F, 8A, 9A, 10C, 11F, 12B.

4. Emotion-Focused Reactions (EFR). These items reflect the degree to which parents respond with strategies that are designed to help the child feel better (i.e., oriented towards affecting the child’s negative feelings).

Scoring: Mean of: 1F, 2B, 3D, 4E, 5A, 6A, 7B, 8F, 9F, 10D, 11E, 12C.

5. Problem-Focused Reactions (PFR). These items reflect the degree to which parents help the child solve the problem that caused the child’s distress (i.e., oriented towards helping the child solve his/her problem or coping with a stressor).

Scoring: Mean of: 1C, 2D, 3C, 4F, 5B, 6F, 7A, 8B, 9D, 10E, 11D, 12A.

6. Minimization Reactions (MR). These items reflect the degree to which parents minimize the seriousness of the situation or devalue the child’s problem or distressful reaction.

Scoring: Mean of: 1D, 2C, 3B, 4C, 5C, 6B, 7D, 8D, 9C, 10F, 11A, 12F.


Address correspondence to Richard Fabes, Department of Family Resources and Human Development, Arizona State University, Tempe, AZ, 85287-2502.

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Alexithymia, Emotion Socialization, and Apative Regulatory Capacity

ID ______________

Parent Attitude/Behavior Questionnaire

Instructions: In the following items, please indicate on a scale from 1 (very unlikely) to 7 (very likely) the likelihood that you would respond in the ways listed for each item. Please read each item carefully and respond as honestly and sincerely as you can. For each response, please circle a number from 1-7.

<table>
<thead>
<tr>
<th>Response Scale:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Unlikely</td>
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<td></td>
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<tr>
<td>Very Likely</td>
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</tr>
</tbody>
</table>

1. If my child becomes angry because he/she is sick or hurt and can't go to his/her friend's birthday party, I would:
   a. send my child to his/her room to cool off 1 2 3 4 5 6 7
   b. get angry at my child 1 2 3 4 5 6 7
   c. help my child think about ways that he/she can still be with friends (e.g., invite some friends over after the party) 1 2 3 4 5 6 7
   d. tell my child not to make a big deal out of missing the party 1 2 3 4 5 6 7
   e. encourage my child to express his/her feelings of anger and frustration 1 2 3 4 5 6 7
   f. soothe my child and do something fun with him/her to make him/her feel better about missing the party 1 2 3 4 5 6 7

2. If my child falls off his/her bike and breaks it, and then gets upset and cries, I would:
   a. remain calm and not let myself get anxious 1 2 3 4 5 6 7
   b. comfort my child and try to get him/her to forget about the accident 1 2 3 4 5 6 7
   c. tell my child that he/she is over-reacting 1 2 3 4 5 6 7
   d. help my child figure out how to get the bike fixed 1 2 3 4 5 6 7
   e. tell my child it's OK to cry 1 2 3 4 5 6 7
   f. tell my child to stop crying or he/she won't be allowed to ride his/her bike anytime soon 1 2 3 4 5 6 7

3. If my child loses some prized possession and reacts with tears, I would:
   a. get upset with him/her for being so careless and then crying about it 1 2 3 4 5 6 7
   b. tell my child that he/she is over-reacting 1 2 3 4 5 6 7
   c. help my child think of places he/she hasn't looked yet 1 2 3 4 5 6 7
   d. distract my child by talking about happy things 1 2 3 4 5 6 7
   e. tell him/her it's OK to cry when you feel unhappy 1 2 3 4 5 6 7
   f. tell him/her that's what happens when you're not careful 1 2 3 4 5 6 7

4. If my child is afraid of injections and becomes quite shaky and teary while waiting for his/her turn to get a shot, I would:
   a. tell him/her to shape up or he/she won't be allowed to do something he/she likes to do (e.g., watch TV) 1 2 3 4 5 6 7
   b. encourage my child to talk about his/her fears 1 2 3 4 5 6 7
   c. tell my child not to make big deal of the shot 1 2 3 4 5 6 7
   d. tell him/her not to embarrass us by crying 1 2 3 4 5 6 7
   e. comfort him/her before and after the shot 1 2 3 4 5 6 7
   f. talk to my child about ways to make it hurt less (such as relaxing so it won't hurt or taking deep breaths) 1 2 3 4 5 6 7
5. If my child is going over to spend the afternoon at a friend’s house and becomes nervous and upset because I can’t stay there with him/her, I would:

   a. distract my child by talking about all the fun he/she will have with his/her friend 1 2 3 4 5 6 7
   b. help my child think of things that he/she could do so that being at the friend’s house without me wasn’t scary 1 2 3 4 5 6 7
   (e.g., take a favorite book or toy with him/her)
   c. tell my child to quit over-reacting and being a baby 1 2 3 4 5 6 7
d. tell the child that if he/she doesn’t stop that he/she won’t be allowed to go out anymore 1 2 3 4 5 6 7
   e. feel upset and uncomfortable because of my child’s reactions 1 2 3 4 5 6 7
   f. encourage my child to talk about his/her nervous feelings 1 2 3 4 5 6 7

6. If my child is participating in some group activity with his/her friends and proceeds to make a mistake and then looks embarrassed and on the verge of tears, I would:

   a. comfort my child and try to make him/her feel better 1 2 3 4 5 6 7
   b. tell my child that he/she is over-reacting 1 2 3 4 5 6 7
c. feel uncomfortable and embarrassed myself 1 2 3 4 5 6 7
d. tell my child to straighten up or we’ll go home right away 1 2 3 4 5 6 7
e. encourage my child to talk about his/her feelings of embarrassment 1 2 3 4 5 6 7
   f. tell my child that I’ll help him/her practice so that he/she can do better next time 1 2 3 4 5 6 7

7. If my child is about to appear in a recital or sports activity and becomes visibly nervous about people watching him/her, I would:

   a. help my child think of things that he/she could do to get ready for his/her turn (e.g., to do some warm-ups and not to look at the audience) 1 2 3 4 5 6 7
   b. suggest that my child think about something relaxing so that his/her nervousness will go away 1 2 3 4 5 6 7
c. remain calm and get not nervous myself 1 2 3 4 5 6 7
d. tell my child that he/she is being a baby about it 1 2 3 4 5 6 7
e. tell my child that if he/she doesn’t calm down, we’ll have to leave and go home right away 1 2 3 4 5 6 7
   f. encourage my child to talk about his/her nervous feelings 1 2 3 4 5 6 7

8. If my child receives an undesirable birthday gift from a friend and looks obviously disappointed, even annoyed, after opening it in the presence of the friend, I would:

   a. encourage my child to express his/her disappointed feelings 1 2 3 4 5 6 7
   b. tell my child that the present can be exchanged for something the child wants 1 2 3 4 5 6 7
c. NOT be annoyed with my child for being rude 1 2 3 4 5 6 7
d. tell my child that he/she is over-reacting 1 2 3 4 5 6 7
e. scold my child for being insensitive to the friend’s feelings 1 2 3 4 5 6 7
   f. try to get my child to feel better by doing something fun 1 2 3 4 5 6 7
9. If my child is panicky and can’t go to sleep after watching a scary TV show, I would:

a. encourage my child to talk about what scared him/her 1 2 3 4 5 6 7
b. get upset with him/her for being silly 1 2 3 4 5 6 7
c. tell my child that he/she is over-reacting 1 2 3 4 5 6 7
d. help my child think of something to do so that he/she can get to sleep (e.g., take a toy to bed, leave the lights on) 1 2 3 4 5 6 7
e. tell him/her to go to bed or he/she won’t be allowed to watch any more TV 1 2 3 4 5 6 7
f. do something fun with my child to help him/her forget about what scared him/her 1 2 3 4 5 6 7

10. If my child is at a park and appears on the verge of tears because the other children are mean to him/her and won’t let him/her play with them, I would:

a. NOT get upset myself 1 2 3 4 5 6 7
b. tell my child that if he/she starts crying then we’ll have to go home right away 1 2 3 4 5 6 7
c. tell my child it’s OK to cry when he/she feels bad 1 2 3 4 5 6 7
d. comfort my child and try to get him/her to think about something happy 1 2 3 4 5 6 7
e. help my child think of something else to do 1 2 3 4 5 6 7
f. tell my child that he/she will feel better soon 1 2 3 4 5 6 7

11. If my child is playing with other children and one of them calls him/her names, and my child then begins to tremble and become tearful, I would:

a. tell my child not to make a big deal out of it 1 2 3 4 5 6 7
b. feel upset myself 1 2 3 4 5 6 7
c. tell my child to behave or we’ll have to go home right away 1 2 3 4 5 6 7
d. help my child think of constructive things to do when other children tease him/her (e.g., find other things to do) 1 2 3 4 5 6 7
e. comfort him/her and play a game to take his/her mind off the upsetting event 1 2 3 4 5 6 7
f. encourage him/her to talk about how it hurts to be teased 1 2 3 4 5 6 7

12. If my child is shy and scared around strangers and consistently becomes teary and wants to stay in his/her bedroom whenever family friends come to visit, I would:

a. help my child think of things to do that would make meeting my friends less scary (e.g., to take a favorite toy with him/her when meeting my friends) 1 2 3 4 5 6 7
b. tell my child that it is OK to feel nervous 1 2 3 4 5 6 7
c. try to make my child happy by talking about the fun things we can do with our friends 1 2 3 4 5 6 7
d. feel upset and uncomfortable because of my child’s reactions 1 2 3 4 5 6 7
e. tell my child that he/she must stay in the living room and visit with our friends 1 2 3 4 5 6 7
f. tell my child that he/she is being a baby 1 2 3 4 5 6 7
**Appendix D**

**Please print. CHILD BEHAVIOR CHECKLIST FOR AGES 1 1/2-5**

<table>
<thead>
<tr>
<th>CHILD'S FULL NAME</th>
<th>PARENTS' USUAL TYPE OF WORK, even if not working now. Please be specific — for example, auto mechanic, high school teacher, homemaker, laborer, house painter, executive assistant, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHILD'S GENDER</td>
<td>FATHER'S TYPE OF WORK</td>
</tr>
<tr>
<td>Boy</td>
<td>Girl</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please fill out this form to reflect your view of the child's behavior. For each item that describes the child now or within the past 2 months, please circle the number that best describes the child. If the item is not true of the child, circle the 0. Please answer all items as well as you can, even if some do not seem to apply to the child.

0 = Not true (as far as you know) 1 = Somewhat or sometimes true 2 = Very true or often true

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2</td>
<td>Aches or pains (without medical cause; do not include stomach or headaches)</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Acts too young for age</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Afraid to try new things</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Avoids looking others in the eye</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Can't concentrate, can't pay attention for long</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Can't sit still, restless, or hyperactive</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Can't stand having things out of place</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Can't stand being told &quot;no&quot;</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Cheats on things that aren't editable</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Clings to adults or too dependent</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Constantly seeks help</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Constipated, doesn't move bowels (when not sick)</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Cries a lot</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Cruel to animals</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Defiant</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Demands must be met immediately</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Destroys his/her own things</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Destroys things belonging to his/her family or other children</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Diarrhea or loose bowels (when not sick)</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Disobedient</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Disturbed by any change in routine</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Doesn't want to sleep alone</td>
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<tr>
<td>0 1 2</td>
<td>Doesn't answer when people talk to him/her</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Doesn't eat well (describe):</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Doesn't get along with other children</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Doesn't know how to have fun; acts like a little adult</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Doesn't seem to feel guilty after misbehaving</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Doesn't want to go out of home</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Easily frustrated</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Easily frustrated</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Easily frustrated</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Easily frustrated</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Easily frustrated</td>
</tr>
</tbody>
</table>

Be sure you answered all items. Then see other side.

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ASEBA, University of Vermont, 1 South Prospect St., Burlington, VT 05401-3546
www.ASEBA.org

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Please print your answers. Be sure to answer all items.

<table>
<thead>
<tr>
<th>0 = Not True (as far as you know)</th>
<th>1 = Somewhat or Sometimes True</th>
<th>2 = Very True or Often True</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2 55. Plays with own sex parts too much</td>
<td>0 1 2 79. Rapid shifts between sadness and excitement</td>
<td>0 1 2 80. Strange behavior (describe):</td>
</tr>
<tr>
<td>0 1 2 56. Poorly coordinated or clumsy</td>
<td>0 1 2 81. Stubborn, sullen, or irritable</td>
<td>0 1 2 82. Sudden changes in mood or feelings</td>
</tr>
<tr>
<td>0 1 2 57. Problems with eyes (without medical cause) (describe):</td>
<td>0 1 2 84. Talks or cries out in sleep</td>
<td>0 1 2 85. Tempers tantrums or hot temper</td>
</tr>
<tr>
<td>0 1 2 58. Punishment doesn’t change his/her behavior</td>
<td>0 1 2 87. Too fearful or anxious</td>
<td>0 1 2 88. Uncooperative</td>
</tr>
<tr>
<td>0 1 2 59. Quickly shifts from one activity to another</td>
<td>0 1 2 90. Unhappy, sad, or depressed</td>
<td>0 1 2 91. Unusually loud</td>
</tr>
<tr>
<td>0 1 2 60. Rashes or other skin problems (without medical cause)</td>
<td>0 1 2 93. Vomiting, throwing up (without medical cause)</td>
<td>0 1 2 94. Wakes up often at night</td>
</tr>
<tr>
<td>0 1 2 61. Refuses to eat</td>
<td>0 1 2 96. Wants a lot of attention</td>
<td>0 1 2 97. Whining</td>
</tr>
<tr>
<td>0 1 2 62. Refuses to play active games</td>
<td>0 1 2 99. Worries</td>
<td>0 1 2 100. Please write in any problems the child has that were not listed above.</td>
</tr>
<tr>
<td>0 1 2 63. Repeatedly rocks head or body</td>
<td>0 1 2</td>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2 64. Resists going to bed at night</td>
<td>0 1 2</td>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2 65. Resists toilet training (describe):</td>
<td>0 1 2</td>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2 66. Screams a lot</td>
<td>0 1 2</td>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2 67. Seems unresponsive to affection</td>
<td>0 1 2</td>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2 68. Self-conscious or easily embarrassed</td>
<td>0 1 2</td>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2 69. Selfish or won’t share</td>
<td>0 1 2</td>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2 70. Shows little affection toward people</td>
<td>0 1 2</td>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2 71. Shows little interest in things around him/her</td>
<td>0 1 2</td>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2 72. Shows too little fear of getting hurt</td>
<td>0 1 2</td>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2 73. Too shy or timid</td>
<td>0 1 2</td>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2 74. Sleeps less than most kids during day and/or night (describe):</td>
<td>0 1 2</td>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2 75. Smears or plays with bowel movements</td>
<td>0 1 2</td>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2 76. Speech problem (describe):</td>
<td>0 1 2</td>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2 77. Stares into space or seems preoccupied</td>
<td>0 1 2</td>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2 78. Stomachaches or cramps (without medical cause)</td>
<td>0 1 2</td>
<td>0 1 2</td>
</tr>
</tbody>
</table>

Does the child have any illness or disability (either physical or mental)? [ ] No [ ] Yes—Please describe:

What concerns you most about the child?

Please describe the best things about the child:
**Table 1**

*Means and Standard Deviations of the Variables*

<table>
<thead>
<tr>
<th>Measured Variables</th>
<th>n=155</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexithymia (total)</td>
<td>65.08 (13.98)</td>
</tr>
<tr>
<td>Alexithymia Subscales: Identifying</td>
<td>21.39 (7.45)</td>
</tr>
<tr>
<td>Alex. Subscales: Describing</td>
<td>16 (5.47)</td>
</tr>
<tr>
<td>Alex. Subscales: Daydreaming</td>
<td>13.5 (3.84)</td>
</tr>
<tr>
<td>Alex. Subscales: External thinking</td>
<td>14.18 (3.72)</td>
</tr>
<tr>
<td>Capitalization</td>
<td>37.1 (18.3)</td>
</tr>
<tr>
<td>Supportive Parenting</td>
<td>5.83 (.69)</td>
</tr>
<tr>
<td>Baseline RSA</td>
<td>6.13 (1.16)</td>
</tr>
<tr>
<td>Behavior Problems</td>
<td>9.51 (6.66)</td>
</tr>
<tr>
<td>Child Age (in months)</td>
<td>42.01 (4.68)</td>
</tr>
<tr>
<td>Education Level</td>
<td>3.63 (1.39)</td>
</tr>
</tbody>
</table>

*Note.* Education level coded from 1-6 (1 = “High School,” 2 = “Some College,” 3 = “Community College,” 4 = “Bachelor’s Degree,” 5 = “Graduate Degree,” 6 = “None of the Above”).
### Table 2

*Correlations among Maternal Alexithymia, Demographic Factors, Capitalization, and Child’s Negative Outcomes (baseline RSA and behavior problems)*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Alexithymia (total)</td>
<td>- 0.03</td>
<td>-0.25**</td>
<td>-0.01</td>
<td>0.24**</td>
<td>-0.04</td>
<td>-0.06</td>
<td>-0.14</td>
<td></td>
</tr>
<tr>
<td>2. Capitalization</td>
<td>-</td>
<td>0.18</td>
<td>0.29*</td>
<td>-0.05</td>
<td>-0.07</td>
<td>-0.17</td>
<td>-0.05</td>
<td></td>
</tr>
<tr>
<td>3. CCNES</td>
<td>-</td>
<td>0.22*</td>
<td>-0.12</td>
<td>-0.08</td>
<td>-0.15</td>
<td>0.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. RSA baseline</td>
<td>-</td>
<td>-0.01</td>
<td>-0.02</td>
<td>0.03</td>
<td>0.11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Behavior Problems (combined)</td>
<td>-</td>
<td>-0.16</td>
<td>0.08</td>
<td>0.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Child Gender</td>
<td>-</td>
<td>0.05</td>
<td>-0.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Child Age (in months)</td>
<td>-</td>
<td>-0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Education level</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. Sex is coded as Male = 0, Female = 1. Education level coded from 1-6 (1 = High School, 2 = Some College, 3 = Community College, 4 = Bachelor’s Degree, 5 = Graduate Degree, 6 = None of the Above). *p < .05; **p < .01, (all significance tests are two-tailed).*
Table 3
Hierarchical Regression Model for Variables Predicting Child RSA

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Se</th>
<th>beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Age</td>
<td>.002</td>
<td>.032</td>
<td>.006</td>
<td>.054</td>
<td>.58</td>
</tr>
<tr>
<td>Model 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capitalization</td>
<td>.018</td>
<td>.008</td>
<td>.274</td>
<td>2.330</td>
<td>.02</td>
</tr>
<tr>
<td>Supportive Response To Child’s Neg Experiences (CCNES)</td>
<td>.227</td>
<td>.163</td>
<td>.158</td>
<td>1.391</td>
<td>.17</td>
</tr>
</tbody>
</table>

*Note:* Model 2 contains all variables from Model 1.
Table 4

Hierarchical Regression Model for Variables Predicting Child Behavior Problems

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Se</th>
<th>beta</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Age</td>
<td>.018</td>
<td>.016</td>
<td>.091</td>
<td>1.088</td>
<td>.28</td>
</tr>
<tr>
<td>Child Gender</td>
<td>-.308</td>
<td>.150</td>
<td>-.171</td>
<td>-2.049</td>
<td>.04</td>
</tr>
<tr>
<td><strong>Model 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alexithymia</td>
<td>.016</td>
<td>.005</td>
<td>.244</td>
<td>3.012</td>
<td>.003</td>
</tr>
</tbody>
</table>

*Note:* Model 2 contains all variables from Model 1.
Figure 1

Model: Capitalization as a mediator of the relationship between maternal alexithymia and child’s baseline RSA levels.

\[
\text{Maternal Alexithymia} \rightarrow \text{Capitalization} \rightarrow \text{Child RSA}
\]

\[
\begin{align*}
0.01 (0.01)^+ \\
0.37 (0.14)^**
\end{align*}
\]

\[
c = 0.0015 (0.01) \\
c' = 0.005 (0.004)
\]

95% CI [\(-0.0013, 0.15\)]

Note: Values represent betas, numbers in parentheses are the standard errors. $R^2 = .15, F(5, 66) = 2.32, p = .05$. $+p < .1; * = p < .05, ** = p < .01$. $c$ = total effect, $c'$ = direct effect. Models controlled for child age, child gender, and the supportive parenting measure.
Figure 2
Model: Capitalization as a mediator of the relationship between maternal alexithymia and child’s behavior problems.

Note: Values represent betas, numbers in parentheses are the standard errors. $R^2 = .09$, $F(5, 102) = 2.16, p = .06$. * = $p < .05$; ** = $p < .01$. $c$ = total effect, $c'$ = direct effect. Models controlled for child age, child gender, and the supportive parenting measure.