

NEGATIVE EMOTIONS AND BEHAVIORS ARE MARKERS OF BREAKUP DISTRESS

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Method: University students who experienced a recent romantic breakup were given several self-report measures and were then divided into high versus low breakup distress groups. **Results:** The high breakup distress versus the low breakup distress groups had higher scores on negative emotions scales including depression, anxiety and anger and reported more negative behaviors including poor academic performance, drinking and disorganized behavior. They also reported feeling less forgiveness, although the two groups were equivalent on posttraumatic growth and positive activities including reading, playing music, watching T.V., and internet use. Surprisingly, also, the two groups (high and low distress following breakup) were similar on personality traits including optimism, extraversion and spirituality.

Keywords: breakup distress, university students, negative emotions, depression, anxiety

Romantic breakup was one of the most commonly nominated "worst events" in a large phone survey of traumatic events, and a prospective risk factor for the onset of major depression disorder (Monroe, Rohde, Seeley & Lewinsohn, 1999). In one study, over 40% of those experiencing breakups also experienced clinical depression, with some 12% having moderate to severe depression (Mearns, 1991). Anxiety is often comorbid with depression, and anxiety was significantly associated with relationship breakup

in a survey of more than 5000 internet respondents (Davis, Shaver & Vernon, 2003). Breakups are notably frequent in university students and are expected to cause negative mood states and a kind of breakup distress that has also been noted for adult women (Najib, Lorberbaum, Kose, Bohning & George, 2004).

Some researchers have argued that to understand the differences between the recovery patterns of individuals who do well and those who do poorly requires an examination of

changes in daily moods following a romantic breakup (Sbarra, 2006). In the Sbarra (2006) study, greater levels of anger were noted, and sadness decreased the probability of recovering from anger.

In contrast to this focus on distress factors, very few studies have investigated the possibility of positive emotions following breakup including forgiveness and posttraumatic growth (Tashiro & Frazier, 2003). Forgiveness is considered a replacement of negative, unforgiving emotions with other positive-oriented emotions (Worthington, Witvliet, Pietrini, & Miller, 2007). In a review of six studies, forgiveness was negatively correlated with anger, anxiety and depression and positively related to satisfaction with life (Thompson, Snyder, Hoffman, Michael, Rasmussen, Billings, *et al*, 2005). Forgiveness was, in turn, significantly associated with less alcohol use, lower blood pressure and heart rate. None of these findings resulted from decreased levels of anger, suggesting that the benefits of forgiveness extend beyond the dissipation of anger. Forgiveness was also correlated with agreeableness, extraversion and empathy (Worthington *et al*, 2005).

Posttraumatic growth is another positive feature that may attenuate breakup distress. Although breakup distress is usually associated with negative emotions and negative activities, only a few studies have examined the possibility that positive life changes might follow a relationship breakup. In a recent paper entitled "I'll never be in a relationship like that again: Personal growth following romantic relationship breakups", a body of research was reviewed on stress-related growth or on improvement in psychological functioning following breakups (Tashiro & Frazier, 2003).

Posttraumatic growth has ranged in incidence from approximately 30% to 80% (Linley & Joseph, 2004). Examples of posttraumatic growth have included improved relationships with others, greater empathy, greater personal strength and a renewed

appreciation of life (Calhoun & Tedeschi, 2006). It has been defined as an "experience of positive changes and not simply a return to baseline but an experience of improvement" (Tedeschi & Calhoun, 2004). In an earlier study, these researchers gave college students a posttraumatic growth inventory and the NEO-PI personality inventory (Tedeschi & Calhoun, 1996). Correlation analyses were conducted on the five factors of the personality inventory including extraversion and the five factors of the Posttraumatic Growth Inventory. Extraversion was the personality trait most strongly correlated with the Posttraumatic Growth Inventory score.

Another personality trait that has been associated with posttraumatic growth is optimism. In a review of the posttraumatic growth literature, many studies reported positive correlations between optimism and posttraumatic growth (Helgeson, Reynolds, & Tomich, 2006). In another study by Helgeson, positive self-beliefs such as self-esteem, perceived control and optimism predicted general psychological health outcomes (Helgeson, 1994). Optimism about the future of the relationship predicted relationship status, adjustment to physical separation and adjustment to breakup.

The final personality trait that was included in our questionnaire was spirituality. Although spirituality has been related to higher grades in at least one study on spiritually oriented material (Trockel, Barnes, & Egget, 2000), no studies could be found relating breakup distress to spirituality.

Negative behaviors like poor academic performance have resulted from breakup distress in another sample we studied (Field, Diego, Pelaez, Deeds, & Delgado, 2009b). In that study, Breakup Distress Scale scores explained a significant amount of the variance on academic performance. In another study on university students, one of the most frequently reported complaints at campus mental health services was inferior academic

performance (Oliveria, Dentas Azevedo, & Banzato, 2008). Other negative behaviors that might be expected to derive from breakup distress are disorganized behavior and drinking. Although the literature was limited on these relationships, drinking and disorganized behavior have been associated with depression, and depression, as already noted, has been strongly related to breakup distress.

Positive behaviors thought to be popular among university students were also explored in this study including reading, playing music, watching T.V. and internet use. Research on these positive activities was difficult to find in the literature, although these positive activities might be expected to differentiate high and low distress groups. For example, music therapy has been reputedly effective with depression, and watching television is typically viewed as a distracter from distress. On the other hand, although non-heavy internet users have been noted to have better grades (Chen & Peng, 2008), there is a significant literature on excessive internet use and its association with loneliness and depression (Ceyhan & Ceyhan, 2008; Ozcan & Buclu, 2007).

The purpose of the current study was to determine whether high versus low breakup distress groups could be differentiated by negative emotions, positive emotions, personality traits and positive and negative activities/behaviors. A convenience sample of university students was assessed on self-report measures on these variables.

Methods

Participants

The initial sample was 283 university students. Of this sample, 186 (66%) had experienced a recent breakup (on average, 3.6 months before the study). The breakup sample was then divided into high and low breakup distress groups based on a median split on the Breakup Distress Scale scores. No differences were noted between these groups

on demographic variables (ethnicity, age and grade) except for gender. For the high and low distress groups respectively: 1) age averaged 25.0 and 23.3; 2) grade averaged 13.6 and 13.3; and 3) ethnicity was distributed Hispanic (67% and 70%), Caucasian (16% and 12%), African-American (12% and 14%) and other (5% and 4%) (all ps non-significant). The high Breakup Distress Scale score group had more females than the low distress group (79% vs. 73%, $\chi^2=5.03$, $p<.01$), and females had higher scores on the Breakup Distress Scale ($M=10.2$ vs. 7.1 , $F=6.41$, $p<.01$).

Procedures

University students were recruited for this anonymous questionnaire study from psychology classes at a southeastern university. The students were given extra credit for their participation. During one of their class sessions, the students completed a questionnaire that was comprised of demographic questions, the Breakup Distress Scale and scales or questions tapping negative emotions (depression, anxiety and anger), positive emotions (forgiveness, posttraumatic growth), negative behaviors (poor academic performance, disorganized behavior, excessive alcohol consumption), positive behaviors (reading, playing music, watching TV, internet use) and personality traits (optimism, extraversion, spirituality).

Measures

Breakup Distress Scale (BDS). The BDS was adapted from the Inventory of Complicated Grief (ICG) (Prigerson, Maciejewski, Reynolds, Bierhals, Newsom, Fasiczka, *et al*, 1995). The internal consistency of the 19-item ICG was high (Cronbach's $\alpha=0.94$).

The Breakup Distress Scale was adapted from the ICG by referring to the breakup person instead of the deceased person, and only 16 of the 19 ICG items that were appropriate to breakups were included. Also, a different rating scale was used, i.e. a Likert scale

with responses ranging from 1 (not at all) to 4 (very much so) including: 1) I think about this person so much that it's hard for me to do things I normally do; 2) Memories of the person upset me; 3) I feel I cannot accept the breakup I've experienced; 4) I feel drawn to places and things associated with the person; 5) I can't help feeling angry about the breakup; 6) I feel distressed over what happened; 7) I feel stunned or dazed over what happened; 8) Ever since the breakup it is hard for me to trust people; 9) Ever since the breakup I feel like I have lost the ability to care about other people or I feel distant from people I care about; 10) I have been experiencing pain since the breakup; 11) I go out of my way to avoid reminders of the person; 12) I feel that life is empty without the person; 13) I feel bitter over this breakup; 14) I feel envious of others who have not experienced a breakup like this; 15) I feel lonely a great deal of the time since the breakup; and 16) I feel like crying when I think about the person.

Negative Emotions

The *Center for Epidemiology Studies-Depression Scale (CES-D)* (Radloff, 1977) is a 20-item scale that assesses the frequency of depression symptoms within the last week. With scores ranging from 0 to 60, a cut-off score of 16 is used for classifying depression. With only a 6% false positive and 36% false negative rate (Myers & Weissman, 1980), this scale has been shown to be reliable and valid for diverse demographic groups.

The *State Anxiety Inventory (STAI)* (Spielberger, Gorsuch & Lushene, 1970) is comprised of 20 items and assesses the intensity of anxiety symptoms. The scores range from 20 to 90, and the cutoff for high anxiety is 48. Research has demonstrated that the STAI has adequate concurrent validity and internal consistency.

The *State Anger Inventory (STAXI)* (Spielberger, 1988). The STAXI includes 22 items on the experience, expression, and control of anger. Four-point ratings range from "not

at all" (1) to "very much so" (4). Examples of the items are "I am furious," "I feel like screaming," "I am quick tempered"; "When I get frustrated, I feel like hitting someone," "When angry or furious, I control my temper" "I try to simmer down."

Positive Emotions

Tendency to Forgive Scale (TTF). Forgiveness was measured via an adaptation of the Tendency to Forgive Scale (Brown, 2003) including the following items: 1) I tend to get over it quickly when someone hurts my feelings; 2) If someone wrongs me, I often think about it a lot afterward; 3) I have a tendency to harbor grudges; and 4) When people wrong me, my approach is just to forgive and forget. The TTF has demonstrated adequate internal consistency as measured by coefficient alpha ($\alpha = .82$) as well as test-retest reliability (8-week test-retest $r = .71$; Brown, 2003).

Posttraumatic Growth Inventory (PTGI) (Tedeschi & Calhoun, 1996). The PTGI is a 22-item scale that assesses growth through five subscales: Relating to Others (e.g., "I have a greater sense of closeness with others"), New Possibilities (e.g., "I established a new path for my life"), Personal Strength (e.g., "I have a greater feeling of self-reliance"), Spiritual Change (e.g., "I have a better understanding of spiritual matters"), and Appreciation for Life (e.g., "I can better appreciate each day"). The items are rated on a 4-point Likert scale (e.g., 1 = not at all, 4 = very much). A coefficient alpha of .90 and a test-retest reliability coefficient of .71 were obtained for total-PTGI scores (Tedeschi & Calhoun, 1996).

Negative Behaviors/Activities

The negative behaviors/activities included poor academic performance, disorganized behaviors and excessive alcohol use and were rated on Likert scales.

Poor Academic Performance was assessed by the following questions: 1) "Has the breakup affected your ability to concentrate

and learn new material in class?"; 2) "Has the breakup affected your ability to perform homework?"; and 3) "Has the breakup affected your test scores or grades?". These were rated on 4 point Likert scales and then averaged across the 3 items.

Disorganized Behaviors was assessed by the item, "I would rate my behavior as disorganized." It was rated on a Likert scale ranging from 1 (not at all) to 4 (very).

Excessive Alcohol Use was assessed by the number of drinks per day, and the ratings ranged from none to greater than 4 on a 1 to 4 Likert scale.

Positive Behaviors/Activities

Behaviors/activities that were thought to be distracting and potentially therapeutic were considered positive including reading, playing music, watching TV and using the internet. All questions were measured by responses that ranged from 1 (0-30 minutes) to 4 (>3 hours). Reading was assessed by the statement "I read on average per day." Playing music was assessed by "I play music on average per day." Watching TV was assessed by "I watch TV on average per day" and Internet use was assessed by "I use the internet on average per day."

Personality Traits

Optimism was assessed by the question "I would rate my optimism as" with responses ranging from 1 (low) to 4 (very high). Extraversion was assessed by the question "I would rate my extraversion as", with responses ranging from 1 (low) to 4 (very high). Finally, spirituality was assessed by "I believe" with responses that included: 1 (no religion), 2 (western religion), and 3 (eastern religion).

Results

ANOVAs were conducted on each of the variables to determine differences between the group scoring high versus the group scoring

low on the Breakup Distress Scale based on a median split. As can be seen in table 1, the following group effects were significant: 1) the high distress group had higher scores than the low distress group on all 3 negative mood scales including the depression (CES-D), anxiety (STAI) and anger (STAXI) scales; 2) the high distress group had a lesser tendency to forgive than the low distress group based on their higher (less optimal) scores; 3) the high vs. low distress group reported inferior academic performance, more disorganized behavior and excessive alcohol use; and 4) the groups did not differ on posttraumatic growth scores, positive activities (reading, playing music, watching TV or internet use) or personality traits (optimism, extraversion or spirituality).

Discussion

That the high distress group had higher depression, anxiety and anger scale scores is not surprising given previous literature showing high rates of depression (Monroe *et al*, 1999), anxiety (Davis *et al*, 2003) and anger (Sbarra, 2006) following romantic breakups. These data are also consistent with our previous findings suggesting that another sample of university students who were most distressed following breakups had higher depression, anxiety and anger scores (Field, Diego, Pelaez, Deeds, & Delgado, 2009a). Thus, it would appear that students who experience greater breakup distress appear also to experience more depression, anxiety and anger. It is not clear whether the greater distress leads to these negative emotions/moods or whether a predisposition for these mood states results in greater breakup distress. The co-morbidity of these mood states is also not surprising given previous data on these states co-occurring (Field, Diego, Hernandez-Reif, Schanberg, Kuhn, Yando, & Bendell, 2003). In at least one study, sadness decreased the probability of recovery from anger (Sbarra, 2006).

Table 1. Means for self-report measures (standard deviations in parentheses)

	Low Distress	High Distress	F	p
Negative Emotions/Moods				
Depression (CES-D)*	10.05 (8.00)	18.71(12.56)	31.92	.000
Anxiety (STAI)*	16.27 (8.85)	23.52(11.70)	22.89	.000
Anger (STAXI)*	8.44 (5.54)	10.84 (6.79)	6.97	.009
Positive Emotions				
Tendency to Forgive*	2.16 (1.47)	2.77 (1.69)	6.99	.009
Posttraumatic Growth	41.54(17.46)	40.62(13.13)	NS	
Negative Activities				
Poor Academic Performance	2.20 (1.18)	1.42 (1.39)	17.07	.000
Disorganized Behavior*	1.44 (.63)	1.64 (.87)	4.42	.04
Excessive Alcohol Use*	1.24 (.52)	1.43 (.76)	3.81	.05
Positive Activities				
Reading	1.94 (1.01)	1.86 (.97)	NS	
Playing music	2.48 (1.21)	2.37 (1.18)	NS	
Watching TV	2.38 (1.00)	2.36 (1.09)	NS	
Internet use	3.21 (.98)	3.17 (.99)	NS	
Personality Traits				
Optimism	2.91 (.88)	2.72 (.87)	NS	
Extraversion	2.40 (.86)	2.37 (.82)	NS	
Spirituality	2.07 (.46)	2.06 (.54)	NS	

*Lower score is optimal

It is also not surprising that forgiveness or the tendency to forgive was lower in the high distress group because of their high levels of depression, anxiety and anger. As was already noted in one study, forgiveness was negatively correlated with depression, anxiety and anger (Thompson *et al*, 2005). And forgiveness was, in turn, associated with less alcohol use in that study. In the present study excessive alcohol use was reported by the high distress group.

In addition to the excessive alcohol use, the high distress group also experienced more disorganized behavior and inferior academic performance. Although no literature could be found on disorganized behavior following romantic breakups, that behavior might be expected given its association with depression. Poor academic performance is one of the most frequent complaints at campus mental

health services (Oliveria *et al*, 2008), and in our earlier study breakup distress explained a significant amount of the variance on academic performance (Field *et al*, 2009b).

Surprisingly, posttraumatic growth did not differ across groups. Based on their mean scores, the students generally only concurred "somewhat" with posttraumatic growth including acceptance of the way things are and the development of new interests. The inconsistency of these findings with those reported earlier on college students may relate to our sample being a recent romantic breakup sample and their sample being "individuals who experienced a severe trauma within the last year" (Tedeschi & Calhoun, 1996). Posttraumatic growth may occur more often following severe trauma and/or when more time has transpired since the traumatic event.

The personality traits that have been correlated with posttraumatic growth in previous literature including extraversion (Tedeschi & Calhoun, 1996) and optimism (Helgeson *et al*, 2006) also did not differentiate the high and low distress groups in our sample perhaps for the same reasons, i.e. less severe trauma. Personality traits might be more robust and unalterable following less severe trauma. Similarly, positive activities remained the same for both high and low distress groups, perhaps because they are robust habits that persist irrespective of breakup distress (an hour per day on average for reading, playing music and watching TV and 2 hours for internet use). These activities apparently are not compensating for the negative emotions and behaviors of the high distress students.

Thus, it would appear that negative emotions and behaviors accompanied high breakup distress in this sample of university students. Fortunately, the positive activities measured did not appear to be affected. Because positive activities did not differ between the groups, they might not be expected to compensate for the negative emotions and behaviors accompanying breakup distress. Intervention efforts might need to focus on something other than positive activities to reduce the negative emotions and behaviors following breakup distress.

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