

Anger expression and adaptation to childhood sexual abuse: The role of
disclosure context

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ABSTRACT

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Previous research on anger and childhood sexual abuse (CSA) is largely cross-sectional and retrospective. In this study, we prospectively examined the consequences of expressing anger among sexually abused women in contexts of either voluntarily disclosing or not disclosing a previous abuse episode. All CSA survivors in the study had documented histories of CSA. These participants and a matched, nonabused sample were asked to describe their most distressing experience while being videotaped to allow coding of anger expression. Approximately two thirds of the CSA survivors voluntarily disclosed a previous abuse experience. Participants completed measures of internalizing symptoms and externalizing symptoms at the time of disclosure and again two years later. The expression of anger was associated with better long-term adjustment (decreased internalizing and externalizing symptoms) but only among CSA survivors who had expressed anger while *not* disclosing an abuse experience. For CSA survivors who disclosed an abuse experience, anger expression was unrelated to long-term outcome. These findings suggest that the benefits of anger expression for CSA survivors may be context specific.

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DEDICATION

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Anger expression and adaptation to childhood sexual abuse: The role of disclosure context

Childhood sexual abuse (CSA) is something to be angry about. Not only is CSA morally reprehensible, often it causes great suffering and ultimately long-term damage among those who experience it. For example, survivors of CSA tend to suffer from substance use, depressive symptoms, revictimization, interpersonal problems, and eating disorder symptoms (Noll, Horowitz, Bonanno, Trickett, & Putnam, 2003; for reviews, see Nuemann, Houskamp, Pollock, & Briere, 2006; Polusny & Follette, 1995). Not surprisingly, CSA survivors frequently experience and express anger (Newman & Peterson, 1996; Scott & Day, 1996), particularly at having been violated at a young age. Many survivors also express anger upon realizing that someone they trust and on whom they are dependent has harmed them. Expressions of anger among CSA survivors remain common even years after the event (Newman & Peterson, 1996; Scott & Day, 1996).

Is the expression of anger following CSA adaptive? From a theoretical perspective, the expression of negative emotions is generally assumed to be functional; that is, emotions are thought to have evolved to promote survival in the face of environmental adversities by communicating intent and experience to others (Ekman, 1992; Keltner & Haidt, 1999; Turner, 2000). Emotional expressions can also influence and, to some extent, shape the behavior of others. The expression of anger, for example, communicates to other people, rapidly and efficiently, that we are feeling threatened. Perhaps more importantly, an anger expression also tells others that we are willing and perhaps able to respond to that threat. Thus, as is often the case in non-human animals, by communicating the seriousness of a perceived affront, anger expressions may

paradoxically help minimize the escalation of conflict (de Waal, Frans, 1989; Marler, 1961).

An important consideration, however, is that the usefulness of all emotional expression is context bound (Bonanno, Colak et al., 2008; Cole, Michel, & Teti, 1994); that is, the effectiveness of a specific emotional expression will in part depend upon the congruence between the expression and specific environmental threats and opportunities (Ekman, 1992, 1993; Frijda, 1986; Lazarus, 1991; Tooby & Cosmides, 1990). The flexible regulation of emotional expression therefore requires at least some consideration of the demands of the situation (Bonanno et al., 2004). For example, expressing anger in the context of conversations associated with bargaining and negotiating may facilitate desirable responses (van Dijk, van Kleef, Steinel, & van Beest, 2008; Sinaceur & Tiedens, 2006). However, if anger is expressed in contexts that require affiliation or the building of rapport, it may damage social bonds (Cole & Zahn-Waxler, 1992; Keltner, Ellsworth, & Edwards, 1993).

In this context, the situational constraints that inform CSA may qualify the usefulness of anger expressions. For example, CSA typically occurs in the context of strained familial functioning (Beitchman, Zucker, Hood, DaCosta, & Akman, 1991; Rind, Tromovitch, & Bauserman, 1998), in which case the expression of anger might only exacerbate an already maladaptive situation or be detrimental to the health/survival of the survivor. The existing literature seems to support this concern. The expression of anger in the aftermath of CSA has been associated with unfavorable outcomes (e.g. Bennett, Sullivan, & Lewis, 2005; National Research Council, 1993; Riggs, Dancu, Gershuny, Greenberg, & Foa, 1992). For example, anger following CSA has been associated with

greater externalizing symptoms (Bennett, Sullivan, & Lewis, 2005) and greater interpersonal difficulties (Luterek, Harb, Heimberg, & Marx, 2004). It is noteworthy however, that virtually all of the data associating anger and maladaptive outcomes following CSA has been cross-sectional. These data may capture a general co-occurrence of anger expression and poor functioning but can say little about the possible longer-term functional relevance that anger might serve.

While anger has been investigated in CSA survivors, very little is known about variations in anger expression with specific contexts. Expressing anger within the context of describing morally reprehensible acts such as CSA, which are known to arouse strong emotions in listeners (Batson, Kennedy, Nord, Stocks, Fleming, et al., 2007; Montada & Schneider, 1989), could have different consequences than expressing anger in the contexts of describing other distressing experiences. The current investigation was designed to directly address this issue. Specifically, in this study we coded the expression of anger among a sample of young adult women with documented histories of CSA as well as a matched comparison group of nonabused women. Anger expressions were coded from an interview segment in which all of the women in the study were asked to describe the worst event they had ever experienced to an interviewer who was blind to their possible CSA status. We conducted a follow-up session with these participants approximately two years later, which made it possible to examine the long-term consequences of anger expression. In addition, we explored how the link between anger expression and long-term adjustment varied depending upon whether the anger occurred in the context of the voluntary disclosure or voluntary nondisclosure of CSA.

Anger and its social functions

Anger is generally understood to involve two key appraisal components: frustration or blockage of important goals, and the attribution of blame to someone or something that is viewed as responsible for the goal blockage (Lazarus, 1991; Ortony, Clore, & Collins, 1988; Rozin, Lowery, Imada, & Haidt, 1999). From an evolutionary standpoint, the expression of anger in situations that meet these criteria is thought to be adaptive because it signals a willingness to defend the self and elicits avoidance responses from others (Darwin, 1872; Marsh, Ambady & Kleck, 2005). In modern contexts, survivors of CSA may socially benefit by expressing their anger at times. For example, effective anger expression can improve interpersonal relations by clarifying interpersonal boundaries (Kennedy-Moore & Watson, 1999). Also people may express anger when they believe they can correct the undesirable behavior or actions of another person (Averill, 1982). Not only can anger expressions function to change another person's behaviors, but such a change can, in turn, have a positive effect on the relationship between the people involved. Fischer and Roseman (2007) found that people typically expressed their anger verbally, but that over time such verbal aggressions resulted in reconciliation and an improved relationship.

However, CSA survivors may also socially benefit by selectively targeting specific people with whom to express their feelings. People tend to approach lower status people or people they like when angry, but not higher status or disliked people, with whom anger expressions may be disadvantageous (Harris, 1974; Karniol & Heiman, 1987; Kuppens, Mechelen, & Meulders, 2004). CSA survivors may be less likely to express anger to their abusers who would likely be considered higher status and disliked. Kuppens and colleagues (2004) suggest that when anger is not expressed in front of

certain people and instead is shared with others through conversation, such sharing can promote social bonds. Furthermore, when CSA survivors choose to express their anger, the perceived appropriateness of their anger may affect the response they receive. Van Kleef and Cote (2007) found that when people expressed inappropriate anger in conflicts with high powered individuals, they tended to respond unfavorably. However, when people expressed anger with low-powered individuals, they tended to respond more favorably regardless of the level of anger appropriateness.

In addition, female CSA survivors may reduce anger expressions when interacting with people with whom they expect repeated contact, such as a familial perpetrator or adults who allow the abuse to continue. Evers and colleagues (2005) found that expectations regarding future social interactions with an individual influence the degree to which women, more so than men, choose to express their anger. Specifically, when participants were led to believe that a specific person made negative comments about them, men and women did not differ in self-reports of anger experienced toward the person. However, when given an opportunity to indirectly express their anger to a person, and then have to meet the person, women expressed less anger than men. Thus, social appraisal plays a key role in women's anger expression.

Expressions of anger can take on many forms, both active and passive, but one clear signal can be seen in facial displays. People can easily distinguish facial displays of various emotions, including anger. Furthermore, situation-specific displays of anger have been linked to biological benefits. Specifically, facial displays of anger were found to be negatively associated with cardiovascular and cortisol responses in stressful situations

(Lerner et al., 2005). Thus, facial displays of anger may be an especially useful marker of anger expression in response to the particularly stressful nature of CSA.

Anger and abuse

Anger is an emotion of particular interest in the context of abuse, especially in women with a history of CSA. Because anger commonly arises in response to blameworthy appraisals and feeling forced to do something against one's wishes (Ellsworth & Smith, 1988; Izard, 1977; Scherer, 2001), it is natural to see how survivors of CSA may be prone to the emotion. As expected, survivors of CSA often report experiencing anger after the abuse has occurred (Newman & Peterson, 1996; Scott & Day, 1996).

While CSA survivors report experiencing anger, they also choose not to outwardly express their feelings of anger (Luterek, Harb, Heimberg, & Marx, 2004; Scott & Day, 1996) at greater rates than non-abused women (Scott & Day, 1996). In addition, CSA survivors tend to experience greater interpersonal difficulties including vulnerability and isolation (Scott & Day, 1996) and interpersonal rejection sensitivity (Luterek et al., 2004).

Although anger in CSA survivors has not been clearly linked to psychopathology, abuse and anger have been linked to dysfunction. For example, research on anger as a predictor of posttraumatic stress disorder (PTSD) after abuse is mixed and inconclusive (Orth, Cahill, Foa, & Maercker, 2008). Nevertheless, internalizing and externalizing symptoms have been associated with abuse (e.g. Knutson, DeGarmo, & Reid, 2004; National Research Council, 1993; Strassberg, Dodge, Pettit, & Bates, 1994), and anger has been associated with externalizing symptoms (Keltner, Moffitt, & Stouthamer-Loeber, 1995; Strayer & Roberts, 2004). Bennet and colleagues (2005) investigated the

role of anger in externalizing symptoms among a group of physically abused children. They found that anger was related to externalizing symptoms, but not to internalizing symptoms. Furthermore, they found that anger mediated the relationship between shame and externalizing symptoms. However, the study did not employ a longitudinal design and excluded children with a substantiated history of sexual abuse.

Context and the Current Investigation

In the vast majority of empirical investigations of CSA, past abuse experiences are assessed retrospectively. However, many survivors consciously choose not to disclose their abuse history. In one study, more than one third of a sample of women (38%) chose not to disclose verified cases of abuse (Williams, 1994). Failure to disclose CSA has been attributed to various factors including avoidance, unwillingness to revisit the experience, or defensive memory blockage (e.g. Briere & Conte, 1993; Williams, 1994). Additionally, intense feelings of shame about the abuse may prevent some women from disclosing CSA. For example, in a previous study using the same sample studied in the current investigation, women who chose not to disclose CSA when asked about their most traumatic experience exhibited greater facial signals of shame compared to survivors who disclosed CSA (Bonanno et al., 2002).

In the current study, we examined the voluntary disclosure of CSA as a contextual factor in the expression of anger. Specifically, we compared anger expression in relation to long-term developmental outcomes (internalizing and externalizing symptoms, and social adjustment) in adolescent and young adult women. All participants were enrolled in an ongoing longitudinal study. Approximately half of the sample was enrolled after a documented CSA experience. The other half of the sample consisted of demographically

matched women without abuse histories. The current investigation used as its starting point (T1) an interview session that all participants completed approximately 7 years after enrolling in the study. At the time of this interview, participants were on average 18 years of age and beginning the transition to *emerging adulthood* (Arnett, 2000), a period associated with maturation toward a stable adult identity and commitment to adult life plans (Erikson, 1968; Marcia, 1980; McAdams, 2001). The T1 session included assessment of the adjustment measures listed above as well as a semistructured narrative interview in which participants were asked to describe the most distressing event or series of events they had ever experienced. Importantly, because none of the participants had been questioned explicitly about CSA experiences at any previous point in the study, the T1 interview provided an opportunity for voluntary disclosure or nondisclosure of CSA. Accordingly, we created three groups: CSA disclosers, CSA nondisclosers, and nonabused women. Videotapes of the interview data were subsequently coded for facial expressions of emotion, including expressions of anger. The adjustment measures used at T1 were then repeated approximately two years later (T2) to permit longitudinal examination of the consequences of anger expression.

Because of the social complexities associated with anger expression among CSA survivors, reviewed above, we were especially interested in the possible differential effects of the two CSA disclosure contexts. Specifically, we explored whether the nonverbal expression of anger in this population might be maladaptive when it occurs in the context of disclosing a past CSA experience, but less maladaptive or possibly even adaptive when it occurs in the context of describing other (non-CSA) experiences. In the latter case, we considered that the context of disclosing a non-CSA experience could

possibly allow CSA survivors an indirect and more socially acceptable, and hence more adaptive, means of expressing anger.

Methods

Participants

Participants were part of an ongoing longitudinal study of the long-term effects of CSA on female development that began in 1987. The sample for the current study is comprised of those involved in the fourth and fifth waves of data collection (N = 108), which mapped onto T1 and T2 of the current study. Abused participants were originally referred by city or county protective service agencies in the greater Washington, DC, metropolitan area. Eligibility criteria for inclusion in the study were (a) that the participant be a girl at least 6 years of age; (b) that disclosure of abuse occurred within 6 months of participation in the study; (c) that abuse involved genital contact and/or penetration; (d) that the perpetrator was a family member including parent, stepparent, mother's live-in boyfriend, uncle, or other relative; and (e) a non-abusing parent or guardian (usually the child's mother) was willing to participate in the study. Nonabused comparison females were recruited through community advertising and were similar to the abused girls in terms of ethnic group, age, pre-disclosure socioeconomic status (SES), family constellation (one or two parent families), and zip codes. All families ranged from low to middle SES, with mean Hollingshead (1975) scores of approximately 35 (defined as blue collar or working class). During the first three waves of data collection, the participants were not interviewed directly regarding sexual abuse.

The fourth wave of data collection (T1 in the current study), occurred an average of 7.1 years after participants' original abuse-related assessment. The sample at the fourth wave consisted of 163 participants – 142 original participants and 21 new recruits for the nonabused comparison group (74 abused, 89 nonabused) – resulting in an 85.5% retention rate (142/166). Of the 163 participants, 8 did not provide information about trauma histories (2 were too young to receive the trauma interview, 1 participated by mail, 2 refused to answer the questions, and 3 provided incomplete information). Twelve additional participants could not be classified as abused or comparison participants because they entered the study as comparison participants but later revealed that they had experienced some form of CSA or because they entered as abused participants with non-criterion abuse histories. Finally, data from six participants could not be coded for facial expressions of emotion because the video quality was poor, a portion of the face was obscured (by hair or turned head), or the participant moved out of visual range. The average age of these participants was 18.1 years (SD = 3.4 years). There were slightly more Caucasian (n = 72, 53%) than minority (Black or Hispanic) participants (n = 65, 47%) at T1. Abused and nonabused groups did not differ with respect to these demographics (all $ps > .15$). For prospective analyses, data were examined from the 115 females in common between the fourth (T1) and fifth (T2) waves of data collection (54 abused, 61 nonabused) which occurred approximately 2 years later.

T1 Interview Procedure and Categorization of Disclosure Groups

A female interviewer read a script adapted from procedures described by Bonanno, Keltner, Holen, and Horowitz (1995) for conducting open-ended, narrative interviews. The script informed participants that they would be asked to speak for several

minutes about the most distressing event or series of events they had ever experienced. Participants were further informed that the interviewer would keep track of the time and indicate the beginning and end of the interview, that the best way to approach the task was to "try to relate as openly as possible whatever comes to your mind," and that the interviewer would seldom speak other than to ask clarifying questions. To encourage spontaneous discourse, it was stated that "if at any time you go blank, or run out of things to say, just relax and give yourself time to think about something else related to the topic." Once participants identified their most distressing event(s), they were instructed to describe the event(s) for approximately 6 minutes.

During the interview, 44 (66%) CSA participants disclosed an abuse event (CSA disclosure group) as the most distressing event of their life. The remaining 23 CSA participants disclosed nonabuse topics as the most distressing event in their life (CSA nondisclosure group). The most frequent topics described by the nondisclosure group were the death of a close friend or family member ($n = 8$), followed by family conflict or divorce ($n = 4$) and conflicts with friends or peers ($n = 4$). Seventy participants composed the nonabused sample at Time 1. Similar to the CSA nondisclosure group, the most frequent topics disclosed by the nonabused sample were the death of a close friend or family member ($n = 19$), family conflict or divorce ($n = 15$), and conflicts with friends or peers ($n = 15$).

Facial displays of emotion

Participants' facial behavior during the 6-minute T1 disclosure interview was coded using the Emotion Facial Action Coding System (EMFACS; Ekman & Rosenberg, 1997), a version of the Facial Action Coding System (FACS; Ekman & Friesen, 1976).

The FACS is a comprehensive, anatomically based, and well-validated technique for measuring all observable facial movement. This system distinguishes 44 action units (AUs), or minimal units that are anatomically separate and visually distinguishable. EMFACS concentrates on coding only the emotion-relevant facial muscle movements that have been derived from previous theory and research (Ekman, 1984). EMFACS criteria were used to translate the coded facial muscle movements into facial expressions of positive emotional signals and negative emotional signals (anger, disgust, shame).

Coding was done by four FACS-certified coders who were unaware of participants' group status and responses on other measures. Intercoder reliability was assessed by calculating the pairwise agreement of two pairs of coders for four participants per pair. A ratio was calculated in which the number of facial action units on which the two coders agreed was multiplied by two and then divided by the total number of action units scored by the two persons. Interrater reliability (pairwise agreement) was above .75 in all cases, and the mean ratio of agreement was .80. To increase reliability for analyses involving the facial displays, expression-magnitude scores were calculated by standardizing the frequency, intensity, and duration of each facial display and then adding the resulting z scores for each participant (Bonanno & Keltner, 1997).

Self-Reported Negative Affect

Participants' self-reports of negative affect during the T1 interview was obtained at the end of the 6 minute disclosure period using a brief self-report instrument (Bonanno et al., 2003). We created a negative affect composite score based on the average of the three affect ratings that most closely approximated the negative facial expressions

examined in this study. Thus, the negative affect score was composed of self-reported guilt, anger, and embarrassment.

Internalizing and Externalizing Symptoms, and Social Competence

At T1 and T2, participants were administered the Youth Self Report (YSR; Achenbach, 1991), which is derived from the Child Behavior Checklist (Achenbach & Edelbrock, 1983) and yields total scores for internalizing (withdrawn, somatic complaints, anxious/depressed behaviors) and externalizing behavior problems (delinquent and aggressive behavior). The YSR is composed of 112 items and participants are asked to indicate the extent to which each item applies to them on a 3-point scale. The internalizing and externalizing scales have demonstrated good internal consistency (coefficient alphas .89 internalizing, .87 externalizing) and adequate convergent and discriminant validity (Achenbach, 1991). For the internalizing scale, mean raw scores were 11.6 (SD=8.0) for nonreferred female youth and 14.2 (SD=10.2) for referred female youth. For the externalizing scale, mean raw scores were 9.9 (SD=7.3) for nonreferred female youth and 17.7 (SD=9.7) for referred female youth (Achenbach & Rescorla, 2001). The clinical cutoff is a T-score of 60 (Achenbach & Rescorla, 2001). In this study, the coefficient alphas were .86 (T1) and .84 (T2) for the internalizing scale and .88 (T1) and .89 (T2) for the externalizing scale.

In order to assess social competence, participants were also administered the Harter Self-Perception Profile for Adolescents (Harter, 1988) which is the adolescent version of the Perceived Competence Scale for Children (Harter, 1982).at T1 and T2. The social competence subscale consists of five items scored on a 4-point scale. Each item is composed of a pair of statements (e.g. "Some young people find it hard to make friends.

For other young people it is pretty easy”). This format is designed to reduce social desirability effects. Adolescents first decide which items in the pair best describes them and then how true the item is for them. The social competence subscale has demonstrated adequate internal consistency (coefficient alpha range .75 to .84), test-retest reliability ($r = .75 - .80$) and convergent and discriminant validity (Harter, 1988). Mean scores for the social competence subscale ranged from 2.7 (SD = .61) to 3.0 (SD = .68; Harter, 1988). All domains of this scale have been discriminable through factor analytic processes across several samples and all subscales have demonstrated adequate internal consistency reliabilities (Harter, 1988). In this study, the coefficient alphas were .71 (T1) and .78 (T2).

Results

In order to make comparisons across disclosure groups, we created two dummy variables. One variable (CSA disclosure) distinguished CSA participants who voluntarily disclosed abuse versus the other two groups. A second variable (CSA nondisclosure) distinguished CSA participants who voluntarily withheld disclosure from the other two groups. A previous study compared facial expressions of anger, disgust, and shame between groups (See Appendix 1; Bonanno et al., 2002). Facial expressions of shame were significantly greater among women who did not disclose abuse histories compared to women in the other groups (Bonanno et al., 2002). In contrast, facial expressions of disgust were significantly greater among women who disclosed abuse histories compared to women in the other groups (Bonanno, et al., 2002). There were no significant differences in anger expression between women who disclosed abuse histories compared

to women in other groups (Bonanno et al., 2002). In addition, earlier analyses also compared the groups for differences in psychological adjustment. Compared to nonabused women, CSA survivors who did not disclose abuse histories exhibited more internalizing symptoms, greater lifetime traumatic events, and showed trends toward greater externalizing symptoms. In contrast, the CSA disclosure and nondisclosure groups did not differ in adjustment (See Appendix 2; Bonanno et al., 2002). Finally, there were no differences between groups in social competence ($F(2, 117) = 1.32, p = .27$).

Zero-order correlations (see Table 1) indicated that self-reported negative affect was significantly related to T1 outcomes, but did not predict long-term (T2) outcomes. Magnitude scores for facial expressions of anger, shame, and disgust were largely unrelated to T1 and T2 outcomes. The mean T-scores for T1 and T2 internalizing and externalizing symptoms (ranging from 56-58) fell below the clinical cutoff (60; Achenbach & Rescorla, 2001). In addition, the T1 and T2 social competence mean scores (2.77 and 2.86) were similar to mean scores among non-clinical samples (2.7-3.0; Harter, 1988). The predicted moderating effects of disclosure context on the relationship between emotional expression and long-term outcome are examined below.

Predicting T2 Internalizing and Externalizing Symptoms

To examine the moderating role of disclosure context in predicting T2 internalizing symptoms, we conducted a hierarchical linear regression, in which we centered all control variables (Aiken & West, 1991). The final model is summarized in Table 2. On the first step of this analysis, T1 internalizing symptoms and dummy variables representing CSA disclosure and CSA nondisclosure were regressed on T2 internalizing symptoms. This step was significant, $F(3,94) = 13.96, p < .01$, and accounted

for 32% of the variance in T2 internalizing symptoms. On the second step, we included facial expression magnitude scores for anger, disgust, and shame, as well as a composite score for self-reported negative affect. This step was also significant, $F(7, 94) = 6.36$, $p < .01$. Finally, on a third step, we forced the interactions of anger and CSA disclosure followed by anger and CSA nondisclosure into the equation. The interaction of anger and CSA disclosure was not significant ($p > .05$), but the interaction of anger and CSA nondisclosure was significant ($p < .05$). This step was also significant, $F(9, 94) = 5.83$, $p < .01$, and accounted for an additional 4% of the variance in T2 internalizing symptoms. In the final model, T1 internalizing symptoms, shame expression, and the interaction of anger expression and CSA nondisclosure entered significantly into the model as predictors of T2 internalizing symptoms.

To further examine the interaction of anger and CSA nondisclosure, we graphed T2 internalizing symptom scores for participants one standard deviation above and one standard deviation below the mean on anger expression in each disclosure group (see Figure 1). For CSA participants who did not voluntarily disclose a past abuse experience (CSA nondisclosure), the expression of anger was associated with considerably lower T2 internalizing symptoms. By contrast, for CSA participants who disclosed a past abuse (CSA disclosure) and for nonabused participants, internalizing symptoms at Time 2 assessments appeared unrelated to anger during Time 1 interviews. Simple slopes analysis confirmed that the slopes for the nonabuse group and disclosure group were not significantly different from zero (nonabuse, $t = .20$, $p > .05$; CSA disclosure, $t = .23$, $p > .05$; Aiken & West, 1991). Thus, anger was inversely associated with internalizing

symptoms only for women with a CSA history who expressed anger while talking about stressful events other than abuse.

We next repeated the same regression analysis for externalizing symptoms (summarized in Table 3). The final step of this regression, which included the interaction of anger and CSA nondisclosure, was significant, $F(9, 95) = 6.73, p < .01$, and accounted for 41% of the variance in T2 externalizing symptoms. Inclusion of the interaction terms accounted for an additional 5% of the variance in T2 externalizing symptoms. In the final model, T1 externalizing symptoms and the interaction of anger and CSA nondisclosure were the only significant predictors of T2 externalizing symptoms.¹

A graph of the interaction of anger expression and CSA nondisclosure in relation to T2 externalizing symptom scores using the same procedure as for internalizing symptoms is illustrated in Figure 2. Similar to the results for internalizing symptoms, for CSA nondisclosure participants the expression of anger was associated with considerably lower T2 externalizing symptoms. By contrast, for CSA participants who disclosed a past abuse and for non-CSA participants, the relationship between externalizing symptoms at Time 2 assessments and anger during Time 1 interviews did not appear to be meaningful. Simple slopes analysis again confirmed this impression (nonabuse, $t = 1.18, p > .05$; CSA disclosure, $t = .55, p > .05$). Again anger was inversely associated with symptoms only for women with a CSA history who expressed anger while talking about stressful events other than abuse.

Predicting Social Adjustment

In a final regression analysis, we explored whether the moderating effects of context on anger expression might also inform long-term social competence scores.

However, the interaction of anger expression and the disclosure group dummy variables did not enter significantly in this model.

Because emotions are a means of communicating socially, we explored social functioning further by investigating only the social withdrawal subscale of the internalizing symptoms scale. We repeated the above regressions to explore the moderating effects of disclosure context on social withdrawal symptoms. Similar to the results of internalizing and externalizing symptoms, the final step of the model was significant, $F(9, 107) = 3.43, p < .01$, and accounted for 24% of the variance in T2 social withdrawal. Anger was inversely correlated with social withdrawal only for women with a CSA history who talked about stressful events other than abuse.

Alternative explanations

Because anger expression predicted different consequences between groups, we explored for disparities in anger expression magnitude score, verbal expressions of anger, and type of event disclosed across the disclosure groups. One such explanation may be that anger expression was greater in the CSA nondisclosure group. However, differences in anger expression magnitude between the CSA disclosure, CSA nondisclosure, and nonabused groups did not approach significance, $F(2, 134) = 0.79, p = .46$.

Similarly, another explanation is that participants in the CSA nondisclosure group may have verbally expressed anger with greater magnitude during their interviews than participants in the other groups. We examined this question using data from a previous project (Negrao, Bonanno, Noll, Putnam, Trickett, 2005) that had coded the same interviews used in the current study for the absence or presence of anger themes using Lazarus's (1991) model of emotional appraisal. On average, participants in the current

study mentioned anger themes 2.13 (SD=3.35) times. However, the probability of expressing verbal anger themes was greater than chance for the disclosure group (Haberman's Adjusted Residual (HAR) = 1.9; Haberman, 1979), but at chance for the nondisclosure group (HAR = .9). In addition, differences in verbal expression of anger themes between the CSA disclosure, CSA nondisclosure, and nonabuse groups did not approach significance, $F(2, 100) = .53, p > .05$.

A final possible explanation for the salutary nature of anger expression in CSA nondisclosure may relate to events discussed. We had previously (Bonanno et al., 2002) assigned each nonabuse event to one of six categories: general negative events (illness, accident, natural disaster, abortion/miscarriage), death of a close friend or relative, family conflict or divorce, nonfamilial relationship conflict, personal problems, or other event. A contingency analysis comparing the distribution of these different nonabuse topics between the CSA nondisclosure group and the nonabused group did not approach significance, $\chi^2(1) = 1.46, p = .91$.

Among participants in the groups that did not describe a CSA experience (nondisclosure and nonabuse), anger expression was greatest when discussing interpersonal conflicts ($\mu = 1.14, F=2.767, p < .05$). However, the percentage of respondents who discussed an interpersonal conflict was similar in the CSA nondisclosure group (40.0%) and the nonabused group (46.9%). Moreover, the interaction of event category and abuse group (nondisclosure and nonabuse) was not meaningfully associated with anger expression, $F(3, 83) = .932, p > .05$. Thus, while anger expression was greatest when discussing interpersonal conflicts, the nondisclosure and nonabuse groups discussed such conflicts at similar rates. There were no meaningful

differences in event categories discussed between the nondisclosure and nonabuse groups.

Discussion

The expression of anger is not uncommon among CSA survivors; however, existing research on the consequences of anger expression among CSA survivors remains inconclusive. We designed the current investigation to examine whether the consequences of expressing anger among young adult women with documented CSA histories was moderated by the context in which expression occurs. Specifically, we examined whether the consequences of anger differed when it was expressed in the context of disclosing a past CSA experience versus disclosing a distressing nonabuse experience. Our results follow previous research associating abuse with anger (Newman & Peterson, 1996; Scott & Day, 1996) and dysfunction (Knutson, DeGarmo, & Reid, 2004; Nuemann, Houskamp, Pollock, & Briere, 2006), but more precisely examined for whom and how anger is adaptive. We found clear support that disclosure context does matter. Specifically, our results show that anger expression among CSA survivors appears to be adaptive, but only when *not* discussing their abuse experience. For CSA survivors who disclosed a distressing nonabuse experience, greater anger expression was related to decreased internalizing and externalizing symptoms two years later. However, for CSA survivors who disclosed an abuse experience, anger expression was not associated with long-term outcome.

Why might the expression of anger be beneficial only for those CSA survivors who were discussing a distressing event other than CSA? Previous research has shown that the decision to disclose or withhold CSA experiences does in fact impact a survivor's

psychological health and can vary depending on the reactions of the perpetrator and family, the coping style of the survivor, and the extent to which family members and legal authorities believe the survivor (Beitchman et al., 1992; Nagel, Putnam, Noll, & Trickett, 1997; Sauzier, 1989; Spaccarell, 1994). Based on these experiences, withholding information about abuse experiences from others may be beneficial for some CSA survivors. For these individuals, it may also be necessary if not salutary to express anger related to the abuse in an indirect manner.

The nonverbal expression of anger in the face is one such indirect means. Facial expressions are a primary means by which emotion is communicated socially (Bowlby, 1980; Darwin, 1872; Ekman, 1993; Keltner & Kring, 1998). For survivors who did not describe a CSA experience, subtly communicating anger via facial expressions may have served as a beneficial alternative to direct verbal expression of anger. Our results showed that these participants, even when describing events other than CSA, did not describe verbal anger themes at rates greater than chance. Participants who described events other than CSA did not differ from CSA disclosure participants in direct anger expression, but when they communicated their anger indirectly via facial expressions, they had better outcomes.

The women who described events other than abuse may have had an implicit understanding of the possible negative social consequences of pairing facial anger expressions with abuse descriptions. In general, CSA is an uncomfortable topic of discussion. Many survivors report receiving a negative reaction from people with whom they disclose abuse (Roesler, 1994; Waller & Ruddock, 1993), especially when disclosing in childhood versus adulthood (Roesler, 1994) as in the present study.

Similarly, verbally expressing anger in conversation can lead to negative reactions. For example, verbal communications of anger to individuals of a higher status can be disadvantageous (Harris, 1974; Karniol & Heiman, 1987; Kuppens et al., 2004), especially when the individuals perceive the anger as inappropriate (Van Kleef and Cote, 2007). Perhaps the more subtle, indirect facial expression of anger is more comfortable for listeners and leads them to be more sympathetic.

Expressing anger indirectly via facial expressions may lead to better social consequences than expressing anger directly via verbal expressions. Knowing how to effectively express anger relates to feelings of interpersonal independence and boundaries (Kennedy-Moore & Watson, 1999). Thus, based on interpersonal feedback, some CSA survivors may learn to rely more fully on facial expressions of anger when discussing nonabuse experiences. This strategy may lead them to be less socially withdrawn. In our study, CSA survivors who expressed more anger while discussing nonabuse experiences reported decreased social withdrawal symptoms approximately two years later. However, they did not similarly report greater social competence. Perhaps these women experience less social isolation but do not view themselves as having particularly strong interpersonal abilities.

Finally, while facial expressions of anger were advantageous for CSA survivors describing nonabuse experiences, why not for CSA survivors describing abuse experiences? As described above, expressing anger in the context of abuse disclosure can have iatrogenic consequences. Additionally, because the disclosure of abuse by itself communicates blame and harm, it may be unnecessary to communicate these appraisals via facial expressions.

An additional finding was that the expression of shame generally predicted T2 internalizing symptoms. While shame expression was not a significant predictor of externalizing symptoms in the final step of the regression we performed, shame did remain a significant predictor in the final step of the regression predicting internalizing symptoms. The women who did not disclose abuse exhibited greater facial expressions of shame compared to nonabused women and women who disclosed abuse. By definition, shame is a negative, self-conscious emotion that is internally focused (Tangney & Fischer, 1995). Thus, it is natural to see how shame expressions are associated with internalizing symptoms, which has been shown in previous research (e.g. Ferguson et al., 2000; Feiring, Taska, & Chen, 2002). Among CSA survivors in particular, feelings of shame may be especially linked to internalizing symptoms because survivors often hide their experiences of abuse from others, engage in self-blame, and negatively focus on the self.

Our study had several methodological strengths. First, we used a prospective design and assessed CSA years before interviewing participants for this study. Furthermore, we documented CSA instead of relying on self-reports as is common in abuse research. Also, we coded facial expressions of emotion in addition to asking participants to report their emotions. No study of anger and abuse that we are aware of has utilized this combination of a prospective design with documented abuse histories and facial coding of emotions.

Furthermore, previous studies that examined anger only in women who self-report CSA have been unable to examine the possible adaptive effects of anger for the third of women who withhold CSA experiences (Williams, 1994). This large subgroup of CSA

survivors, underrepresented in current research, appears to show better developmental outcomes with greater facial expressions of anger.

Although the current study advances previous research on anger and CSA in several key ways, specifically the use of a prospective design with documented abuse history and facial coding of emotion, there were also limiting factors that warrant discussion. First, the disclosure/non-disclosure of CSA experiences among survivors was measured as a between-subjects variable. The study was originally designed to compare facial expressions of emotions between survivors who voluntarily disclosed and withheld CSA experiences (Bonanno et al., 2002). Unfortunately, this design does not allow us to compare facial expressions in the same participants when discussing other events. A more informative design would have included a second interview in which CSA survivors who had originally disclosed an abuse experience were asked to disclose a nonabuse, distressing event and CSA survivors who had withheld an abuse experience were asked to disclose an abuse experience.

Similarly, our study design did not allow us to completely separate context from individual differences. We examined emotional behaviors in the context of voluntary disclosure of CSA. Within this context, however, it is difficult to differentiate between individual differences due to emotional behavior and individual differences due to disclosure behavior. Future studies should specifically examine for possible individual differences as they relate to emotion and disclosure among CSA survivors.

A second limitation is the use of self-report scales to measure outcome variables. While we included an alternative measure of adjustment, the Harter scale, which was constructed to decrease the tendency of social desirability, our measures of dysfunction

were based on Youth Self Report scales. Future studies of anger among survivors who withhold CSA experiences should include more objective long-term outcome measures.

Within these limitations, our findings suggest that anger expression is especially beneficial for those women who voluntarily withhold disclosure of sexual abuse experiences. These women demonstrate decreased psychological and interpersonal dysfunction during adolescence. We hope that future research on CSA survivors considers the context of disclosure, especially when examining the role of anger in psychological health.

Footnote

¹*We repeated the regressions for internalizing and externalizing symptoms with the inclusion of two demographic variables in the first step, race and age. However, neither demographic variables entered significantly in the models. These regressions yielded similar results to the originals.*

Table 1. Intercorrelations, Means, and Standard Deviations of Study Variables (N = 115)

	M	(SD)	1	2	3	4	5	6	7	8	9	10	11
1. CSA Disclosure			-										
2. CSA Nondisclosure			-.31**	-									
3. Anger	.09	2.30	-.06	-.06	-								
4. Shame	-.01	2.50	.01	.36**	-.05	-							
5. Disgust	.08	2.66	.13	-.10	.35**	-.00	-						
6. Self-report. Neg. emotions	5.50	2.08	.30**	-.05	-.10	.16	-.10	-					
7. T1 Internalizing	15.90	7.78	.11	.13	-.13	.15	-.11	.31**	-				
8. T1 Externalizing	16.67	8.89	.11	.09	-.01	-.06	-.08	.28**	.56**	-			
9. T1 Social Competence	2.77	.52	-.13	-.13	.02	-.06	.08	-.28**	-.38**	-.21*	-		
10. T2 Internalizing	15.05	8.28	.05	.18	-.03	.22*	-.08	.15	.54**	.35**	-.17	-	
11. T2 Externalizing	15.39	8.17	-.09	.07	-.01	-.16	-.05	.09	.30**	.58**	-.06	.62**	-
12. T2 Social Competence	2.86	.41	-.12	-.06	-.07	-.13	-.15	-.09	-.08	-.03	.18	.19	-.02**

Note. * $p < .05$, ** $p < .01$

Table 2. Summary of Final Step of Regression Analysis for Variables Predicting Time 2 Internalizing Symptoms (N = 94)

Variable	B	SE B	β	part
Step 3				
T1 Internalizing symptoms	.54	.10	.51**	.47
CSA disc	2.10	1.73	.12	.10
CSA nondisclosure	1.05	2.20	.05	.04
Anger	.67	.47	.17	.12
Disgust	-.03	.29	-.01	-.01
Shame	.62	.31	.20*	.17
Self-rep negative emotions	-.10	.39	-.03	-.02
CSA Disclosure X Anger	-.37	.78	-.05	-.04
CSA Nondisclosure X Anger	-2.40	.99	-.24*	-.20

Note. * $p < .05$, ** $p < .01$. $R^2 = .38$

Table 3. Summary of Final Step of Regression Analysis for Variables Predicting Time 2 Externalizing Symptoms (N = 94)

Variable	B	SE B	β	part
Step 3				
T1 Externalizing symptoms	.56	.09	.58**	.53
CSA disc	-.10	1.76	-.05	-.05
CSA nondisclosure	.41	2.20	.02	.02
Anger	.86	.44	.24	.16
Disgust	-.14	.28	-.04	-.04
Shame	-.19	.32	-.06	-.05
Self-rep negative emotions	-.18	.40	-.05	-.04
CSA Disclosure X Anger	-1.05	.66	-.18	-.13
CSA Nondisclosure X Anger	-2.36	.95	-.24*	-.21

Note. * $p < .05$, ** $p < .01$. $R^2 = .41$

Figure 1.

Internalizing Symptoms: Interaction of Anger and Groups

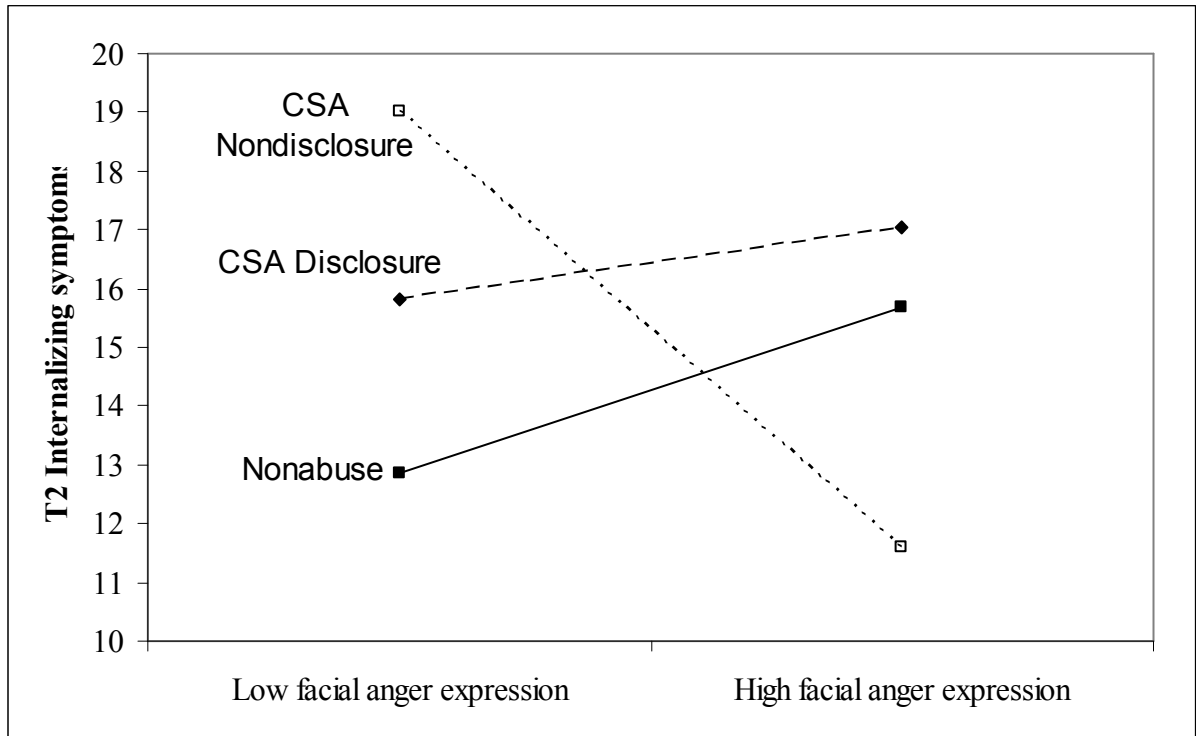
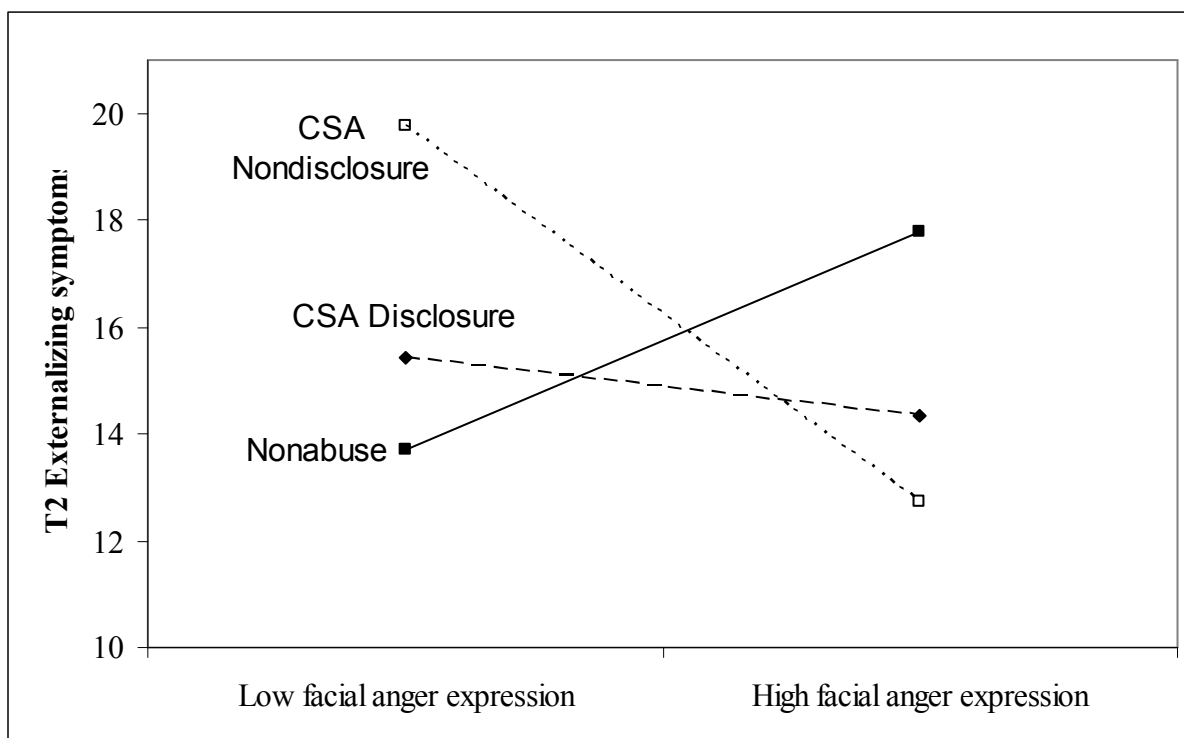


Figure 2.

Externalizing Symptoms: Interaction of Anger and Groups



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Appendix 1. Summary of previously hypothesized group differences in facial expressions of emotions (Bonanno et al., 2002)

Emotion	CSA nondis (<i>n</i> = 23)	CSA disc (<i>n</i> = 44)	Nonabuse (<i>n</i> = 70)	<i>t</i> (134)
Shame	1.96 (0.82)	0.03 (2.41)	0.68 (2.11)	4.27**
Contrast weight	2	-1	-1	
Anger	-0.24 (2.07)	-0.13 (2.61)	0.33 (2.17)	-0.39
Contrast weight	-1	2	-1	
Disgust	-0.49 (2.63)	0.59 (2.89)	-0.04 (2.48)	1.67 †
Contrast weight	-1	2	-1	

Note. Contrast weights for comparing group differences are listed below each emotion.

Standard deviations are in parenthesis.

†*p* < .10, ***p* < .01.

Appendix 2. Psychological Adjustment by Disclosure Group (Bonanno et al., 2002)

Adjustment variable	CSA nondisc (n = 23)		CSA disc (n = 44)		Nonabuse (n = 70)		CSA nondisc vs nonabuse
	M	SD	M	SD	M	SD	
Lifetime trauma count	7.26	6.17	8.55	4.32	4.47	3.16	t(91) = 2.83**
Externalizing Symptoms	18.27	8.22	18.08	8.17	15.32	9.22	t(85) = 1.33
Internalizing Symptoms	18.00	7.86	17.25	7.94	14.40	7.47	t(86) = 1.96*

Note. * $p < .05$, ** $p < .01$.