Published in final edited form as:

Child Maltreat. 2015 November ; 20(4): 278–290. doi:10.1177/1077559515590872.

Positive and Negative Posttraumatic Change Following Childhood Sexual Abuse Are Associated With Youths' Adjustment

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Abstract

Meanings made of childhood sexual abuse (CSA) experiences are important to psychosocial adjustment. The current study examined adolescents' and young adults' perceptions of posttraumatic change (PTC) in the self, relationships, sexuality, and worldviews attributed to prior CSA experiences. We sought to document the prevalence of positive and negative PTC and examine their unique and joint associations with psychosocial adjustment. Participants included 160 youth with confirmed cases of CSA (73% female; 8–14 years at abuse discovery) who were part of a longitudinal study of the long-term effects of CSA. Six years after discovery, youth were interviewed about their abuse experiences. Interviews were coded for the valence and strength of PTC. The majority of youth reported PTC, and negative changes were more frequent and stronger than positive changes. Controlling for age, gender, abuse severity, and negative PTC, positive PTC was associated with lower abuse stigmatization for all youth. Controlling for age, gender, abuse severity, and positive PTC, negative PTC was associated with greater abuse stigmatization, post-traumatic stress disorder, sexual problems, and dating aggression for all youth. Relations of positive PTC with depression and support from friends and romantic partner were moderated by negative PTC, such that positive PTC was associated with better adjustment for youth with low versus high levels of negative PTC. Results highlight the importance of both negative and positive PTC for understanding meanings made of CSA experiences and their implications for psychosocial adjustment and intervention.

Keywords

sexual abuse; meaning making; posttraumatic growth; abuse stigmatization; PTSD; depression; sexual problems

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Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Long after childhood sexual abuse (CSA) ends, many survivors still seek to make meaning of their abuse experiences (Park, 2010; Silver, Boon, & Stones, 1983; Simon, Feiring, & McElroy, 2010; Wright, Crawford, & Sebastian, 2007). Meanings made reflect how abuse experiences are incorporated into representations of the self, others, and the world (Janoff-Bulman, 1995; Joseph & Linley, 2005; Park, 2010). They have the potential to influence well-being and inform expectations and behavior in relationships (Carlson, Sroufe, & Egeland, 2004; Eccles, 2009; Furman & Simon, 2006). Some adults report meanings that reflect positive changes (e.g., posttraumatic growth) in connection with their CSA experiences (Easton, Coohey, Rhodes & Moorthy, 2013; McMillen, Zuravin, & Rideout, 1995; Shakespeare-Finch & de Dassel, 2009; Wright et al., 2007). However, evidence linking positive change to better psychosocial functioning is equivocal. One possible reason for the lack of consensus is a failure to consider the co-occurrence of positive and negative posttraumatic changes (PTC). A handful of studies suggest that adults frequently report positive and negative PTC in connection with past CSA (Kilpatrick, 1992; McMillen et al., 1995; Shakespeare-Finch & de Dassel, 2009). Yet, there is limited inquiry into the prevalence of coexisting positive and negative PTC or their associations with adjustment. To address this gap, we examined the valence and strength of PTC reported by adolescents and young adults with confirmed cases of CSA. Our primary goal was to examine the additive and interactive associations between positive and negative PTC and psychosocial adjustment.

Late adolescence and early adulthood are important times to examine PTC. Developmental advances and social transitions during this time may enable new perspectives on the meaning of past CSA. For example, transitions in romantic or sexual involvement, committed partnerships, parenthood, or moves to independent living might prompt youth to reconsider past abuse in light of current and future relationships and related social identities (Banyard & Williams, 2007; Niehaus, Jackson, & Davies, 2010; Wright, Fopma-Loy, & Oberle, 2012). Understanding how youth view the impact of their CSA offers a window into their developing identities, views of relationships, and the world that may be important targets of intervention (Cicchetti & Roisman, 2011; Fonagy & Target, 1997; McAdams & McClean, 2013).

Childhood Sexual Abuse and PTC

Abusive experiences undermine core beliefs about the self, others, and the world (Foa, Ehlers, Clark, Tolin, & Orsillo, 1999; Janoff-Bulman, 1992; Tedeschi & Calhoun, 1996). For example, CSA can challenge beliefs about the self as worthy of care and love, others as sensitive and caring, or the world as meaningful and safe. PTC emerges from the process by which individuals revise these beliefs to incorporate CSA experiences (Janoff-Bulman, 1992; Joseph & Linley, 2005). Among adults with CSA histories, positive changes in these areas have included self-related beliefs of improved personal strength, coping, and ability to protect oneself or children from danger; interpersonal beliefs about increased intimacy, empathy, and support; and beliefs about the world that reflect greater appreciation for life, increased spirituality, and enhanced sense of purpose (Easton et al., 2013; McMillen et al., 1995; Shakespeare-Finch & de Dassel, 2009; Tedeschi & Calhoun, 2004; Wright et al., 2007).

Less is known about survivors' perceptions of negative changes in core beliefs resulting from CSA experiences. Research on the adverse consequences of CSA has focused on risk for psychosocial problems or cognitive styles that are not abuse specific and may or may not be attributed to abuse experiences. In contrast, negative PTC refers to survivors' active meaning making about the implications of the abuse for the self, relationships, and worldviews (Janoff-Bulman, 1992). Examples of negative abuse-specific PTC provided by adult survivors in previous studies include self-related beliefs of diminished competencies, accomplishments, and compromised identity; interpersonal beliefs relating to decreased trust, intimacy, satisfaction, and support or to increased hostility or isolation; and beliefs about the world that reflect compromised senses of purpose, justice, safety, benevolence, or positive future. These examples come from adult studies of positive PTC where, when asked about the perceived effects of their CSA, a subset of participants reported only negative change while others report co-occurring positive and negative changes (McMillen et al., 1995; Okami, 1991; Wright et al., 2007). Missing from these studies is a consideration of how each type of abuse-specific change is associated with psychosocial adjustment.

In the current study, we assessed adolescents' and young adults' perceptions of PTC from a semi-structured interview that inquired about their abuse experiences, reactions, and effects over time. Narrative methods are uniquely suited for studying how individuals represent traumatic experiences because they provide a window into speakers' internalized life stories (McAdams & McClean, 2013). When invited to freely relate their accounts and evaluations of CSA experiences, youths' narratives reveal the constructive process by which they evaluate past CSA experiences in light of current conditions (Riessman, 1993). Consistent with prior research, we examined youths' perceptions of positive and negative changes in domains noted by extant theoretical and empirical work—namely, view of the self, relationships, and world (Foa et al, 1999; Janoff-Bulman, 1992; Tedeschi & Calhoun, 1996). Additionally, we examined perceived changes in sexuality, given its salience to CSA as well as to adolescent and young adult development (Simon & Feiring, 2008).

PTC and Youth Characteristics

Although our central goal was to examine how positive and negative changes were related to psychosocial adjustment, we were also interested in whether reports of PTC varied by gender, age at abuse discovery, and abuse severity. Linley and Joseph (2004) have suggested that women are more willing to process traumatic events and thus more likely to experience posttraumatic growth. However, efforts to process CSA are not necessarily productive, and willingness to process may yield positive or negative conclusions about CSA experiences (Simon, Feiring, & Cleland, 2014). For example, women tend to ruminate more than men over negative experiences, leading to more negative views of the self and relationships (Nolen-Hoeksema, 2012). Considering these findings, we expected that women would report stronger positive and negative PTC than men.

Older age has been associated with greater posttraumatic growth among adults with CSA histories (McMillen et al., 1995; Shakespeare-Finch & de Dassel, 2009) as well as among adolescents with various stressful life events (Ickovics et al., 2006; Milam, Ritt-Olsen, & Unger, 2004). From a developmental perspective, increases in positive changes might be

explained by advances in abstract reasoning and perspective-taking that facilitate meaning making. These advances also provide skills for differentiating and consolidating positive and negative meanings of adverse experiences (Fischer & Pruyn, 2003). As skills are solidified over adolescence and into early adulthood, it may become easier to integrate potential positive meanings from CSA experiences into enhanced representations of the self, relationships, and worldviews (Fischer & Ayoub, 1994). It is less clear whether negative changes should be age-related, as positive and negative PTC are not opposite poles of a singular dimension (Harvey, Orbach, & Chwalisz, 1991; Park, 2010). For example, older youth may note increased personal strength after having endured their abuse but report the same, more, or less negative PTC in relationships or worldviews. Given the frequency with which adults report negative changes decades after the abuse, a decrease in negative changes seems unlikely (Silver et al., 1983).

Although links between abuse severity and PTC have also been proposed, the few published reports among adults with CSA histories found no associations with abuse characteristics, including relation to perpetrator, frequency, use of force, or penetration (e.g., McMillen et al., 1995; Wright et al., 2007). Whereas these studies are limited by reliance on retrospective recall of the abuse, the current study examined whether abuse severity, as indexed by child protective services (CPSs) or legal documentation, was associated with the valence and strength of PTC.

PTC and Psychosocial Adjustment

Although the co-occurrence of positive and negative PTC has been documented, we know of no studies that examine their unique and interactive relations with adjustment (McMillen et al., 1995; Wright et al., 2007). Findings linking positive PTC to adjustment range from moderately positive to moderately negative across different types of traumatic events. Some studies link positive PTC to higher levels of psychological symptoms (e.g., Lev-Wiesel, Amir, & Besser, 2005). Other studies find positive PTC to be associated with fewer adjustment problems (e.g., Frazier, Conlon, & Glaser, 2001). Still others find no association between positive PTC and adjustment (e.g., Grubaugh & Resick, 2007). We sought to provide a more complete understanding of the relations between PTC and adjustment by examining both positive and negative PTC and their relations with indicators of healthy adjustment (self-esteem; emotional support in parent, friend, and romantic relationships; and positive communication in romantic relationships) and adjustment problems (post-traumatic stress disorder [PTSD], abuse stigmatization, depression, sexual problems, and dating aggression) among a sample of youth with confirmed cases of CSA. Additionally, we were interested in whether the interaction between co-occurring positive and negative changes was related to adjustment.

The Current Study

Although positive and negative changes are not mutually exclusive, their co-occurrence and implications for psychosocial adjustment are largely ignored. The current study sought to shed light on adolescents' and young adults' views of positive and negative CSA-related changes. The sample included 160 participants with confirmed cases of CSA who were first

seen within 8 weeks of abuse discovery (T1) and again at 1 year (T2) and 6 years (T3) after abuse discovery. PTC was assessed at T3, when participants were between 15 and 23 years old. We conceptualized positive and negative changes as distinct rather than as opposite poles of a unitary dimension. Consequently, we did not expect them to be highly related. Our first question addressed whether positive and negative PTC differed by youth gender, age at abuse discovery, and abuse characteristics. Gender-related differences in processing and rumination led us to anticipate that women would report stronger positive and negative changes than men. Consistent with previous studies documenting age-related increases in posttraumatic growth, we hypothesized that older age would be associated with positive change. Prior work distinguishing meanings made from differences in situational aspects of the events led us to expect weak or no relations between abuse severity, as indicated by a cumulative index of severity markers (e.g., parent perpetrator and longer duration), and PTC (Park, 2010; Simon, Feiring, & Cleland, 2014; Simon, Feiring, & McElroy, 2010).

A primary goal of this study was to examine the relations of positive and negative PTC with broader indices of psychosocial adjustment. Although research on negative PTC is limited, substantial evidence indicates that negative CSA appraisals (e.g., self-blame for abuse) are common, arise as early as abuse discovery, can persist over time, and are associated with concurrent and future adjustment problems (Feiring & Cleland, 2007; Feiring, Cleland, & Simon, 2010; Feiring, Simon, & Cleland, 2009; Feiring & Taska, 2005). We therefore expected that negative PTC would be associated with more adjustment problems. Given the mixed findings on the implications of positive PTC for adjustment, we believed that analyses accounting for both positive and negative PTC would provide important information about their relations with concurrent adjustment. Controlling for co-occurring negative changes, we expected that positive PTC would be associated with fewer problems. We also expected that positive PTC would be most strongly associated with better adjustment for youth with lower levels of negative change. In other words, positive changes might be less beneficial to youth who also perceive strong negative changes. Our indicators of adjustment encompassed commonly reported outcomes in the CSA literature, including indicators of healthy adjustment (self-esteem; emotional support in caregiver, friend, and romantic relationships; positive communication) and adjustment problems (abuse stigmatization, depression, PTSD, sexual problems, and dating aggression) in personal and interpersonal functioning. Given the limited literature on PTC for most of these outcomes, we made no specific predictions about moderation effects for specific areas of adjustment.

Method

Sample Selection and Characteristics

Participants were part of a prospective longitudinal study of the consequences of CSA. CPS offices or regional child abuse medical clinics working with CPS provided referrals for the majority of the sample (95%). Eligible cases were first identified from CPS intake logs as youth between 8 and 15 years of age, in the custody of a non-offending parent or caregiver, and identified as a CSA case by CPS within 8 weeks of the case being opened by CPS. Caseworkers talked to families to obtain permission for project staff to contact them to discuss the study. Sexual abuse was defined as sexual involvement with a juvenile or an

adult perpetrator by coercion. The final recruited sample was comprised of children with cases of sexual abuse confirmed by at least one of the following criteria: specific medical findings, confession by the offender, abuse validated by an expert, or conviction of the offender in family or criminal court.

All but 3 of the 185 families approached by caseworkers agreed to be contacted by project staff. Of those, 160 agreed to participate and completed the initial assessment at abuse discovery (T1), within 8 weeks of the case being opened by CPS and prior to any treatment. Approximately 1 year later ($M = 1.2$, $SD = 0.3$ years), 147 of the T1 participants returned for a second assessment (T2). The third assessment (T3) was conducted approximately 6 years following abuse discovery ($M = 6.2$, $SD = 1.2$ years) with 121 of the participants seen at T1, and 118 participants were seen for all three assessments. There were no significant differences in demographic or abuse characteristics for individuals who remained in or dropped out of the study (for T1–T2, T1–T3, or T2–T3). Between T1 and T2, 68% of the sample received some form of therapy and 39% received some form of therapy between T2 and T3. However, participants were not enrolled in a systematic treatment program, and we did not have control over who received treatment, the type of treatment received (e.g., trauma-focused [TF] therapy), the expertise of the treatment providers, or the reasons for seeking therapy (e.g., sexual abuse vs. conduct problems). As this detailed treatment information was not documented, it was not possible to understand how such varied interventions were related to our predictions.

At T1, 55% of the sample were children, aged 8–11 years ($M = 9.6$, $SD = 1.1$), and 45% were adolescents, aged 12–15 years ($M = 13.5$, $SD = 1.1$), with an overall sample mean of 11.36 years ($SD = 2.23$). Seventy-three percent of the sample was female. The majority came from single-parent families (67%) and was poor (64%, with an income of US\$25,000 or less). Ethnicity was self-reported as 41% African American, 31% White, 20% Hispanic, and 8% other, including Native American and Asian. Based on the most serious form of abuse reported, 67% experienced genital penetration. Most perpetrators were known to their victims (35% parent figure, 25% relative, 37% familiar nonrelative, and 3% stranger) and 43% of participants lived with the perpetrator at the time of the abuse. Frequency of reported abusive events was once for 30% of the sample, 2–9 times for 40%, and 10 times or more for 30%. The abuse lasted for a year or longer in 33% of cases. Use of force was reported for 25% of youth and threat of force for 19%.

Procedure

All procedures for this study were approved by the institutional review boards of the academic institutions where the research took place. A certificate of confidentiality protected participants' data from being released without written consent. At each assessment point, minor children provided written informed assent, and their parents/guardians provided written informed consent. At T3, participants who were 18 or older supplied written informed consent. Assessment data were gathered via interview, questionnaire, and computer-assisted methods by a trained clinician in a private office. Participants were reimbursed up to US\$250 over the study using a graduated payment structure across the

three assessments (US\$50/US\$70/US\$100), and between-assessment incentives were provided as needed to encourage hard to reach participants to contact us.

Measures

Narrative coding for PTCs—Abuse-related changes were assessed from narratives generated from a semi-structured interview at T3. Project staff known to participants from the two prior research assessments conducted the interview in order to facilitate comfort with the interview. Participants were asked to describe their abuse experiences, express their thoughts and feelings about the abuse and its discovery at the time it happened as well as over time, and to explain the perceived effects of their CSA experiences (see Simon et al., 2010). Questions were open-ended and neutrally worded such that participants could freely answer about either or both positive and negative thoughts, feelings, and perceived effects over time. Although certain questions were designed to elicit perceptions of PTC (e.g., “How do you think these experiences have affected you?” “Have your thoughts and feelings about the abuse changed over time?”), an important quality of the narratives is that themes of abuse-related change are not only queried directly but also allowed to unfold naturally from participants’ accounts. Throughout the interview, participants were given time to consider their answers with verbal reassurance (e.g., “Take your time.”), provided re-wordings of questions and followed up with “Anything else?” to ensure completeness of responses without prompting for specific material. Interviews were audiotaped and ranged from 5 min to 10 min in length, averaging around 5 min. The average interview length, shorter than the typical life history narrative, was likely a function of the focus on abuse experiences, emotional intensity of the material discussed, and restricting probes to being supportive without pressing for any more elaboration than the participants wanted to provide. Thirteen interviews were not coded due to technical problems ($n = 11$) or interviews deemed too brief to be reliably coded ($n = 2$). The remaining 108 narratives were transcribed verbatim.

Coders reviewed each transcript for positive and negative PTC in four domains: views of self (e.g., strength and competency), views of relationships (e.g., relationship seeking and intimacy), worldviews (e.g., safety, trust, and fairness), and sexuality (e.g., sexual self-concept and sexual functioning). Overall scores for positive and negative PTC were assigned on the basis of the number and strength of changes across domains. Possible scores ranged from 0 (*not mentioned/no change*) to 5 (*very strong change*). Since questions were open-ended, not all participants responded about every domain, and those domains not mentioned were scored as zero. Table 1 provides narrative examples of positive and negative PTC at various strengths. Coders included the first two authors and two research assistants trained by the first author using a subset of transcripts from this and a separate study until acceptable reliability was demonstrated. A separate subset (23%) of transcripts was coded by a second coder for reliability purposes. Interrater agreement on the presence of negative ($\kappa = .78$) and positive ($\kappa = .74$) PTC and the strength of negative ($ICC = 0.80$) and positive ($ICC = 0.76$) PTC was adequate. Coding disputes (i.e., scores varying by more than one point) were resolved by consensus.

Abuse characteristics—After T1, trained staff members copied information on the following abuse characteristics from law enforcement agencies and CPS records to a

checklist: the relationship of perpetrator to victim, frequency (number of events reported) and duration (dates began and ended) of abuse, how the abuse was discovered, the types of abusive acts experienced (e.g., fondling and penetration), the use of physical force, medical findings, and how the case was confirmed. Based on records of 20 participants, two staff members copied information from the same case files onto the checklist with 100% or near 100% accuracy for each category of information. Coding of abuse information from the checklist (e.g., identity of the perpetrator as a *stranger* = 1, *familiar person* = 2, *relative* = 3, and *parent figure* = 4) was completed by trained project personnel with acceptable interrater reliability ($\kappa = .73$ to 1.0). A summary abuse severity index was calculated based on six abuse characteristics that are related to poor outcomes and that are rated by professionals as being of greater severity (Chaffin, Wherry, Newlin, Crutchfield, & Dykman, 1997). Each of these characteristics were dummy coded as 0 (*absent*) or 1 (*present*): penetration, parent figure perpetrator, perpetrator living with the child at time of abuse, 10 or more abuse events, duration of abuse 1 year or longer, and use of physical force. Then an abuse severity score was obtained for each child by summing over the most severe level of each of six abuse characteristics.

Concurrent Adjustment

Healthy adjustment—Indicators of psychosocial health assessed at T3 included self-esteem; emotional support from friends, romantic partners, and caregivers; and positive communication in romantic relationships. Self-esteem was measured using the 5-item Global Self-Esteem Scale from the Self Perception Profiles for Adolescents and Young Adults (Harter, 1988; Messer & Harter, 1986). Each item is rated from 1 to 4. The global self-esteem score is the mean of the summed items with higher scores indicating more positive self-evaluations (adolescent, $\alpha = .82$; adult, $\alpha = .79$). Scores for each age version were converted into *T*-scores for consistency across the sample. Emotional support was assessed from the My Family and Friends (Reid & Landesman, 1988), a structured interview protocol designed to identify specific sources of and satisfaction with different types of support. Satisfaction scores for caregivers, same-sex friends, and romantic partners were obtained by averaging emotional satisfaction responses to five interview questions (e.g., when you talk about your feelings with “name of friend” how much better do you feel?). Satisfaction was rated on a continuous scale from 0 (*not at all*) to 50 (*a whole lot*). The higher the score, the more satisfaction with emotional support from the source of support ($\alpha = .81$ for caregiver, $.83$ for same-sex friend, and $.79$ for romantic partner). Positive communication in romantic relationships was measured using a computer-administered version of the Conflict in Relationships Questionnaire (CIRQ; Wekerle & Wolfe, 1998). Youth completed items on romantic relationship conflict in reference to the frequency of their own behavior and that of their current or most recent partner using a 4-point scale ranging from 0 (*never*) to 3 (*often*). A positive communication score was created by summing across the 18 items addressing youths’ and partners’ use of discussion and problem solving ($\alpha = .82$).

Adjustment problems—Adjustment problems assessed at T3 included measures of abuse-stigmatization, symptoms of PTSD and depression, dating aggression, and sexual problems. *Abuse-stigmatization* was assessed using a summary score derived from separate

measures of abuse-specific shame and self-blame developed for this study (Feiring et al., 2009). Items for each measure were rated on a 3-point scale ranging from 1 (*not true*) to 3 (*very true*) and then summed (shame $\alpha = .85$ and self-blame $\alpha = .75$). To create an abuse stigmatization score, each scale was first recoded as the percentage of maximum points possible for the scale (POMP; Cohen, Cohen, Aiken, & West, 1999) and then the two POMP scores were averaged. Possible scores ranged from 0 to 100, with higher values indicating more stigmatization. *Depressive symptoms* were assessed from the Child Depression Inventory (CDI; Kovacs, 1985) for youth below the age of 17 years or the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996) for youth 17 years and older. Scores for each scale were standardized for consistency across the sample. For each, higher total scores indicated more depressive symptoms (CDI: $\alpha = .80$ and BDI: $\alpha = .92$). The Trauma Symptom Inventory (TSI; Briere, Elliot, Harris, & Cotman, 1995) was used to assess symptoms of PTSD as well as sexual problems. *PTSD* symptom scores were derived from the average of the *T*-scores from the Avoidance, Hyperarousal, and Intrusive Experiences Scales. Symptoms are rated on a 4-point Likert-type scale from 0 (*never*) to 3 (*often*), with higher scores indicating more problems ($\alpha = .88$). The TSI Sexual Concerns and Dysfunctional Sexual Behavior Scales (9 items each) were combined to create an index of *sexual problems* because the two indices were correlated ($r = .63$). The sexual problems summary score was created by calculating the standard scores for each scale and then averaging the two ($\alpha = .82$). Because the summary score was the average of two standard scores, its mean was close to zero, with higher scores indicating more problems. *Dating aggression* was measured using the CIRQ, as described above (Wekerle & Wolfe, 1998). A dating aggression score was created by summing across items addressing being the perpetrator and victim of physical aggression, threatening behavior, relational aggression, and verbal emotional aggression. Higher scores indicated more perpetration and victimization. Scores for being the perpetrator and victim of dating aggression were combined to get an overall picture of dating aggression, since the two were highly related in the current sample ($r = .87$ and $\alpha = .76$). The dating aggression measure was positively skewed. A logarithmic transformation reduced the skew, and the transformed variable was used in the analyses.

Missing data analyses indicated that data were missing completely at random. Data were imputed in IBM SPSS 21 using Expectation Maximization imputation, which is of comparable accuracy to other imputation methods for data missing at random (Mu & Zhou, 2011; Lin, 2010). Reported results utilize the full imputed dataset.

Results

Descriptive Information

The majority (83.7%) of youth reported at least one PTC, with 41.9% of the sample reporting both positive and negative changes, 36.9% reporting only negative change, and 5.0% reporting only positive change. As expected, youth who reported positive change were more likely than not to also report at least one negative change, $\chi^2(1, N = 160) = 9.45, p = .002$. Among youth reporting any PTC, significantly more reported negative (94%) than positive (55%) changes, $\chi^2(1, N = 134) = 6.69, p = .01$. Table 2 shows the descriptive

statistics and bivariate correlations for the study variables. Although strength scores for positive and negative PTC showed a modest positive correlation ($r = .17$ and $p = .04$), negative scores were stronger than positive PTC scores, $t(159) = 9.64$, $p < .001$. PTC was significantly related to psychosocial adjustment. Specifically, stronger positive PTC was related to more positive communication in romantic relationships. Stronger negative PTC was associated with greater abuse stigmatization, sexual problems, dating aggression, PTSD, depression, emotional support from romantic partners, and positive communication in romantic relationships.

Variation in Abuse-Related PTC as a Function of Youth and Abuse Characteristics

To assess whether the strength of positive and negative PTC varied by youth and abuse characteristics, we conducted path model that examined the six paths from gender, age at abuse discovery, and abuse severity to positive and negative PTC using MPlus (Muthén & Muthén, 1998–2010). This approach allowed us to assess unique relations between these variables and both types of PTC while controlling for the covariation between gender and abuse severity as well as between positive and negative PTC (see Table 2). The overall model showed an adequate fit for the data, $\chi^2 = .89$, $p = .71$; CFA = 1.00; RMSEA = 0.00. As expected, gender was associated with PTC, with females reporting stronger positive and negative change, $\beta = .157$, $p = .02$ and $\beta = .263$, $p = .001$. Neither positive nor negative PTC was related to youth age at abuse discovery or abuse severity. Adding participant race/ethnicity to this model did not yield any significant relations between race/ethnicity and PTC.

Additive and Moderated Associations Between Abuse-Related PTC and Psychosocial Adjustment

A primary goal of this study was to examine whether positive and negative PTC showed unique or interactive associations with positive and negative indicators of psychosocial adjustment. Toward this end, we used the SAS PROCESS macro (Hayes, 2013) to conduct a series of regressions in which indices of psychosocial functioning were regressed on the strength scores for positive and negative PTC and the interaction of these two variables. Independent and moderator variables were centered via standardization prior to analyses. Gender, age at abuse discovery, and abuse severity were included as covariates in all models. Significant interactions were probed using the Johnson–Neyman (J-N) technique within the SAS PROCESS macro, which allows researchers to make inferences about the regions of significance of the effect of X on Y. These regions of significance indicate the level of the moderator variable below and above which the effect of interest is present or absent. Whereas traditional methods rely on arbitrary points of low and high levels of the moderator (e.g., $M \pm 1$ SD), the J-N technique estimates the conditional effect of the independent variable at values of the continuous moderator that correspond to the 10th, 25th, 50th, 75th, and 90th percentiles within the sample distribution of the moderator. These percentiles will always fall within the range of the data of a given sample.

Table 3 shows the results of the regressions predicting healthy adjustment. When interaction effects were nonsignificant, reduced main effects models are reported. Significant relations between PTC and indices of healthy adjustment emerged for same-sex friendships and

romantic relationships, with both sets of findings involving a significant interaction between positive and negative PTC. Figure 1 illustrates the interaction with plots of the association between positive PTC and emotional support from friends for participants at low (10th percentile), moderate (50th percentile), and high (90th percentile) levels of negative PTC. Among youth with low levels of negative PTC, greater positive PTC was associated with higher levels of emotional support within the region of significance [$\theta_{(X \rightarrow Y)|M=-2.52} = 10.74$, $t(153) = 2.68$, $p = .008$]. For youth with moderate and high levels of negative PTC, positive PTC was unrelated to friend support [$\theta_{(X \rightarrow Y)|M=0.48} = 2.91$, $t(153) = 1.36$, $p = .18$] and [$\theta_{(X \rightarrow Y)|M=2.48} = -2.31$, $t(153) = -0.69$, $p = 0.49$]. Figure 2 illustrates the interaction for romantic partner support. For those with low levels of negative PTC, greater positive PTC was associated with higher levels of emotional support within the region of significance [$\theta_{(X \rightarrow Y)|M=-2.68} = 12.38$, $t(91) = 2.33$, $p = .02$]. At moderate and high levels of negative PTC, positive PTC was unrelated to emotional support from romantic partners [$\theta_{(X \rightarrow Y)|M=0.32} = 1.06$, $t(91) = .41$, $p = .68$] and [$\theta_{(X \rightarrow Y)|M=2.32} = -6.48$, $t(91) = -1.56$, $p = .13$]. PTC was unrelated to emotional support from caregivers, communication in romantic relationships, or global self-esteem.

Table 4 shows results of the regressions predicting indicators of adjustment problems. After controlling for age, gender, and abuse severity, both positive and negative PTC contributed to abuse stigmatization, such that positive PTC was associated with less stigmatization and negative PTC was related to more stigmatization. When predicting PTSD, sexual problems, dating aggression, and depressive symptoms, only negative PTC predicted significant variance in the outcomes, such that stronger negative PTC was associated with more problems. The only significant interaction effect for adjustment problems was for depressive symptoms. Figure 3 illustrates that for those with low levels of negative PTC, greater positive change was associated with lower levels of depressive symptoms, $\theta_{(X \rightarrow Y)|M=-2.52} = -10.66$, $t(153) = -2.45$, $p = .02$. At moderate and high levels of negative PTC, positive PTC was unrelated to depressive symptoms, $\theta_{(X \rightarrow Y)|M=0.48} = -1.88$, $t(153) = -.81$, $p = .42$ and $\theta_{(X \rightarrow Y)|M=2.48} = 3.97$, $t(153) = 1.09$, $p = .28$.

Discussion

Building upon a handful of adult studies, the current findings illustrate that youth are actively making meaning of past CSA experiences well after abuse discovery. As early as adolescence, meanings derived from CSA are incorporated into broader views of self, relationships, sexuality, and world in ways that may shape identity and behavior. Overall, negative abuse-related changes were more frequent and stronger than positive changes. Over a third of youth reported both positive and negative changes, supporting our contention that such changes frequently co-occur. Very few youth reported only positive change. Collectively, these findings suggest that while positive posttraumatic growth may occur, youth interpret their CSA experiences to have a more negative than positive impact.

Differences in PTC by Youth and Abuse Characteristics

As expected, young women reported stronger positive and negative changes than men. This finding is consistent with Linley and Joseph's (2004) suggestion that women may be more

active processors. The stronger negative changes noted by women versus men may reflect a greater willingness to entertain personal vulnerabilities as a consequence of abuse. The extent to which this willingness might reflect more general gender differences in rumination is an important question for future research and again underscores the importance of considering both positive and negative changes (Nolen-Hoeksema, 2012). Further, this finding needs to be replicated in larger and more gender balanced samples than ours.

Neither age at abuse discovery nor abuse severity was associated with PTC. Although we expected that older youth would report more positive changes, the level of abstract reasoning, meta-cognition, and perspective-taking required to extract positive meanings from such a salient negative life event as CSA may not emerge until later than early adulthood (Fisher & Pruyn, 2003). In addition, differences in age of abuse onset versus age of discovery may have influenced these results, as the current study design did not allow us to disentangle the relative contributions of age of abuse/abuse discovery from age at assessment to perceptions of PTC. The absence of findings for abuse severity is consistent with the idea that meanings made of CSA reflect more than the nature of the abuse experienced (Park, 2010).

PTCs and Psychosocial Adjustment

Our primary aim was to begin integrating research on perceived positive and negative abuse-related changes by examining their individual and joint associations with psychosocial adjustment. PTC was associated with all five measures of psychosocial problems, with negative PTC showing a significant relation to all outcomes and positive PTC showing a significant relation to two of the five. Although the links between PTC and healthy adjustment were less robust, those that did emerge linked positive PTC to more supportive intimate peer relationships, an area of particular developmental significance for adolescents and young adults.

The findings for positive change underscore its potential significance for ameliorating the negative sequelae of CSA. However, understanding positive change was primarily conditional on the presence of co-occurring negative changes. For example, positive change was associated with fewer depressive symptoms and more supportive friend and romantic relationships only for youth who reported low negative change. Among youth reporting moderate or high levels of negative change, positive change was unrelated to support from close peers or depression. Relations between PTC and emotional support from close peers but not parents may speak to the different roles of parents and peers in late adolescence and early adulthood. Across adolescence and into adulthood, youths' relationships with close friends and romantic partners become increasingly intimate and significant sources of emotional support (Furman & Buhrmester, 1992). Whether youth with CSA histories differ from non-abused youth in the types and sources of support they seek should be addressed in longitudinal studies that examine the qualities of peer and family relationships over time and associations with PTCs.

Taken together, these findings highlight the significance of negative PTC for understanding the potential benefits of posttraumatic growth. Consideration of both positive and negative PTC may help clarify contradictory findings linking posttraumatic growth to fewer

symptoms in some studies and to more symptoms in others. If positive changes become more prevalent with age, studying both positive and negative PTC may shed light on the contexts in which positive change facilitates positive growth. The current findings also suggest a need to examine how PTC is related to a broader range of adjustment indices that includes interpersonal functioning.

In addition to moderating associations between positive PTC and adjustment, negative PTC showed unique associations with mental health and intimacy problems. The negative changes youth reported were not merely narrative descriptions of these adjustment problems. Rather, they revealed active meaning making, a type of conceptual processing regarding the implications of CSA for the self, relationships, sexuality, and worldviews that can promote or undermine psychological comfort and healthy development (Brewin, Dalgleish, & Joseph, 1996; Horowitz, 1986; Janoff-Bulman, 1992). Longitudinal studies assessing PTC and adjustment over time will provide greater insight into the temporal order and underlying patterns of associations between psychosocial adjustment and the development of meanings made about PTC.

Limitations

Although the current study is among the first to examine positive and negative PTC for youths with CSA histories, limits to the research should be noted. First, our neutral semi-structured interview was designed to tap youths' evaluations of their abuse experiences but did not specifically probe for positive and negative changes across various domains of self, relationships, and worldviews. Multi-method studies including interview questions about positive and negative PTC as well as questionnaires tapping particular types of PTC might be useful for fleshing out the range of changes individuals perceived in relation to CSA experiences. The concurrent assessment of PTC and outcomes and nonexperimental data prohibit conclusions about temporal or causal relations between PTC and psychosocial adjustment. We acknowledge the results rely on self-report methodology and that multi-method assessments would provide stronger measurement of our constructs. In addition, the external validity of the study is limited to individuals for whom the abuse was reported to and substantiated by the appropriate authorities and who lived with non-offending caregivers.

Clinical Implications

Beginning in adolescence, autobiographical reasoning skills emerge that allow youth to reconsider memories of past CSA experiences to make inferences about who they are, what their life means, and what their future may hold. The result is an internalized and evolving life story that serves as a lens for conceiving the self and its possibilities (McAdams & McClean, 2013). Results of the current study reveal that the lens of adolescents and young adults with CSA histories is largely negative. Accounts of positive change were infrequent and associated with healthy adjustment mostly in the relative absence of negative change. Evidence linking qualities of narrative identity to well-being in this and other studies suggest a need to help adolescents and young adults formulate a coherent life story that incorporates the abuse without reifying its potential negative consequences into fixed aspects of identity and life choices.

Creating adaptive stories of abuse experiences is an important part of this process. Empirically supported interventions that foster abuse processing, such as trauma focused cognitive behavioral therapy (TF-CBT; Cohen, Mannarino, & Deblinger, 2006), incorporate the creation of an abuse narrative. Constructing this narrative aims to provide youth with an integrated story of their abuse experiences, desensitize them to traumatic reminders, and identify/modify dysfunctional abuse reactions, such as shame or self-blame. Even when initially uncomfortable with the idea of discussing traumatic events, adolescents find a narrative approach an especially useful modality for reducing sensitivity to traumatic memories and acquiring new perspectives (Dittmann & Jensen, 2014). Using narratives to foster healthy strategies for processing abuse experiences may facilitate the identification and integration of positive and negative meanings. Previous work from this sample showed that unhealthy processing strategies involving absorption in or avoidance of abuse memories, cognitions, or emotions were common and associated with poor adjustment (Simon et al., 2014). Although not frequent (13.9%), healthy processing strategies that involved effortful regulation of emotion and attention to abuse material were related to better adjustment. This suggests that healthy processing strategies are likely important for developing adaptive meanings that may be updated as new challenges arise. Narrative methods might then be further tailored to emerging developmental capacities to help adolescent and young adult clients actively construct a coherent life story that is not restricted by intractable meanings of past CSA experiences. For example, therapists can harness emerging meta-cognitive skills (e.g., actively monitoring and evaluating meanings made) to foster a perspective that frames abuse as a part rather than a defining feature of youths' lives. The active listening and Socratic questioning methods built into developmentally adapted trauma processing therapies (e.g., Matulis, Resick, Rosner, & Steil, 2014) and TF-CBT may be used to revise rigid or overgeneralized negative meanings that compromise adaptive functioning or stifle the development of positive meanings.

In addition to limiting the generalization of negative meanings, youth may profit from identifying strengths gained from their experiences. Instead of focusing solely on weaknesses or deficits, strength-based approaches holistically take into account youths' skills and talents as well as life events and unmet needs (Laursen, 2000). Further, therapists can engage youth in normative activities of healthy identity development that may be otherwise challenging, such as actively exploring positive possible selves and consciously committing to positive identities (Hauser & Allen, 2006; Markus & Nurius, 1986). Current findings linking positive change to healthy adjustment in the context of low negative change suggest that efforts to infuse abuse and life stories with real gains and positive possibilities should supplement rather than replace efforts to reduce negative change. As such, therapists may also need to support emerging cognitive skills that allow clients to conceive of themselves and the world in abstract ways that accommodate the contradictions and paradoxes of coexisting positive and negative changes. Although not a panacea for the serious adjustment problems faced by many sexually abused youth, the ability to construct a life story that allows for positive meanings from a traumatic personal past may facilitate growth and resilience (Adler-Tapia, 2012; Tavernier & Willoughby, 2012).

Acknowledgments

We gratefully acknowledge the efforts of Lynn Taska, Patricia Lynch, and Patricia Myers in data collection; Shannon Barton and Tracy Cassanova for interview coding; and the youth and their families for their participation.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The preparation of this article was made possible by grants from the National Institute of Mental Health—Grant MH49885 to Candice Feiring and Grants MH074997 and HD061230 to Valerie Simon.

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Figure 1.

Negative posttraumatic change (PTC) moderates the relationship between positive PTC and emotional support from same-sex friends: Regions of significance and simple slopes analyses. *Note.* J-N analyses indicated that the relation between positive PTC and same-sex friends' emotional support transitioned from nonsignificant to significant between the 25th and 50th percentiles of the distribution of negative PTC, $b = 4.30$, $SE = 2.18$, $t(153) = 1.98$, $p = .05$.

Figure 2.

Negative PTC moderates the relationship between positive PTC and emotional support from romantic partners: Regions of significance and simple slopes analyses. *Note.* J-N analyses indicated that the relation between positive PTC and emotional support from romantic partners transitioned from nonsignificant to significant between the 25th and 50th percentiles of the distribution of negative PTC, $b = 7.0$, $SE = 3.52$, $t(91) = 1.99$, $p = .05$.

Figure 3.

Negative PTC moderates the relationship between positive PTC and depressive symptoms: Regions of significance and simple slopes analyses. *Note.* J-N analyses indicated that the relation between positive PTC and depressive symptoms transitioned from nonsignificant to significant between the 25th and 50th percentiles of the distribution of negative PTC, $b = -5.24$, $SE = 2.65$, $t(153) = -1.98$, $p = .05$.

Table 1

Examples of Positive and Negative PTC Across Impact Scores.

 Negative PTC

Impact 1: “Only thing, it makes me be more careful with boys, so.—That’s it.”

Impact 3: “Well now, I have a problem trusting people—in, uh especially men—well now I think I’m pretty much over it, I’m not sure I’m over that. I always think I have to be more skeptical of people than normal people, people who haven’t had any experience like I had. I analyze people very closely even though they may not notice I’m analyzing them.”

Impact 5: “I quit school because of it. I got made fun of in school. So I ain’t graduate. Now I’m a loser so, like, I just messed up my whole life, this messed up my whole life. I’d be in college right now, but um, people made fun of my in high school. Um, laughed at me. Because his kids went to my school and they were made ‘cause he was in jail, so, we didn’t get along and we got made fun of ah I had so many friends until this happened.”

 Positive PTC

Positive 1: “Um, now I’m a stronger person.”

Positive 3: “Um I think I’m more open to how other people feel now. Like I listen better like, I’m I don’t know I’m just—I understand better. Like I’m more like willing to sit down with a person and like go over like whatever they’re feeling and, just like I don’t know share more.”

Positive 5: “I think it made me—a better person, a stronger person for it I know that if I got through that situation I can get through the situation I’m going through now. So it made me stronger in that way Even though it made me stronger, it might of made someone weaker or someone very very uncomfortable with themselves and other people—I guess—I guess that’s it maybe it’s some life lesson to make me the person who I am which I’m proud to be.”

Note. PTC = posttraumatic change.

Table 2
Correlations Between Individual Characteristics, Positive and Negative PTC, and Adjustment.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Youth characteristics															
1. Gender	—														
2. Age	.06	11.30 (2.27)													
3. Severity	.21**	.03	2.99 (1.51)												
PTC scores															
4. Positive	.19*	.14	.17*	.98 (1.27)											
5. Negative	.28**	.09	.10	.17*	2.47 (1.71)										
Healthy adjustment															
6. Self-esteem	.10	-.55**	.04	-.07	-.06	45.74 (13.48)									
7. CG support	-.16*	-.20*	.07	-.05	-.01	.25**	26.45 (13.54)								
8. SSF support	.29**	-.04	.14	.13	-.03	.21**	-.05	29.60 (13.53)							
9. RP support	-.06	.37**	-.03	.00	.17*	-.24**	-.04	.06	17.20 (17.37)						
10. RP Comm	.19*	.41**	.08	.22**	.19*	-.22**	-.03	.18*	.45**	32.88 (10.27)					
Adjustment problems															
11. Stigma	.14	.03	.13	-.14	.44**	-.05	.13	.02	.01	.09	21.26 (15.12)				
12. Sexual problems	-.02	.16*	.01	-.10	.34**	-.09	-.09	.12	.10	.16*	.51**	.01 (0.89)			
13. Dating aggression	.11	.24**	-.08	.06	.25**	-.10	-.12	.14	.10	.50**	.29**	.56**	2.14 (1.01)		
14. PTSD	.35**	.04	.18*	.01	.50**	.04	.01	.13	-.04	.29**	.61**	.53**	.48**	39.20 (22.69)	
15. Depression	.29**	.07	.17*	.04	.50**	-.11	-.12	.05	.01	.26**	.57**	.62**	.47**	.73**	29.84 (19.86)

Note. Means and standard deviations are on the diagonal. PTC = posttraumatic change; Age = age at abuse discovery; Severity = abuse severity; CG Support = caregiver emotional support; SSF Support = same-sex friend emotional support; RP Support = romantic partner emotional support; RP Comm = romantic partner positive communication; Stigma = abuse stigmatization; PTSD = post-traumatic stress disorder.

* $p < .05$.

** $p < .01$.

Table 3

Results of Standardized Regression Models Predicting Healthy Adjustment From Additive and Interactive Effects of Positive and Negative Posttraumatic Change (PTC) Scores.^a

	β	Coefficient	SE	t	F (df)	Cohen's f^2
Emotional support: Same-sex friend						
Intercept	18.82	2.43	7.75**			
Negative PTC	-2.75	1.28	-2.14*			.03
Positive PTC	2.48	1.28	1.94*			.02
Negative $\times$ Positive PTC	-2.65	1.21	-2.19*		4.79* (1, 153)	.03
Full model					4.47*** (6, 153)	.15
Emotional support: Romantic partner ^b						
Intercept	.18	0.19	0.94			
Negative PTC	.15	0.10	1.43			.05
Positive PTC	.07	0.10	0.72			.02
Negative $\times$ Positive PTC	-.24	0.10	-2.30*		5.31* (1, 91)	.06
Full model					1.94* (6, 91)	.14
Positive communication in romantic relationships						
Intercept	30.43	1.55	19.67***			
Negative PTC	1.26	0.81	1.55			.02
Positive PTC	1.34	0.81	1.67			.02
Full model					8.70*** (5, 154)	.28
Emotional support: Caregiver						
Intercept	30.12	2.20	13.66***			
Negative PTC	.69	1.16	0.59			.01
Positive PTC	-.22	1.15	-0.19			.00
Full model					2.51* (5, 154)	.09
Global self-esteem						
Intercept	41.84	1.82	23.04***			
Negative PTC	-.81	0.95	-0.85			.01

	β Coefficient	SE	t	F (df)	Cohen's f^2
Positive PTC	.20	0.95	0.21		.01
Full model				14.54 *** (5, 154)	.47

Note.

^aResults are for final models that include the covariates of age at abuse discovery, gender, and abuse severity. Where interaction terms were not significant, results are for reduced final models that exclude the interaction between positive and negative PTC.

^bResults for youth reporting a current romantic relationship.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 4

Results of Standardized Regression Models Predicting Adjustment Problems From Additive and Interactive Effects of Positive and Negative Posttraumatic Change (PTC) Scores.^a

	β	Coefficient	SE	t	F (df)	Cohen's f^2
Depressive symptoms						
Intercept	24.13	2.64	9.14	***		
Negative PTC	9.45	1.39	6.79	***		.22
Positive PTC	-2.30	1.39	-1.66			.01
Negative $\times$ Positive PTC	3.13	1.32	2.38	*	5.66* (1, 153)	.03
Full model					11.74*** (6, 153)	.43
Abuse stigmatization						
Intercept	19.76	2.05	9.65	***		
Negative PTC	6.73	1.08	6.25	***		.26
Positive PTC	-3.38	1.07	-3.17	***		.06
Full model					10.38*** (5, 154)	.34
PTSD symptoms						
Intercept	30.52	2.92	10.44	***		
Negative PTC	9.92	1.54	6.45	***		.22
Positive PTC	-2.25	1.52	-1.47			.01
Full model					14.44*** (5, 154)	.47
Sexual problems						
Intercept	.11	0.12	0.90			
Negative PTC	.31	0.06	4.77	***		.15
Positive PTC	-.11	0.06	-1.71			.02
Full model					5.81*** (5, 154)	.19
Dating aggression						
Intercept	3.96	0.26	14.98	***		
Negative PTC	.39	0.14	2.82	***		.14
Positive PTC	.02	0.14	0.14			.02

	β Coefficient	SE	t	F (df)	Cohen's f^2
Full model				4.38 *** (5, 154)	.16

Note.

^aResults are for final models that include the covariates of age at abuse discovery, gender, and abuse severity. Where interaction terms were not significant, results are for reduced final models that exclude the interaction between positive and negative PTC.

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