

In the Spirit of Full Disclosure: Maternal Distress, Emotion Validation, and Adolescent Disclosure of Distressing Experiences

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The purpose of the current study was to investigate the dynamic process of disclosure within the adolescent–mother relationship by examining how maternal personal distress and validation of adolescent negative affect would be related to adolescent disclosure of a distressing experience for the first time. A community sample of 66 mothers and their adolescent children ($M = 14.31$ years, 58% female) participated. The adolescents disclosed an emotionally distressing experience to their mothers for the first time. Mothers' validating behaviors and personal distress in response to their adolescents' expressions of negative emotion were predictive of adolescent disclosure. Adolescents made less detailed or substantive disclosures to their mothers when adolescents perceived their mothers as less validating of their negative emotions and when mothers were more likely to become distressed themselves. Neither adolescent-perceived maternal invalidation nor observed maternal validating or invalidating behaviors were related to adolescent disclosure. Maternal personal distress was further indirectly associated with less substantive disclosures through less maternal validation of negative emotion. These findings provide the foundation for future research evaluating clinical interventions targeted at increasing mothers' emotion regulation skills and validation of children's negative emotions. Such interventions may provide an effective way to promote better mother–adolescent communication, especially in regard to distressing experiences.

Keywords: disclosure, validation, invalidation, personal distress, adolescent–mother communication

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Adolescence is frequently accompanied by distressing experiences, such as being bullied, having relational problems with peers, and increased conflict with parents (Madge et al., 2011; Marceau, Ram, & Susman, 2015). Epidemiological research indicates that between 53 and 91% of youth have experienced at least one serious adversity (Flaherty et al., 2013; McLaughlin et al., 2012). When not managed well, exposure to adverse or distressing

experiences in conjunction with adolescents' heightened vulnerability to emotional distress (Casey et al., 2010) is likely to place them at an increased risk for poor psychosocial outcomes in adolescence and beyond (Carter & Garber, 2011; Madge et al., 2011; McLaughlin et al., 2012). Although the disclosure, or sharing, of emotionally upsetting experiences with others is typically thought to be advantageous and a precursor to support (Frattaroli, 2006; Pennebaker & O'Heeron, 1984), the disclosure of such experiences is not a typical response, at least not immediately following the stressful experience (Marshall, Tilton-Weaver, & Bosdet, 2005). Furthermore, when adolescents choose to disclose such distressing experiences, they are more likely to confide in their peers than their parents (Hershkowitz, Lanes, & Lamb, 2007), despite the finding that disclosing to a parent is associated with more positive mental health outcomes for adolescents compared with disclosure to peers or other adults (Feiring, Taska, & Lewis, 1998).

Disclosure is thought to be beneficial for a number of reasons, including its role as a precipitant to emotional and tangible support, providing an opportunity to gain insight into the experience, expressing and regulating negative emotions, eliminating the valence of negative emotions through repetition and exposure, and acting as a means toward ending the aversive situation (Lepore, Greenberg, Bruno, & Smyth, 2002; Sloan & Marx, 2004). Moreover, adolescent disclosure to parents is associated with lower rates

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of delinquency, substance use and depressive symptoms (Hamza & Willoughby, 2011; Keijsers, Branje, VanderValk, & Meeus, 2010). Thus, understanding the factors that promote adolescent disclosure is a critical step in supporting adolescents and helping them overcome distressing experiences.

Adolescent self-disclosure is the primary way that parents learn about their adolescents (Stattin & Kerr, 2000). As the active agents in this process, adolescents decide when and how much information to share with parents (Cumsille, Darling, & Martínez, 2010; Keijsers et al., 2010; Marshall et al., 2005; Smetana, Metzger, Gettman, & Campione-Barr, 2006). However, existing literature on adolescent disclosure is limited to daily activities, personal information such as relationships with peers or romantic partners, and risky or misbehavior, such as substance use. Given the frequency and consequences of adverse or other distressing experiences, such as being bullied, in adolescence (Flaherty et al., 2013; Madge et al., 2011), in conjunction with the benefits of disclosure (e.g., Sloan & Marx, 2004), a better understanding of the factors influencing adolescent disclosure of distressing experiences is critical.

Despite Bussey and Grimbeek's (1995) theory that children's decisions to disclose would depend on their beliefs about how the disclosure recipient—in this case, their parents—would respond to them, little is known regarding how adolescents' perceptions of parental emotional distress are related to their disclosure of distressing events. Because the disclosure of distressing experiences frequently involves the expression of negative affect, parental emotional distress to adolescent negative affect may be a particularly important indicator that adolescents use when considering how their parents might respond to their disclosures. This indicator aligns with the broader literature on personal distress, where individuals who tend to become distressed to negative emotions in others also tend to respond in maladaptive, self-focused ways (Batson, O'Quin, Fultz, Vanderplas, & Isen, 1983; Tone & Tully, 2014). For parents, it may be that their ability to respond sensitively to their adolescents is diminished when they themselves become emotionally distressed in the face of their children's expressions of negative affect (Dix, 1991; Fabes, Poulin, Eisenberg, & Madden-Derdich, 2002).

Parental validation and invalidation may be a potential mechanism through which parental distress may decrease an adolescent's willingness to disclose. Validating responses are those that encourage the expression of negative emotions through acceptance of the emotion or the precipitating event by communicating it is relevant and meaningful and, at times, providing strategies for changing the emotion or the problem (Linehan, 1997). Invalidating responses are those that minimize the youths' experience, punish the youth for expressing the emotion, or communicate that the experience or associated emotion is illogical, unwarranted, too extreme, or inappropriate (Linehan, 1993). Rather than representing two ends of the same continuum, validating and invalidating responses are two distinct constructs (Fabes et al., 2002), as parents could validate and invalidate their adolescent in the same conversation.

Preliminary support exists for the individual pathways between parental distress and parental validating and invalidating behaviors, as well as between parental validating and invalidating behaviors and adolescent disclosure. For example, without specifically assessing parental personal distress, Gottman, Katz, and Hooven (1996) descriptively summarized that parents who re-

ported perceiving their children's negative emotions as toxic and overwhelming were more likely to be invalidating of their children's negative emotions. In turn, Tilton-Weaver and colleagues (2010) found that parents who validated prior disclosures of daily activities had adolescents who were more likely to make subsequent disclosures compared to adolescents whose parents were more invalidating of their adolescents' disclosures. Additional research is needed to simultaneously examine the pathways between parental distress, validating and invalidating behaviors, and adolescent disclosure, as well as the indirect effect, in the context of adolescent disclosure of distressing experiences.

The Current Study

The purpose of the current study is to investigate the dynamic process of disclosure within the adolescent–mother relationship. Although both mothers and fathers respond to their children's negative emotions, mothers tend to be more involved and more likely to provide support in response to adolescent distress (Klimes-Dougan et al., 2007; Stocker, Richmond, Rhoades, & Kiang, 2007). Given these differences, and that adolescents are more likely to express negative emotion to and seek emotional support from their mothers (Smetana et al., 2006), the current study focused specifically on mothers. The primary aim was to examine whether adolescents' decisions to disclose emotionally distressing experiences, as defined by the adolescent, to their mothers were based on how their mothers have typically responded to adolescent distress. Because all adolescents were asked to make a disclosure, we did not operationalize disclosure in the typical dichotomous way. Rather, for the purposes of the current study, a substantive disclosure was defined as one where the majority of important details for the experience were shared, including the most distressing aspects and how the experience made the adolescents feel about themselves. We hypothesized that maternal personal distress in response to adolescent expression of negative emotion would be negatively associated with how substantive a disclosure the adolescent would make regarding a distressing experience. We further hypothesized that the association between maternal personal distress and the substantiveness of the adolescent's disclosure would be indirectly associated through adolescent perceived and observed maternal validation and invalidation.

The current study extends prior research on disclosure in multiple ways. First, to enhance the ecological validity of the study, the adolescents in the current study disclosed an emotionally distressing experience to their mothers for the first time. This approach extends prior work that has relied on retrospective reports of disclosures (Smith et al., 2000), adolescent self-report of their disclosure tendencies (Tilton-Weaver et al., 2010), reliance on hypothetical vignettes without examining distressing experiences that are personally relevant to the adolescent (Zeman & Shipman, 1997), and the use of research confederates to receive disclosures (Lepore, Fernandez-Berrocal, Ragan, & Ramos, 2004). Second, in contrast to prior studies that have focused specifically on the disclosure of personal information or day-to-day activities (Almas, Grusec, & Tackett, 2011; Tilton-Weaver et al., 2010), adolescents disclosed emotionally distressing experiences to their mothers. Third, disclosure is typically assessed dichotomously in terms of a disclosure being made or not (Smith et al., 2000), which

incorrectly assumes that when a disclosure is made, all the pertinent information is shared (Sjöberg & Lindblad, 2002). Rather, disclosure tends to be more iterative in nature, with adolescents gauging their recipients' response to initial disclosures before deciding how much information to disclose (Staller & Nelson-Gardell, 2005). Further, to receive optimal support, it may be important to disclose the most distressing aspects of the experience as well as how the experience made the adolescent feel about him or herself, as more detailed, or what we have termed as substantive disclosures, have been associated with better psychological functioning (Ullman & Filipas, 2005). Finally, in contrast to prior studies that have relied on self-report to assess validating and invalidating responses to youth emotional distress (Klimes-Dougan et al., 2007) or relied solely on behavioral observation (Shenk & Fruzzetti, 2014), the current study incorporated adolescent self-report and behavioral observation of maternal validating and invalidating behaviors.

Method

Participants

Participants were 66 adolescent–mother dyads who were recruited using two strategies in an attempt to maximize the socioeconomic diversity and experiences of the sample. Almost a third of the dyads ($n = 19$) were recruited through a database of community members maintained by the University of Oregon, where the families tend to be classified as middle- and upper-middle-class households. Families are included in the database following birth announcements in the local newspaper or through recruitment efforts at community events. Due to incomplete records we are unsure of how one dyad was recruited. The remaining two thirds of the dyads were recruited through community outreach efforts ($n = 46$). These community recruitment efforts included posting fliers in lower income areas of the community, as well as placing electronic advertisements (e.g., Craigslist) and advertisements in the local newspaper. To limit the self-selection bias of adolescent–mother dyads with close communication styles, the community recruitment materials and advertisements were specifically aimed at mothers and adolescents who have a hard time talking to one another. The only inclusion criterion for the study was that participants were English speaking. Participant demographics are outlined in Table 1.

Procedure

The study procedures were approved by the University of Oregon's Institutional Review Board. All procedures were completed in the lab and, in their entirety, took approximately 2–2.5 hr. The adolescents and their mothers independently completed a series of self-report measures, all of which were completed using Qualtrics (Provo, UT) web-based survey software. Approximately halfway through the study, the adolescents independently completed a written disclosure task and then the adolescent–mother dyads were united and together they completed three disclosure tasks. Following the disclosure tasks the dyads returned to their separate assessment rooms and the adolescents and their mothers independently completed a postdisclosure questionnaire and a final set of self-report measures. At the end of the study, adolescents and their

Table 1
Demographics for Mothers and Adolescents

Demographic	Mother	Adolescent
Age (<i>M, SD</i>)	42.86 (8.22)	14.31 (1.66)
Range	28–67	12–18
Sex (% female)	100	58
Race/ethnicity (%)		
African American or Black	1	1
Caucasian or White	82	70
Hispanic or Latino	8	9
Multiracial or other	9	18
Native American	0	2
Education (%)		
Less than high school	1	100
High school	20	
Technical/trade school/some college	9	
Associate's degree	27	
College degree	21	
Graduate school degree	17	
Employment status (% employed)	62	
Income (%)		
\$0–9,999	11	
\$10,000–24,999	21	
\$25,000–49,999	32	
\$50,000–74,999	13	
\$75,000–99,999	8	
\$100,000–149,999	9	
\$150,000–250,000	6	
Marital status (%)		
Divorced or separated	18	
In a relationship, not married	14	
Married	55	
Single	8	
Widowed	1	

mothers were debriefed and provided with community counseling referrals. Mothers were compensated with \$25 and adolescents were compensated with a \$10 gift card.

The disclosure tasks were developed for the purposes of this study. In the written disclosure task, adolescents wrote for five minutes about a previously unshared distressing experience that made them feel sad, angry, ashamed, or another negative emotion. They were instructed to select the experience that they would most want to tell their mother if they knew she would be supportive. Adolescents were provided with a list of 26 potentially distressing experiences (see Table 1 in the online supplemental materials) to help them identify an experience, but many of the adolescents knew what they would write about without referring to the list. The list was created based on a pilot study in which participants were asked to write about upsetting experiences, as well as items from the Negative Life Events Inventory (Newcomb & Harlow, 1986). Following the written disclosure, the adolescents made three verbal disclosures to their mothers: (a) a time when they felt socially excluded (e.g., warm-up task, 5 min); (b) an experience or event that is hard to talk about because it elicits sadness, anger, shame, or another negative emotion (hereafter referred to as the distressing disclosure, 8 min); and (c) an experience or event that evokes happiness or pride (2 min). For the purpose of this study, only the distressing disclosure task was examined. The adolescents decided what to disclose before being reunited with their mothers. They were instructed that they could disclose the experience they wrote about or choose another experience, but the experience had to be

an experience that they had not previously shared with their mother. If the adolescents reported that they did not have an unshared distressing experience, they were informed that they could discuss a previously disclosed experience, but that it had to contain new information about the experience that they had not previously shared. The adolescents were advised that the researchers could not control how their mothers would respond to their disclosures, and that they should choose experiences that they would actually share with their mothers outside of the research setting. Finally, they were asked to select a topic that did not directly involve their mothers. The disclosure task was explained to the mothers, and the mothers were instructed to listen and respond as they typically would. Consistent with the disclosure procedures in prior research, 8 min was allotted for this task (e.g., Foynes & Freyd, 2011), and a research assistant timed the interactions which were videorecorded for observational coding. All the adolescents had adequate time to make a disclosure and for their mothers to respond to the disclosure.

The types of distressing experiences were categorized based on what the adolescents wrote about in their written disclosure and what they verbally disclosed to their mothers. The first author and a research assistant categorized the experiences into 22 possible topics and created subcategories under the general categories to better specify the types of experiences disclosed. Any disagreements in deciding what category a disclosure best fit were discussed and resolved based on consensus. Table 2 in the online supplemental materials details the 22 categories of distressing experiences, frequencies of the written and verbal disclosures for each topic, and the number of adolescents who verbally disclosed their written disclosure. The most common types of distressing experiences that adolescents disclosed included (a) unjust behavior (enacted by someone else), (b) an experience where adolescents felt disappointed in themselves or felt that their behavior led to others being disappointed in them, (c) a worry or fear for themselves or someone else, (d) abandonment or rejection, (e) conversations or behaviors that caused them great distress, and (f) relational aggression.

Measures

Measures completed prior to the disclosure tasks included a questionnaire to assess demographics and socioeconomic status (SES), the Pubertal Development Scale, Coping With Children's Negative Emotions Scale—Adolescent Version (CCNES-A), CCNES—Adolescent Perception Version (CCNES-AP), and the Unsupportive Social Interactions Inventory (USII). Measures completed after the disclosure tasks included the Positive and Negative Affect Schedule (PANAS), a postdisclosure questionnaire developed for the purposes of this study, and the Dysregulated Emotion Regulation Scale (DERS).

Maternal personal distress. To assess mother's typical level of personal distress in response to adolescent negative emotion, while also creating a more reliable measure and reducing the number of comparisons with individual indicators, a composite index was created (Holmbeck, Li, Schurman, Friedman, & Coakley, 2002) using maternal self-report on the CCNES-A (Fabes & Eisenberg, 1998), adolescent self-report in response to their mothers on the CCNES-AP (Fabes & Eisenberg, 1998), and maternal self-report on the PANAS (Watson, Clark, & Tellegen, 1988).

The CCNES consists of nine hypothetical scenarios in which an adolescent expresses negative emotion. Although the CCNES assesses for six different responses, in accordance with theory (Fabes et al., 2002) and empirical support (Jones, Brett, Ehrlich, Lejuez, & Cassidy, 2014), only the distress response type, which is considered a unique indicator of maternal distress in response to adolescent negative emotion, was used to assess for maternal distress. The CCNES-A and the CCNES-AP are identical in content and structure, except that the CCNES-A asks mothers how they typically respond to their adolescents' emotional distress (e.g., "When my teenager gets down because he/she has had a bad day, I usually . . ."), whereas the CCNES-AP asks adolescents how their mothers typically respond to the adolescent's emotional distress (e.g., "When I get down because I've had a bad day, my mother usually . . ."). Responses are made on a 7-point Likert-type scale ranging from 1 (*very unlikely*) to 7 (*very likely*). Mean scores were calculated for the distress response type (e.g., "becomes obviously uncomfortable when she sees I'm feeling down") across the nine vignettes for mothers and adolescents, where scores can range between 1 and 7. In the current study scores ranged from 1 to 4.89 for mothers ($M = 2.09$, $SD = 1.18$) and from 1 to 5.22 for adolescents ($M = 1.63$, $SD = 0.82$). Cronbach's alpha was .90 and .83 for mothers and adolescents, respectively.

The mothers also completed the 20-item self-report PANAS. Both positive and negative affect were assessed, but only negative affect scores were utilized given their consistent association with distress tolerance (Kiselica, Rojas, Bornovalova, & Dube, 2015). The mothers rated their current feelings for a variety of moods (e.g., "guilty," "ashamed," and "irritable") on a Likert-type scale from 1 (*very slightly or not at all*) to 5 (*extremely*). Scores were summed so that higher scores are indicative of greater negative affect. Scores could range from 10 to 50. In the current study scores ranged from 10 to 40 ($M = 12.85$, $SD = 5.17$). Cronbach's alpha was .90.

Maternal- and adolescent-report of maternal distress in response to adolescent negative emotion, as well as maternal report of negative affect following her adolescent's disclosure of a distressing experience were significantly correlated, $r = .34-.47$, $p \leq .003$. To create a composite index of maternal personal distress in response to adolescent negative emotion the values from the three indicators were standardized by calculating a z score for each indicator and averaging them so that higher scores are indicative of greater maternal personal distress. Maternal personal distress following adolescent negative emotion was log transformed due to positive skew.

Adolescent perceived maternal emotion validation. Adolescent perception of maternal validation of adolescent negative emotion was assessed using the CCNES-AP (Fabes & Eisenberg, 1998). Mean scores were calculated for the three validating response types: problem focused (e.g., "helps me think of things to do to get my problem solved"), emotion focused (e.g., "tries to get me to think of the good things that happened"), and expressive encouragement (e.g., "listens to me talk about my feelings"). A composite score for perceived maternal emotion validation was then created by averaging the score for each validating response type (Fabes et al., 2002), with higher scores indicating adolescents' beliefs that their mothers provide greater validation of their negative emotions. Scores could range from 1 to 7. In the current study scores ranged from 1 to 6.33 ($M = 3.81$, $SD = 1.46$). Cronbach's alpha was .97.

Adolescent perceived maternal emotion invalidation. The USII (Ingram, Betz, Mindes, Schmitt, & Smith, 2001) was used to assess adolescent-report of maternal emotion invalidation. The USII is a 25-item self-report measure of social reactions that are commonly made after the disclosure of a personal experience. The adolescents completed the USII after completing the written disclosure task and immediately prior to the verbal disclosure tasks. The USII was modified so that the adolescents indicated how they believed their mothers would have responded had they actually told their mothers about their written disclosure. The USII was used rather than the CCNES to assess for adolescent perceived invalidation because the CCNES refers to hypothetical scenarios, and the USII was used in reference to an emotionally distressing experience relevant to the adolescent. The USII consists of four subscales: distancing (e.g., “would change the subject before I was ready to”), bumbling (e.g., “would not know what to say, or would be afraid of saying or doing the ‘wrong’ thing”), minimizing (e.g., “would feel that I was overreacting”), and blaming (e.g., “would make ‘should or shouldn’t have’ comments about my role in the event”). Responses range from 0 (*not at all*) to 4 (*a lot*). Mean scores are calculated so scores can range from 0 to 4. In the current study scores ranged from 0 to 2 ($M = 0.39$, $SD = 0.44$). Cronbach’s alpha was .89.

Substantive disclosure. For the purposes of the current study, a substantive disclosure was defined as one where the majority of important details for the experience are shared, including the most distressing aspects of the experience and how the experience made the adolescents feel about themselves. Within the postdisclosure questionnaire, four items were used to assess adolescent self-report of the substantiveness of the disclosure: “How many of the important details did you share with your mom?” “Did you share the most distressing parts of the experience with your mom?” “Did you share how the experience made you feel about yourself?” and “Did you leave out parts of the experience that you felt might get you into trouble with your mom or that your mom would not like?” Responses were made on a 5-point Likert-type scale, where higher scores indicate a more substantive disclosure. A mean score was calculated and scores can range from 1 to 5. In the current study scores ranged from 2.5 to 5 ($M = 4.08$, $SD = 0.70$). Cronbach’s alpha was .83.

Observational Coding

Observed maternal emotion validation and invalidation. The adolescent–mother disclosure tasks were coded using a modified version of the Validating and Invalidating Behaviors Coding Scale (VIBCS; Fruzzetti, 2001). The VIBCS is an observational rating scale informed by Linehan’s (1997) levels of validation and used to measure levels of validating and invalidating responses within families and dyads. In the current study the VIBCS was modified by incorporating subcategories of validation and invalidation from the Parent–Child Validation/Invalidation Coding System (Schneider & Fruzzetti, 2002) and collapsing Levels 1 (i.e., inattention) and 2 (i.e., missed opportunities or functional unresponsiveness) for invalidating behaviors because it was challenging to determine whether missed opportunities were missed due to inattention or due to some other factor. For the purposes of the current study, validating and invalidating behaviors were coded for mothers only and each maternal response was coded. Following

coding for each maternal response, an overall or global validating and invalidating behavior rating was given based on an ordinal scale ranging from 1 to 7, where higher scores are indicative of higher levels of validating and invalidating responses. In the current study scores ranged from 1 to 7 ($M = 4.58$, $SD = 1.47$) for validating responses and from 1 to 7 ($M = 2.98$, $SD = 1.83$) for invalidating responses. The VIBCS has demonstrated good interrater reliability when rating mothers’ interactions with their children and adolescents, with intraclass correlation coefficients (ICCs) ranging between .72 and .98 with children (Schneider, 2004) and .86 with adolescents (Shenk & Fruzzetti, 2014).

Reliability of the VIBCS in the mother–adolescent dyadic interactions. Two undergraduate research assistants coded mothers’ validating and invalidating responses to the adolescents’ disclosures. The coders attended a weekly coding team meeting with the first author to assess reliability, drift from the coding manual, and to discuss ambiguous maternal responses. As a team, we coded to consensus when the coded dyads overlapped, as well as when the coders brought confusing or ambiguous interactions to discuss when they coded unique dyads. They rated an overlapping 18% of the entire sample to determine reliability. Interrater reliability on this subset of families was determined via ICC using a two-way mixed-effects single-measure with absolute agreement among coders. The resulting ICC for the individual maternal responses during the distressing disclosure was .94, $p < .001$, and it was .84, $p < .001$, for the global codes, indicating excellent reliability (Hallgren, 2012). In accordance with prior studies (e.g., Shenk & Fruzzetti, 2014), only the global scores were used in the current analyses, and the scores for the individual maternal responses will not be discussed further.

Potential Covariates

Demographics. Mother and adolescent age, adolescent gender, pubertal development, and SES were examined as potential covariates. Mothers and adolescents each completed a basic demographics form for personal information such as age and gender. Adolescents self-reported on pubertal development with the Pubertal Development Scale (Petersen, Crockett, Richards, & Boxer, 1988). Mean scores were calculated and could range from 1 to 4, where higher scores are indicative of more advanced pubertal development. In the current study scores ranged from 1.60 to 4 ($M = 3.04$, $SD = 0.66$). A composite index of SES was created, as annual family income and maternal education were significantly correlated, $r = .53$, $p < .001$. The two indicators were standardized and then averaged. Lower scores were indicative of lower SES.

Adolescent emotion regulation difficulties. Adolescent emotion regulation difficulties were examined as a potential covariate because emotion dysregulation may influence adolescents’ perceptions of how distressed their mothers become in response to the adolescents’ negative emotion, as well as how validating and invalidating their mothers are. Moreover, it may be that the adolescents’ own intolerance of negative affect may influence their perceptions or the substantiveness of their disclosures. The adolescents self-reported on their own emotion regulation difficulties using the 36-item DERS (Gratz & Roemer, 2004). The DERS assesses six dimensions of emotion dysregulation: nonacceptance of emotional responses, difficulties engaging in goal-directed be-

haviors when distressed, difficulties controlling impulsive behaviors when distressed, lack of emotional awareness, lack of emotional clarity, and limited access to emotion regulation strategies. Responses are made on a 5-point Likert-type scale ranging from 1 (*almost never, 0–10%*) to 5 (*almost always, 91–100%*). A total score was calculated by summing all items. Scores range between 36 and 180, and higher scores reflect greater difficulty in regulating emotions. The DERS has good internal consistency and test-retest reliability and adequate construct and predictive validity (Gratz & Roemer, 2004). In the current study scores ranged from 47 to 142 ($M = 90.23$, $SD = 22.53$). Cronbach's alpha was .92.

Severity of the distressing experience. The severity of the distressing experience disclosed by the adolescents to their mothers may also influence their mothers' emotional responsiveness, as well as how much information the adolescents divulge to their mothers. In addition to serving as a potential covariate, severity of the distressing experience was used as a manipulation check to verify that adolescents disclosed experiences that they and their mothers perceived as distressing. The adolescents self-reported on how distressing they perceived the experience they disclosed to be at the time of the experience. Adolescents responded on a 10-point scale ranging from 1 (*least distressing*) to 10 (*most distressing*), and for the current study the scores ranged from 1 to 10 ($M = 6.03$, $SD = 2.75$). The adolescents' mothers likewise reported how distressing they perceived the experience disclosed during the distressing disclosure task to be for their adolescent, using the same rating scale. The mothers' scores ranged from 2 to 10 ($M = 7.31$, $SD = 2.02$).

Analytic Strategy

Preliminary analyses were conducted to examine patterns of normality and missing data. Bivariate Pearson correlation coefficients were then computed to examine the relationships between the study variables. Potential covariates were determined by examining demographic and SES variables, adolescent emotion regulation difficulties, and perceived severity of the distressing experience disclosed for associations with variables of interest in the current study using bivariate correlations and independent sample t tests. Path analysis using *Mplus* (Version 7; Muthén & Muthén,

1998–2015), with the full information maximum likelihood default, was used to evaluate the hypothesized model, while taking full advantage of the available data (Schafer & Graham, 2002). Standardized betas were used as an indicator of effect size, where every standard deviation increase in the continuous predictor, represents a corresponding magnitude of change in the dependent variable. Bootstrapping was used to generate bias-corrected confidence intervals to examine the significance of the indirect effects (MacKinnon, Lockwood, & Williams, 2004). Bootstrap confidence intervals were based on 1,000 samples, and the exclusion of 0 within the 95% confidence intervals indicates a significant effect.

Results

Preliminary Analyses

All variables were examined for significant deviations from normality, outliers, and missing data. The amount of missing data was relatively small. The covariance coverage ranged from .92 to 1.00. For the disclosure tasks, one teen refused to complete any of the disclosure tasks and another teen refused to complete the distressing disclosure task. In terms of the severity of adolescents' disclosures, adolescents tended to disclose experiences that they perceived as distressing ($M = 6.03$, $SD = 2.75$), where 35% of the adolescents disclosed an experience that they rated as an 8 or higher in terms of the level of distress they experienced at the time of the event. Forty-one percent of the adolescents selected an experience with a moderate level of distress (between 4 and 7), and 23% selected an experience that they rated low in terms of the amount of distress they experienced at the time of the event. The mothers rated the level of adolescent distress at the time of the event to be at a 7.31 ($SD = 2.02$), which was significantly more distressing than the adolescents perceived these experiences to be, $t(63) = 3.75$, $p < .001$.

The bivariate correlations among the continuous variables are presented in Table 2. Maternal age, adolescent gender, and adolescent and maternal perceived severity of the disclosed experience at the time of the event were not significantly associated with any of the study variables, and they were not included in the correlation

Table 2
Descriptive Statistics and Correlations Between Study Variables

Variable	1	2	3	4	5	6	7	8	9	10
1. Age (A)	—									
2. Pubertal dev (A)	.56***	—								
3. SES	.01	-.01	—							
4. Emo reg dif (A)	.13	.26*	-.04	—						
5. Distress (M, A)	.15	.18	-.04	.28*	—					
6. Maternal V (A)	.27*	.14	.33**	-.22	-.36**	—				
7. Maternal InV (A)	.13	.12	-.03	.37**	.54***	-.36**	—			
8. Maternal V (O)	-.06	-.25*	.18	-.19	-.31*	.33**	-.31*	—		
9. Maternal InV (O)	.08	.20	-.16	.15	.30*	-.14	.18	-.52***	—	
10. Disclosure	.04	.02	.30*	-.13	-.41**	.43***	-.21	.18	-.14	—

Note. dev = development; A = adolescent-report; SES = socioeconomic status; Emo reg dif = emotion regulation difficulties; Distress = maternal personal distress; M = maternal-report; V = validation; InV = invalidation; O = observer-report; Disclosure = substantive disclosure. Log transformed values for maternal personal distress are used.

* $p < .05$. ** $p < .01$. *** $p < .001$.

table. As expected, adolescents' perceptions of their mothers' validating and invalidating behaviors were significantly negatively correlated. The observers' ratings of the mothers' validating and invalidating behaviors were likewise significantly negatively correlated. The adolescents' perceptions of their mothers' validating and invalidating behaviors were significantly related to the coders' observations of maternal validation in the expected directions. In contrast, the adolescents' perceptions of their mothers' validating and invalidating behaviors were not significantly related to the coders' observations of maternal invalidation, although the correlations were in the expected directions.

Path Model for Adolescent Disclosure

A path model was constructed to examine the relationship between maternal personal distress in response to adolescents' expression of negative emotion, mothers' validating and invalidating responses to adolescent negative emotion, and adolescent disclosure of a distressing experience. Covariance paths were added between the covariates and study variables where significant bivariate relationships emerged in the preliminary correlational analyses. The path model showed a good fit, $\chi^2(27) = 23.14$, $p = .68$, comparative fit index = 1.00, Tucker–Lewis index = 1.00, and root mean square error of approximation = 0.00. Three nonsignificant covariance paths were removed to develop a more parsimonious model (i.e., paths between SES and substantive disclosure, adolescent perceived maternal validation and adolescent perceived maternal invalidation, and adolescent perceived maternal validation and adolescent perceived maternal invalidation, and pubertal development

and coded maternal validation). The patterns of significance in the final model remained the same as in the original model. The final model (see Figure 1) showed a good fit, $\chi^2(22) = 16.54$, $p = .79$, comparative fit index = 1.00, Tucker–Lewis index = 1.00, and root mean square error of approximation = 0.00.

As hypothesized, mothers who experience more distress in response to their adolescents' expressions of negative emotion had adolescents whose disclosures were significantly less substantive. Maternal personal distress was likewise associated with the adolescents' belief that their mothers were less likely to validate the adolescents' negative emotions and more likely to invalidate them. Parallel results were found for observed maternal validating and invalidating responses where greater maternal personal distress in response to negative adolescent emotion was associated with fewer validating and more invalidating behaviors observed for mothers. In turn, adolescents who perceived their mothers as more validating made disclosures that were significantly more substantive. In contrast, adolescents' perceptions of their mothers' invalidating behaviors were not significantly associated with how substantive their disclosures were. Likewise, the observed ratings of maternal validation and invalidation were not related to the substantiveness of the adolescents' disclosures. The final model accounted for a significant amount of the variance in adolescent perceived maternal validation, $R^2 = .16$, $p = .03$, and invalidation, $R^2 = .29$, $p = .002$, and in how substantive the adolescent reported the disclosure to be, $R^2 = .31$, $p = .002$. Of the four indirect paths possible, only one indirect effect was significant. Maternal personal distress in

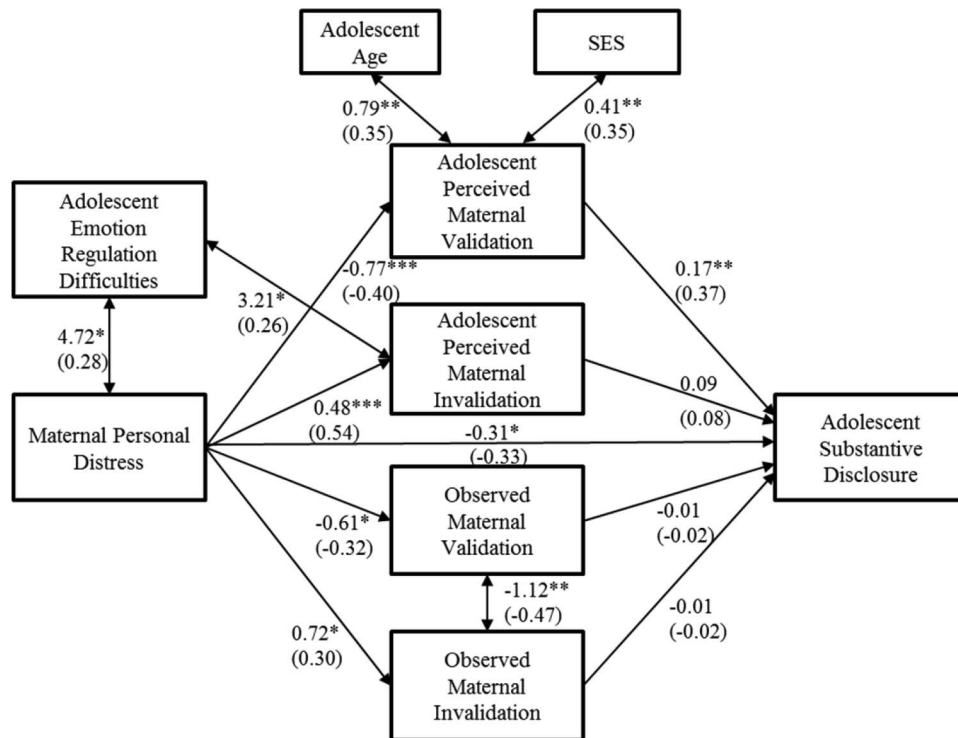


Figure 1. Parameter estimates for path model for adolescent substantive disclosure. Parameter estimates are unstandardized. Standardized beta coefficients are reported in parentheses and used as indicators of effect size. * $p < .05$. ** $p < .01$. *** $p < .001$.

response to adolescent negative emotion was related to a less substantive disclosure from the adolescent through lower adolescent perceived maternal validation, $b = -0.13$, 95% confidence interval $[-0.31, -0.04]$. The effect size for the indirect effect was small ($\beta = -0.15$). In terms of the covariates, older adolescents and adolescents from families with higher SES perceived their mothers as more validating. Adolescent emotion regulation difficulties were associated with greater maternal personal distress in response to adolescent negative emotion and greater adolescent perceived maternal emotion invalidation.

Discussion

The purpose of the present study was to better understand how maternal personal distress and validation of adolescent negative emotion relates to adolescent disclosure of distressing experiences to their mothers for the first time. The findings support the idea that for adolescents, the disclosure of distressing experiences occurs within a dynamic social system where an adolescent's decision to disclose is not solely based on demographic factors or the perceived severity of the experience. In the current study neither adolescent age, gender, emotion regulation difficulties, nor perceived severity of the distressing experience was significantly related to adolescents' disclosure of a distressing experience for the first time. In contrast, a mother's tendency to become personally distressed following her adolescent's expression of negative emotion was directly related to adolescents making less substantive disclosures. These findings support a model of disclosure that incorporates adolescents' perceptions of how their mothers will respond (Bussey & Grimbeek, 1995), and specifies that adolescents may temper what information and the level of detail they share with mothers based on their mothers' abilities to listen to their disclosures without becoming too distressed themselves.

Greater maternal personal distress in response to adolescent negative emotion was also indirectly related to adolescents disclosing fewer substantive details of the experience through lower levels of adolescent perceived maternal validation. When mothers were less likely to be distressed themselves, adolescents perceived their mothers as encouraging them to express their negative feelings by responding in a way that legitimized the adolescent and his or her feelings. In turn, adolescents tended to provide greater detail, including more of the important details about the situation, how the situation made them feel, and aspects of the situation they thought their mother might view disapprovingly. In line with Tilton-Weaver and colleagues (2010), the present findings further suggest that when adolescents believed that their mothers would be less validating and accepting of their disclosure, adolescents withheld the most meaningful parts of the experience from their mothers. Findings from another study using this sample of adolescent-mother dyads (Martin, Kim, & Freyd, 2016) suggest that mothers who are more prone to becoming distressed in response to adolescent negative affect are more likely to struggle in regulating their own emotions. Thus, it may be that these mothers lack the skill in knowing how to manage their own emotions effectively, let alone how to help their children manage upsetting experiences. Therefore, it may be more adaptive, at least in the short term, for adolescents of such emotionally distressed mothers not to request support or advice or engage their mothers in discussions about their distressing experiences, until their mothers are better equipped to

support their children through the disclosure process. However, this strategy is likely more problematic for adolescents in the long-term, making clinical intervention for mothers a priority.

Of note, maternal personal distress in response to adolescent distress was significantly associated with adolescent perceived and observed maternal validation and invalidation in the expected directions, but only adolescent perceived maternal validation was associated with more substantive disclosures from the adolescents. Although unexpected, it may be that the feeling of connectedness that results from positive parental reactions to prior disclosures (Tilton-Weaver et al., 2010) facilitates disclosure of the pertinent details of the experience in such a way that the presence of maternal validation, rather than the absence of invalidation, is related to adolescent disclosure. Second, rather than being opposite ends of the same continuum, disclosure and secrecy may be two distinct constructs. For example, maternal encouragement and acceptance of children's negative emotions is related to children's willingness to open up and share their daily experiences with their parents, but not related to their children's decisions to withhold certain experiences (Almas et al., 2011). Third, it may be the case that the relationship between maternal invalidation of adolescent negative emotion and adolescent disclosure depends on mothers' ongoing stressors (Lee, 2013; Martin, Kim, & Fisher, 2016), where maternal invalidation would be associated with more negative disclosure outcomes only for mothers who are also managing multiple additional stressors. Finally, the lack of significance of maternal invalidation may be due to its limited variability found in the present study.

A strength of the current study is that mothers' validating and invalidating behaviors were behaviorally coded in addition to assessing adolescent report of maternal responses to their negative emotions. However, the observed ratings were unrelated to adolescent disclosure. One possibility for this discrepancy, and consistent with the idea that adolescents' decisions to disclose distressing experiences depends on their perception of their mothers' response (Bussey & Grimbeek, 1995), is that adolescent perception of maternal validation may be a more predictive indicator than observed validation. Adolescents appear to be accurate reporters of their parents' warmth and responsiveness (Knafo & Schwartz, 2003), and the adolescents in this study may have had a more accurate sense of how their mothers would respond to their negative emotions compared to coders who observed a single interaction between the dyads. Alternatively, validating and invalidating responses may depend on the "eye of the beholder," with adolescents perceiving mothers differently than the coders. A second possibility for this discrepancy could result from differences between the self-report and observed measures of maternal validation. The CCNES, which was utilized for adolescent self-report of hypothetical scenarios, equally weighs three types of emotionally validating responses, those that: encourage problem solving, encourage changing or modifying the emotion, and serve to promote the expression of the negative emotion. In contrast, the VIBCS, which was utilized to code the mothers' observed validating behaviors during the distressing disclosure task, is based on a hierarchical coding system where responses that encourage the expression of negative emotion are scored as more validating in comparison to responses that focus on problem-solving or modifying the emotion. Mothers in the current study were more frequently observed using mid-level validating responses, such as

problem-solving in comparison to higher coded forms like encouraging the expression of negative emotion through acceptance. Thus, because of differences in how validation was measured, adolescents may have reported their mothers' responses as more validating than they were coded to be. A third explanation is that mothers may have been more validating and less invalidating of their adolescents' emotions and experiences during the observation than they would typically be given that they knew their interactions with their adolescents would be viewed. A third of the adolescents reported that their mothers responded better during the disclosure task than they typically respond to comparable distressing experiences. Approximately 44% of the adolescents reported that their mothers responded similarly, while 2% believed that their mothers responded worse, and 21% were unsure or did not remember. Finally, given our modest sample size, it may be that we lacked the power to detect a relationship.

The lack of a significant relationship between adolescent perceived and observed maternal invalidation might have resulted from the adolescents and coders rating different targets of maternal invalidation. The adolescents rated how invalidating they thought their mothers would be if they disclosed the distressing experience that they most wanted to share with her (i.e., the written disclosure), whereas the coders rated how invalidating the mothers were during the adolescents' verbal disclosure. Fifty-five percent of the adolescents disclosed the experience that they wrote about to their mothers. When examining the association between observed maternal invalidation and adolescent perception of maternal invalidation specifically for the adolescents who verbally disclosed their written disclosure, or another more distressing experience ($n = 35$), observed and adolescent perceived invalidation were significantly correlated, $r = .39$, $p = .02$. Thus, when adolescents disclosed the experience they wrote about, the coders tended to agree with the adolescents' perceptions of their mothers' invalidating behaviors. Of note, neither maternal distress, adolescent perceived or coded maternal validating and invalidating responses, nor the substantiveness of the adolescents' disclosures were significantly related to whether or not adolescents disclosed the experience they wrote about.

Despite the perceived severity of the experience disclosed not being related to any of the variables of interest, both adolescents and their mothers rated this experience as quite distressing for the adolescent. In fact, the mothers rated it as being significantly more distressing than did the adolescents themselves. One possible explanation for this discrepancy is that nearly half of the adolescents (47%) indicated that they had a more distressing experience than the one they chose to disclose to their mothers. It may be that their mothers believed that the disclosed experience was the adolescent's most distressing experience, and rated the severity higher than the adolescent. Alternatively, mothers appear to be less tolerant of their adolescents' negative affect during this period of development (Klimes-Dougan et al., 2007), and in turn, may have perceived their adolescents to be more distressed than the adolescents perceived themselves.

Clinical Implications

The problem in getting adolescents to open up and talk about their day-to-day activities, let alone upsetting experiences is not unexpected provided that one of the major transitions during

adolescence is a shift from confiding in and seeking emotional support from parents and instead reaching out to peers. Although developmentally appropriate, parents, and mothers in particular, continue to play an important role in helping their adolescents to manage negative emotions and navigate distressing experiences (Barbot, Heinz, & Luthar, 2014; Klimes-Dougan et al., 2007). The present findings suggest that mothers who can regulate their emotions in response to adolescents' negative emotion and are perceived by their adolescents to have their negative emotion validated, are better at getting their adolescents to open up than other mothers.

Helping mothers to increase their emotion regulation skills and to validate rather than invalidate their children's negative emotions may be an effective way to promote better mother-adolescent communication, especially in regard to distressing experiences. One option might be to train mothers to respond more supportively to their adolescents. Basic validation skills can be taught to young adults prior to a peer's disclosure of a distressing experience (Foyne & Freyd, 2011). However, the teaching of these skills may not result in additional perceived support by the person who discloses (Foyne & Freyd, 2011). Clinical interventions that incorporate emotion regulation skill development for mothers show promise for helping mothers to better manage their emotions, improve parenting skill, and reduce some negative psychological outcomes for children (Havighurst, Kehoe, & Harley, 2015; Martin, Roos, Zalewski, & Cummins, 2016). Future research should assess whether improvements in maternal emotion regulation, distress tolerance, and responsiveness to their children's emotions also lead to earned trust from their children and reciprocal changes in children opening up more to their mothers following intervention, as well as what risk factors are associated with some mothers becoming more distressed in response to adolescent emotion.

Limitations

While this study has a number of significant strengths, it also has some limitations. First, because of the cross-sectional nature of the study, causal inferences cannot be confirmed. Given the emotional and social changes that occur during adolescence, longitudinal research is needed to replicate the present findings, as well as to better understand how changes in the valence of maternal distress or maternal validating and invalidating behaviors are related to adolescents' willingness to share distressing experiences with their mothers. Second, the sample size was modest. Although it is promising that our effect sizes for the significant pathways ranged from medium to large, and the indirect pathway, known to be low-powered was significant, the limited overall power of the current study, may have resulted in Type II errors of nonsignificance. Thus, replication is necessary not only to confirm these results, but also, additional studies with greater power are needed to examine whether any significant relationships might emerge between adolescent disclosure and the nonsignificant pathways in the current study (i.e., maternal invalidation and observed maternal validation and invalidation). Future research with larger samples should also examine potential moderators. Although the severity of the distressing experience was not significantly correlated with any of the main variables of interest, the potential moderating role of severity and type of experience, as well as gender should be examined. Prior research has shown that female gender (Madge

et al., 2011) and distressing experiences that include maltreatment or parental maladjustment (McLaughlin et al., 2012) are associated with more negative outcomes. Third, the demographic composition of the study was limited to mothers. Because fathers have been shown to respond to their children's emotions, including distressing emotions, in less supportive ways than mothers (Klimes-Dougan et al., 2007; Stocker et al., 2007), it is important to gain a better understanding of the paternal factors that encourage adolescent disclosure of distressing experiences. Future research would also benefit from a better understanding of peer influence on adolescent disclosure. Finally, the mothers and adolescents self-selected into the study, making replication of these findings even more necessary. Despite our recruitment efforts to mitigate the self-selection of mothers and adolescents who were very close and open with one another, the participants were not screened into the study, and future research should consider these relational factors during recruitment.

Some additional considerations for future studies include the following suggestions. First, it is widely accepted that interactions between mothers and their children are more transactional in nature and less directed from one side. Future research should examine these reciprocal relationships, while continuing to consider that despite children's emotions and behaviors having an impact on their parents, parents are ultimately responsible for helping their children learn to express and manage their emotions. Second, although we had observational data for the mothers' validating and invalidating responses to their adolescents' disclosures, our maternal personal distress construct relied on mother and adolescent self-report. An observational measure of maternal distress would have strengthened these results. Third, the current study did not assess reasons the adolescents had not yet made the disclosure to their mothers and this issue warrants future research. Likewise, while we asked mothers and adolescents whether the adolescent disclosed new information during the distressing disclosure, we did not assess for whether adolescents disclosed an entirely new experience or whether they simply provided new information for a formerly disclosed experience. These varied types of disclosures may be associated with meaningful differences and deserve greater attention. Finally, although we provided a list of common distressing experiences that occur during adolescence, we did not use a standardized self-report measure where we assessed for specific types of experiences, the frequency or duration of these experiences, or the amount of time since they occurred. Future research would benefit in using a more standardized assessment.

Conclusion

The current study supports a social-cognitive model of disclosure (Bussey & Grimbeek, 1995) that emphasizes adolescents' perceptions of how their mothers will respond before disclosing emotionally upsetting experiences. The results expand upon Bussey and Grimbeek's theory by examining whether a mother's level of distress and validation of adolescent negative emotion were associated with the adolescent's propensity to disclose distressing experiences to her. Mothers who responded to their adolescents' expressions of emotional distress with distress appeared to have negatively influenced their adolescents' willingness to tell their mothers about upsetting experiences. Specifically, mothers

who were more likely to become personally distressed in response to their adolescents' expression of negative emotion were also more likely to be perceived by their adolescents as less validating and more invalidating. In turn, adolescents who perceived their mothers to be less validating were less likely to share the most important and distressing aspects of the experience they disclosed to their mothers. These findings provide the foundation for future research on clinical interventions targeted at increasing maternal emotion regulation skills and validation of children's negative emotions, as they may provide an effective way to promote better mother-adolescent communication, especially in regard to distressing experiences.

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