

Positive and Negative Adjustment and Social Support of Sexual Assault Survivors

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The roles of positive (i.e., growth) and negative (i.e., posttraumatic stress symptoms and general symptomatology) adjustment following adult sexual assault experience(s) were examined using a standardized definition of abuse. These reactions were explored in association with positive and negative support from formal and informal providers. Finally, using standardized measures, the collective impact of positive and negative support, formal and informal support were investigated in predicting positive and negative psychological adjustment. Both forms of informal support were found to be associated with positive outcomes. Only negative informal support was associated with posttraumatic stress symptoms. First responders should consider whether support resources are appropriate to victims' needs.

Exposure to interpersonal violence is associated with both short-term and long-term psychological and physical health problems (for reviews see Briere & Jordan, 2004; Plichta, 2004; Resnick, Acierno, & Kilpatrick, 1997; Woods, 2005), with problems characterizing posttraumatic stress disorder (PTSD) among the most commonly reported (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). More specifically, consistently higher rates of PTSD are found among interpersonal violence survivors, in comparison to survivors of other traumas (Kessler et al., 1995; Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993), with the risk of PTSD being as much as 10 times more likely (Breslau, Chilcoat, Kessler, & Davis, 1999).

Brewin, Andrews, and Valentine (2000) concluded from their meta-analysis that vulnerability for PTSD was linked to specific populations (e.g., women, those socially, educationally, or intellectually disadvantaged, those with psychiatric history, and those with greater life stress) under certain circumstances (e.g., trauma severity, additional life

stress), including lack of social support. Recently, Ozer, Best, Lipsey, and Weiss (2003) found that prior characteristics (e.g., trauma, psychological adjustment, and family history of psychopathology) were less predictive of adjustment following trauma than other posttrauma variables, including social support. Such findings indicate that one method that could be useful in identifying individuals likely to experience lasting psychological distress following interpersonal violence is to assess the victim's experience of social support (e.g., Brewin, Andrews, & Valentine, 2000; Ozer et al., 2003; Ruch & Chandler, 1983).

Although research has largely focused on adverse outcomes (e.g., Breslau et al., 2002; Norris et al., 2002), it is clear that some victims experience a mixture of both positive and negative sequelae following trauma. Research that includes examination of both positive and negative trauma outcomes, further indicates that such outcomes can coexist as independent constructs, and are not mutually exclusive, within the same individual (Linley, Joseph, Cooper,

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© 2006 International Society for Traumatic Stress Studies. Published online in Wiley InterScience (www.interscience.wiley.com) DOI: 10.1002/jts.20169

Harris, & Meyer, 2003). Among the positive changes reported in the literature are improved relationships, development of new possibilities, a greater appreciation for life, a greater sense of personal strength, and spiritual development (Linley et al., 2003; Tedeschi & Calhoun 1995). Although positive sequelae are not often examined in studies of trauma, several studies have documented some form of growth or positive change in 50% or more of trauma survivors (Tedeschi & Calhoun, 1995), including sexual assault survivors (Burt & Katz, 1987; Frazier, Conlon, & Glaser, 2001; Frazier, Tashiro, Berman, Steger & Long, 2004; Thompson, 2000).

Individuals who experience some form of positive growth after trauma, and are able to maintain such gains over time, may experience less sustained psychological distress (Linley & Joseph, 2004). For example, a longitudinal study by Frazier and colleagues (2001) found that some victims of sexual assault experienced positive changes (more empathy, greater appreciation for life, and improvements in relationships) as early as 2 weeks following victimization. In a follow up study (Frazier et al., 2004), hierarchical linear analysis revealed self-reported experience of social support to be a significant predictor of positive sequelae following sexual assault. Although consistent with other studies (Cadell, Regehr, & Hemsworth, 2003; Tedeschi & Calhoun, 1995), this finding is inconsistently reported in the literature. For example, in another recent meta-analysis (Linley & Joseph, 2004), social satisfaction was related to growth, but social support, more generally, was not significantly related.

In exploring social reactions more specifically, researchers have noted that such reactions may be interpreted variably (Linley & Joseph, 2004; Ullman, 1999). That is, some may interpret a particular reaction as positive, whereas others consider it negative. Support typically considered positive consists of the reactions one would hope to receive in the wake of a trauma (e.g., being believed, being absolved of blame, receiving information or tangible aid; Ullman, 1996c). On the other hand, reactions from support sources that are usually characterized as negative include reactions that, although perhaps well intentioned, are unresponsive to the victim's needs or may

even be overtly harmful (e.g., telling the victim to move on, forget about it, blaming the victim, or taking control; Ullman, 1996c). Such negative reactions following sexual assault have been associated with greater psychological distress and are predictive of poor adjustment (Davis, Brickman, & Baker, 1991; Frank et al., 1988; Ullman, 1996a, 1996b, 1996c). In contrast, positive social reactions have not been found to be predictive of negative adjustment (Campbell, Aherns, Self, Wasco, & Barnes, 2001; Ullman, 1996b).

Research suggests that that the impact of responses may be a function of the source's importance to the survivor (Ullman, 1996b) or the frequency of disclosure and the opportunity for support (Golding, Siegal, Sorenson, Burnam, & Stein, 1989). For example, informal providers of support, including family members, friends, and/or romantic partners, may be more readily available, or in more frequent contact with victims. Formal providers of support (e.g., first responders, including police, firefighters, medical or mental health providers, and other emergency personnel) may differ in characteristic behavior and differentially impact adjustment compared to informal sources. Although formal support sources are meant to be experienced as helpful to victims of interpersonal violence, their efforts are not uniformly helpful (Golding et al., 1989; Popiel & Susskind, 1985; Ullman, 1996b, 1996c).

In summary, reactions from sources of formal and informal support are associated with a range of sequelae, including both growth and distress. The present study sought specifically to explore both positive (i.e., growth) and negative (i.e., posttraumatic stress symptoms and general emotional distress) adjustment following an adult sexual victimization, particularly in regard to how such adjustments are related to positive and negative reactions provided by formal and informal support sources. Based on the literature, we hypothesized that negative reactions would increase general emotional distress and, more specifically, symptoms associated with posttraumatic stress (PTSD). We further hypothesized that growth would be predicted by positive reactions. Positive and negative reactions were not expected to be mutually exclusive constructs.

METHOD

Participants

Participants were drawn from 517 female college students recruited from a large Midwestern university research participant pool for an online survey of life experiences. Registration in the subject pool was required to gain access to the survey to prevent duplicate submissions by participants and limit participation to the university sample. All participants were awarded class credit in their coursework and were treated in accordance with the *Ethical Principles of Psychologists and Code of Conduct* (American Psychiatric Association, 2002). Eleven women chose not to complete any portion of the survey. Of the remaining 506 participants, 115 participants (22.7%) met criteria to be considered adult sexual assault victims as identified on the Modified Sexual Experiences Survey (Messman-Moore & Long, 2000; acknowledging forced or coerced vaginal or anal intercourse, forced or coerced penetration by objects, or forced oral-genital contact). The assault victim sample reported an average of 2.45 ($SD = 2.66$, range = 1–10) acquaintance assaults, with the most recent assault occurring an average of 17 months ago (Mode = 1, 25%; $Mdn = 12$, $SD = 17$, range = 1–66). No participants in this sample reported an assault by either spouse or stranger.

Measures

Modified Sexual Experiences Survey. The original Sexual Experiences Survey (SES; Koss & Gidycz, 1985) contains four questions regarding unwanted intercourse (due to continual arguments or pressure, authority, alcohol or drugs, and physical force), and two questions regarding attempted intercourse (due to alcohol or drugs and physical force). The Modified Sexual Experiences Survey (MSES; Messman-Moore & Long, 2000) extends the SES and assesses additional victimization exposure to specific types of attempted or completed sexual activities since the age of 17. Additional forms of sexual contact were categorized into the following three areas: (a) kissing and fondling, (b) oral-genital contact, and (c) penetration by objects. Each

method of force (alcohol or drugs and physical force) and two methods of coercion (continual arguments or pressure and misuse of authority) were assessed for each attempted activity, resulting in 24 questions. The set of 24 questions was administered three times to assess unwanted sexual contact perpetrated by (1) girlfriend/boyfriend, dates, or acquaintances; (2) spouses; and (3) strangers. Reliability of .74 (for women) has been reported for the original SES with a 1-week test-retest reliability of .93 (Koss & Gidycz, 1995) and internal consistency in female college samples ranges from .84 to .87 (Messman-Moore & Long, 2000). Internal consistency of the MSES in the present study was good ($\alpha = .81$).

Life Experiences Questionnaire. The Life Experiences Questionnaire (LEQ; Long, 2005) is a 57-item self-report measure to assess for a range of child sexual victimization (CSA) prior to age 17, excluding voluntary activities. Questions may be answered up to three times to reflect different perpetrators. Items assess coercion/force of sexual victimization, the nature of the relationship with the perpetrator, as well as the nature of the sexual activity. Both internal consistency ($\alpha = .89$) and test-retest reliability ($r = 1.00$) in female college samples have been acceptable (Messman-Moore, Long, & Siegfried, 2000).

Perceived Benefits Scale. The Perceived Benefits Scale (PBS) is a 38-item, self-report measure that uses a Likert scale ranging from 0 (*not at all like my experience*) to 4 (*very much like my experience*) to measure subjective positive life changes after negative traumatic events (McMillen & Fisher, 1998). Items intended to measure gains include areas of increased caring and self-efficacy. A composite perceived benefits score (ranging from 0 to 152) was obtained by summing the individual item responses, with higher scores indicating more benefits following trauma. Total scores (range = 0–90) obtained by current participants ($M = 26.23$, $SD = 21.00$) fell within the range (14.35–47.85) obtained from other samples reported in the literature (Joseph, Linley, & Harris, 2005; McMillen & Cook, 2003). Comparable elevations were found across subscales with highest gains in domains measuring compassion,

self-esteem, and family closeness. Two-week test-retest reliability has been reported as reasonably strong (.66–.97) and construct validity has been demonstrated with the Posttraumatic Growth Inventory (McMillen & Fisher, 1998). Composite internal reliability in the current study was excellent ($\alpha = .94$).

Posttraumatic Stress Diagnostic Scale. The Posttraumatic Stress Diagnostic Scale (PDS) is a 49-item, self-report measure of posttraumatic stress disorder (Foa, Cashman, Jaycox, & Perry, 1997). For the purposes of this study, only the 17 items assessing PTSD symptomatology were included. A symptom severity score (ranging from 0 to 68) was obtained by summing the individual item responses. According to the measure's authors, scores greater than 10 indicate moderate or greater symptom severity. In the current sample, on average, women reported moderate symptom severity ($M = 12.21$, $SD = 8.93$, range = 2–39). The PDS has demonstrated good psychometric properties including test-retest reliability (.87; Foa et al., 1997) and construct validity with the Structured Clinical Interview for DSM-III Disorders (.82; Foa et al., 1997). For the sample included in the current investigation, internal consistency was excellent ($\alpha = .91$).

The Symptom Checklist 90-Revised. The Symptom Checklist 90-Revised (SCL-90-R; Derogatis, 1997) is a well-established 90-item self-report instrument used to assess psychological symptoms. The Global Severity Index (GSI), measuring general symptomatology, was used with very good resultant internal consistency ($\alpha = .97$) in our sample. The participants' mean score fell in the nonclinical range ($M = 0.86$, $SD = 0.50$, range = 0.22–0.86), although somewhat higher than the normative comparison group ($M = 0.36$, $SD = 0.35$; Derogatis, 1994).

Social Reactions Questionnaire. The Social Reactions Questionnaire (SRQ) is a 48-item self-report instrument developed to measure specific types of positive and negative reactions received following disclosure of a sexual

assault experience (Ullman, 2000). This measure has also demonstrated good convergent validity for positive and negative social reactions with a number of domains theoretically associated (Ullman, 2000). Participants who had not disclosed their assault experience prior to the study would not complete this measure. Sample constructs from the measure include the divulging of information without consent (negative reaction) and nonblame of the victim (positive reaction). Mean scores were calculated across all positive support items and across all negative support items for each administration reflecting informal and formal providers' reactions. This measure was administered twice to each participant endorsing a sexual assault experience; once to inquire about formal support providers and again to assess support provided by informal providers. Lower frequency of both formal and informal reactions were reported in the current study (positive formal $M = 1.05$, $SD = 1.09$, range = 0–3.52; negative formal $M = 0.36$, $SD = 0.50$, range = 0–1.89; positive informal $M = 1.63$, $SD = 1.02$, range = 0–3.57; negative informal $M = 0.60$, $SD = 0.55$, range = 0–1.93) than those in the normative female sample (positive $M = 2.02$, $SD = 0.83$; negative $M = 1.04$, $SD = 0.93$; S. E. Ullman, personal communication, July 27, 2004). Further, in the current study internal consistency was very good for both the formal ($\alpha = .96$) and the informal ($\alpha = .95$; Ullman, 2000) sources of reactions.

There were no significant differences between women with an assault history and those with no history of adult sexual assault for marital status, sexual orientation, or ethnicity/racial status. Socioeconomic status (SES) was assessed using the Two-Factor Index of Social Position (Myers & Bean, 1968) with the average participant falling in the middle class; significant differences were not found with respect to SES between assault status groups. Significant differences between victimized and nonvictimized women were found for age. Specifically, sexually assaulted women were older ($M = 21.68$, $SD = 6.71$) than women without an assault history ($M = 20.04$, $SD = 2.89$), $t(490) = -3.79$, $p < .01$. However, age differences were not found on any of the dependent measures.

RESULTS

All analyses were conducted using an alpha level of .05 (unless otherwise stated) in statistical tests using SPSS (Version 12.0). After completing demographic, sexual assault status, and general distress (SCL-90-R) measures, participants who met criteria for assault status were instructed to continue the survey and respond to further adjustment and support measures based on the adult sexual experience they had just described. If more than one assault was reported, the participant was asked to reference the assault they subjectively considered their worst of the experiences in the completion of the remainder of the questionnaires.

Many women may not have disclosed their experience of assault. In these situations, they were instructed not to complete the SRQ, but to complete further measures of adjustment (PBS and PDS). If women disclosed to only formal or informal providers, they were instructed to complete only the corresponding portion of the SRQ. Four women disclosed only to informal providers, but all

other participants reported disclosing to both formal and informal providers. However, nearly half of the women who met criteria for experiencing an adult sexual assault discontinued the survey and did not complete further measures of support or adjustment. Class credit was awarded regardless of level of participation and may have acted as an incentive to discontinue the survey.

No significant differences (on any demographic variables) existed between the assaulted women who participated fully and those who discontinued the study. With respect to child sexual assault, latency, and number of assaults, the only significant difference between those who completed fully and those who discontinued the survey was with respect to the number of assaults. Women who participated fully ($n = 63$) reported more assaults ($M = 3.25$, $SD = 2.85$) than women who discontinued the survey ($n = 51$; $M = 1.45$, $SD = 2.03$), $t(112) = -3.80$, $p < .01$. Table 1 provides frequencies for the categorical demographic variables for the overall sample, the full sexual assault sample, as well as the sample of survivors

Table 1. Demographic Frequencies of Categorical Data

	Overall Sample		Sexual Assault Sample		Survivors Included in Analyses	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Marital Status						
Never Married	432	85.0	097	84.3	55	83.3
Married	27	5.3	6	5.2	3	4.5
Cohabiting	19	3.7	7	6.1	3	4.5
Divorced/Separated	8	1.6	1	0.9	1	1.5
Other	17	3.3	2	1.7	2	3.0
Race						
Caucasian	411	80.9	93	80.9	53	80.3
African American	22	4.3	6	5.2	3	4.5
Hispanic	9	1.8	6	5.2	4	6.1
Native American	32	6.3	6	5.2	4	6.1
Asian	21	4.1	2	1.7	1	1.5
Other	10	2.0	2	1.7	1	1.5
Socioeconomic Status by class						
Upper	4	0.8	0	0	0	0
Upper-Middle	62	12.8	16	13.9	10	15.2
Middle	140	28.8	35	30.4	21	31.8
Lower-Middle	208	42.8	45	39.1	22	33.3
Lower	61	12.6	17	14.8	11	16.7

Table 2. Partial Correlations Between Support, Personal Growth, and Distress Measures

	1	2	3	4	5	6	7
1. Perceived Benefits	1.00	.05	.28	.62*	.64*	.31	.29
2. Posttraumatic Stress		1.00	.47	.31	.15	.19	.34*
3. Global Symptom Severity			1.00	.25	.40	.02	.04
4. Formal Positive Support				1.00	.56*	.56*	.39
5. Informal Positive Support					1.00	.24	.49*
6. Formal Negative Support						1.00	.68*
7. Informal Negative Support							1.00

Note. Correlations controlled for frequency of adult victimization experiences.

* $p < .004$ (Bonferroni Correction).

who completed all measures. Initial analyses were conducted to examine the relationships among latency since victimization, frequency of victimization, history of child sexual assault, and the dependent measures (PBS, GSI, and PDS). The PDS scores were found to be significantly associated with the number of assaults ($r = .50$, $p < .01$), but no other significant relationships were revealed.

A partial correlation analysis (controlling for the number of assaults by acquaintances) was conducted to examine the hypothesis that positive and negative adjustment would be related to constructs. Using the composite benefits score from the PBS, the symptom severity score from the PDS, and the GSI from the SCL-90-R, negative adjustment and growth demonstrated no significant relationship, although the measures of negative adjustment (PDS and SCL-90-R) were related ($pr = .47$, $p < .01$), with good retrospective power (.91).

Partial correlations (controlling for number of assaults by acquaintances) were calculated using mean scores from the SRQ (formal positive, formal negative, informal positive, and informal negative), in conjunction with the adjustment measures: the composite PBS score, the PDS symptom severity score (PTSS), and the SCL-90-R GSI. As hypothesized, growth was found to be significantly correlated with both formal ($pr = .62$, $p < .001$) and informal positive reactions ($pr = .64$, $p < .001$). Similarly, the hypothesis that posttraumatic distress (PTSS) could be significantly correlated with negative informal reactions ($pr = .34$, $p < .001$) was supported. However, more gen-

eral distress (GSI) was not significantly correlated with either formal or informal reactions (see Table 2). No other statistically significant relationships emerged. Retrospective power calculated in this analysis was excellent (.97).

Next, three regressions were calculated to examine the predictors of adjustment that were hypothesized. For each regression, supplemental analyses revealed no difficulties associated with multicollinearity. The first linear stepwise regression was performed using the PBS composite benefits score as the criterion. Frequency of assault ($\beta = .21$) was entered first as the control variable, which accounted for less than 5% of the variance in PBS scores. The following support variables were then permitted to enter into the equation: informal positive, formal positive, formal negative, and informal negative. Informal positive support ($\beta = .41$, $p < .01$) and formal positive support ($\beta = .38$, $p < .01$) significantly increased the predictability of supportive SRQ composite scores by accounting for an additional 49% of the variance to form a good model of predictive factors of growth, $F(3, 44) = 16.65$, $p < .01$. Tolerance (.67–.99) and power (.98) were again acceptable.

A second linear stepwise regression was then performed using the PTSS as the criterion. Frequency of assault ($\beta = .57$) was again entered as a control variable, accounting for 33% of the variance in PDS severity scores, $F(1, 43) = 20.98$, $p < .01$. As in the first analysis, the following support variables were then permitted to enter into the equation: informal negative, formal negative, formal positive and informal positive. Only informal negative

support ($\beta = .34, p < .01$) significantly increased the predictability of the PTSS, by accounting for an additional 9% of the variance, $F(2, 42) = 16.12, p < .01$. Again, tolerance (.918) and power (.92) were excellent.

A final linear stepwise regression was then performed using the GSI score as the criterion. Frequency of assault ($\beta = .18$) was again entered first as the control variable. This variable accounted for only 3% of the variance in GSI scores, $F(1, 48) = 1.56, ns$. As in the other analyses, the following support variables were then permitted to enter into the equation (through stepwise probability criteria): informal negative, formal negative, formal positive, and informal positive. No support variables met significance to enter the equation. No variables formed a good model of fit to predict general distress as measured by the GSI score on the SCL-90-R. Furthermore, power was inadequate.

DISCUSSION

Several considerations are relevant to this study. First, a sizable number of participants failed to complete all measures. Participants who completed all of the measures did not differ on any demographic characteristics from those who withdrew after the sexual assault questionnaires. A significant difference was revealed with regard to the number of assaults experienced, but those who completed all measures reported more assaults than those who withdrew. As such, theoretically, it does not appear that those who would be most distressed withdrew. Another consideration is the sample used. Among a college sample, formal and informal supports may vary from women who experience a sexual assault later in life. Nevertheless, understanding the role of social support in predicting adjustment of sexual assault survivors is important in the prevention and treatment of distress.

Consistent with the proposed hypotheses, this study demonstrated that some women experience positive change following sexual victimization. The findings indicate that growth and distress are not bipolar opposites along a single continuum, but independent constructs that are not mutually exclusive. That is, women report both growth and distress following sexual victimization. This is con-

sistent with findings by Linley and colleagues (2003) but contrary to speculation by Thoits (1984, 1986), who believed growth would be effective at buffering sexual assault victims from distress.

Positive reactions from family and friends as well as positive reactions from formal support providers were associated with benefits in the aftermath of trauma. Only informal negative reactions were associated with specific post-traumatic distress in the current investigation. Reactions from formal and informal providers, regardless of whether the reaction was positive or negative, were not associated with more general psychological distress, in contrast to our hypothesis and also previous literature that measured social support more globally (Davis et al., 1991; Frank et al., 1988; Kramer & Green, 1991; Ullman, 1996c). This is not to say that formal providers' negative reactions are irrelevant; however, informal support providers' reaction to victims may have been particularly salient to victims in our sample. It should be noted that although many women reported receiving negative reactions, they were less frequent than positive reactions and power may have been inadequate in these analyses (Cohen, Cohen, West, & Aiken, 2003). Further, this study only examined more severe forms of assault. Findings presented here may not generalize to less severe forms of assault, other traumas, or other samples.

A number of explanations for the association between support and adjustment are possible. For example, those who are experiencing more distress may recall and be more sensitive to negative reactions (Gotlib, 1983). Similarly, those who experience positive adjustment may possess a broadly optimistic and positive outlook. Such individuals may interpret the support they receive as more positive and remember receiving such reactions more vividly (Updegraff & Marshall, 2005).

As an easily modified variable posttrauma that is predictive of PTSD (Ozer et al., 2003), social support remains an important area for research. This study took a conservative approach in examining the association of support reactions and adjustment measures by applying a modified Bonferroni correction due to alpha inflation concerns. Future research should consider exploring some of these

other possible relationships or replicating the current finding in more diverse samples (e.g., type of trauma, gender, age, ethnicity, sexual orientation, etc.). Researchers may also consider a longitudinal design to allow for the inclusion of prospective measurement of distress and support.

Prior research (for a review, see National Institute of Mental Health, 2002) has demonstrated that even in the initial stages of recovery, dissemination of efforts and early interventions may be of great benefit to those at risk and the recovery environment is an important factor in predicting adjustment for survivors of trauma (e.g., Heise, 1998; Neville & Heppner, 1999). Results presented here suggest that first responders should consider whether support resources are appropriate for victims' needs. Those encountering survivors should monitor the environment for the presence of positive support and assist in minimizing negative support reactions.

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