ABSTRACT: Seventy, predominately inner-city, minority women who had been sexually assaulted in the previous 9 to 24 months filled out a questionnaire that included measures of change in well-being and change in the role of spirituality in their lives since the assault. Sixty percent of the victims indicated an increased role for spirituality. Changes in spirituality correlated .54 with changes in well-being. The victims with increased spirituality appeared to have restored well-being, whereas those without increased spirituality continued to have significantly depressed well-being. Although this study cannot provide convincing evidence for the causal mechanisms for these results, a model of compensating reciprocal causation between spirituality and well-being following traumatic events merits further study because it explains both the relatively high correlation in this study and the low correlations in cross-sectional studies of well-being and spirituality. With this model, a traumatic event causes reduced well-being, which causes increased spirituality, which then helps restore well-being to pre-event levels.

INTRODUCTION

Available data indicate that religious faith can enhance a person's ability to cope with negative life events and that negative life events can cause enhanced religious faith. Although both of these aspects of faith and negative life events have been noted in theoretical papers (Pargament, 1990; McIntosh, 1995), empirical research on religious change and religious coping following traumatic events appear to be on separate tracks. The published studies we found that investigated religious change have not reported whether this change was associated with
recovery, and reciprocally, the studies that investigated religious coping have not reported if effective coping was associated with religious change.

The bulk of the research to date has been on the role of religion in coping with a crisis or other negative life event (reviewed in Hood et al. 1996: 377-401). This research has investigated the relationships among different coping mechanisms and different types of negative events, and suggests that religion may be especially important for dealing with death or other devastating, uncontrollable events. In particular, the value of religious or spiritual beliefs for providing or reframing meaning for traumatic events is often discussed as a significant factor in coping with the events (Baumeister, 1991: pp. 248-253; Idler, 1995; McIntosh, Silver, and Wortman, 1993; Wuthnow, Christiano, and Kuzlowski, 1980).

The evidence that negative life events can enhance religious faith is also growing. Despair or discontent has long been thought to be a precipitating factor for religious experiences and conversions (Hood et al. 1996). A 1988 national survey that asked how often a death in the family strengthened the respondents' religious faith found that 66% of the 1481 respondents answered "often" or "sometimes" (Davis and Smith, 1995).

Studies of specific traumatic events or losses have found that they induce increased religious or spiritual faith in some people. Increased religious faith was reported by 39% of cancer patients in one study (Reed, 1987), 17% in another (O'Connor, Wicker, and Germino, 1990) and 15% in another (Curbow et al. 1993). Similarly, 15% of people who lost a spouse or child (Lehman et al. 1993) reported that these events caused increased religious faith. For college students who lost a parent or close relative, 30% in one study (Schwartzberg and Janoff-Bulman, 1991) and 25% in another (Edmonds and Hooker, 1992) reported increased faith resulting from the experience. Similarly, almost 50% of severely ill adolescents aged 11 to 19 had increased spiritual concerns (Silber and Reilly, 1985). The higher rates (39%, 25%, and almost 50%) are from studies that asked questions specifically about religion, and lower rates from studies that asked general open-ended questions about the effects of the traumatic experience. There also may be a trend for younger individuals to report greater changes, but this effect is confounded by the questionnaire methods. The possible role that these changes in religious or spiritual faith have for adjustment and recovery has not been investigated.

Traumatic events also can cause reduced religious faith, although the proportion of people with reduced faith is typically smaller than those reporting increased faith. Reduced religious faith was reported by 5% of the people who lost a spouse or child (Lehman et al. 1993) and 5% of cancer patients (Reed, 1987). For college students who lost a parent or close relative, 20% in one study (Schwartzberg and Janoff-Bulman, 1991) and 23% in the other study (Edmonds and Hooker, 1992) reported reduced religious faith resulting from the experience. The possibility that traumatic events can cause reduced faith and/or spiritual doubts was noted in McIntosh's theoretical paper (1995) and is widely recognized in the literature on hospital chaplain services (e.g., Berg et al. 1995; Fitchett, 1993; Salisbury, Ciulla, and McSherry, 1989). However, the factors that lead to increased or decreased faith are not understood and have rarely been investigated.
The present study was motivated by the possibility that the nature of the traumatic event may be an important factor in whether and how the event affects people’s faith. The research to date has focused on unexpected illness and accidents. These events share a common characteristic of having nebulous causes that usually appear to involve an element of randomness, or perhaps fate. These events are fundamentally different from crime events that are deliberate acts of harm by another human being with generally more tangible causal sequences. Because illness and accidents are often considered to be "acts of God" and crime events are generally considered to be "acts of man," we wondered to what extent crime events would influence people’s spirituality. To our knowledge, there have been no studies of changes in spirituality for victims of traumatic crimes.

The present study was intended to provide information on two questions: (a) to what extent do victims of sexual assault report a changed role for spirituality in their lives after the assault, and (b) to what extent is this tendency related to change in subjective well-being or recovery. Intrinsic religiosity was also measured.

METHODS

Participants and Procedure

A convenience sample of 70 women who were victims of sexual assault filled out a questionnaire 9 to 24 months after the assault. The time since the assault was more than a year for over 60% of the cases. Participants had to be at least 18 years of age and assaulted by someone other than a domestic partner. The victims had participated previously in a questionnaire study of social support and were initially recruited from cases filed with the New York City Police Department or being prosecuted by the Kings County District Attorney's Office, or from a victim services program, a hospital rape crisis center, or a YMCA rape crisis center in New York City. The research staff contacting the victims were women with degrees in psychology or social work and training in working with victims of violent crime. The questionnaire also covered other topics that are being reported separately.

The average age of the participants was 30, and ranged from 19 to 46. The victims were 66% African-American, 16% Hispanic, 12% white, and 6% other racial groups. Educational attainment by the victims were: 13% less than a 9th grade education, 39% some high school education, and 48% at least some college or technical school training. Over 70% of the victims had a family income of under $20,000 per year. The religions of the victims were: 36% Baptist, 20% Catholic, 6% Jewish, 6% Pentecostal, 9% Protestant, 12% other, and 12% none.

Measures

Changes in well-being and changes in spirituality were evaluated by asking participants "how much each of these statements describe your experience since the crime." The five response options for each statement ranged from "strongly increased," to "strongly decreased." For analysis, the responses were coded from -2 to 2 with zero being "no change."
Well-being was measured as the mean of seven items\(^1\) that had an alpha reliability of .89. Several of these items were adapted from the well-being measures used in the Medical Outcomes Study (Stewart and Ware, 1992).

Spirituality was measured as the mean of five items\(^2\) that had an alpha reliability of .85.

Intrinsic religiosity was measured as the mean of six items\(^3\) taken from Genia (1993) and had an alpha reliability of .85. The five response options ranged from "strongly agree" to "strongly disagree". This scale measured the level of intrinsic religiosity at the time the questionnaire was administered and was not a measure of change. One reverse-scored item was not used when reliability analysis showed that it was not effective in the present population.

Severity of the assault was indicated by asking the victim (a) if she felt her life was in danger at the time of the assault, and (b) if she suffered physical injuries during the assault. The response options were “yes” or “no” for each question.

RESULTS

The assault victims indicated a significantly increased role of spirituality \((p<.0001)\). As shown in Table 1, the scores for 60% of the victims denoted increases, 20% denoted decreases, and 20% indicated no change. Increased spirituality were indicated by 71% (32/45) of African Americans, 54% (6/11) of Hispanics, and 38% (3/8) of whites.

Change in spirituality correlated \(r = .54\) \((p < .0001)\) with change in well-being. The correlation remained significant \((r = .46, p = .001)\) when the data for the 45 African Americans were analyzed separately. The sample sizes for Hispanics \((N = 11)\) and whites \((N = 8)\) were too small for separate analyses. When age, education, and income were entered as control variables, the partial correlation between change in well-being and spirituality remained at .54 \((p < .0001)\). Neither change in well-being nor change in spirituality was correlated with the length of time since the assault \((r < .1)\).

The 42 victims who indicated increased spirituality since the assault had slightly, but not significantly, increased well-being \((mean = .19, sd = .85, where a mean of zero indicates no change in well-being)\). On the other hand, the 28 victims who reported no change or decreased spirituality indicated significantly reduced well-being since the assault \((mean = -.52, sd = .72, t = -3.81, p = .0007)\).

For the “severity of assault” questions, 88% \((61/69)\) of the victims felt their life was in danger at the time of the assault and 58% \((40/69)\) suffered physical injuries during the assault. Neither indicator was correlated with either change in spirituality or change in well-being \((rs \leq .15)\). Unfortunately, the correlation between change in spirituality and feeling that their life was in danger is of little value because almost all of the victims felt their life was in danger.
As expected, intrinsic religiosity at the time of interview was strongly correlated with change in spirituality ($r = .67, p < .0001$). Intrinsic religiosity was also suggestively correlated with change in well-being ($r = .28, p < .02$).

**TABLE 1.**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>N</th>
<th>Percent Increase</th>
<th>Percent Decrease</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spirituality</td>
<td>.53</td>
<td>.78</td>
<td>70</td>
<td>60%</td>
<td>20%</td>
<td>5.71</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Well-Being</td>
<td>-.09</td>
<td>.87</td>
<td>70</td>
<td>47%</td>
<td>44%</td>
<td>-.91</td>
<td>.37</td>
</tr>
</tbody>
</table>

*The range of possible values for the scales is -2 to +2, with zero being no change. Positive and negative numbers indicate increases and decreases, respectively. Percent increase and decrease are the percent of victims who had scores above 0 and below 0. The t values are single-mean t-tests of the hypothesis that the mean is 0.*

**DISCUSSION AND CONCLUSIONS**

Sixty percent of the victims in this study indicated an increased role for spirituality in their lives 9 to 24 months after a sexual assault. This result verifies that traumatic crime events as well as accidents and illnesses can affect a person's spirituality. The finding that decreased spirituality was reported by a smaller percentage of victims than reported increased spirituality also is consistent with previous studies of other traumatic events.

Characteristics of both the study methodology and sample population may explain why larger changes in spirituality were observed in this study than have been found in many previous studies of traumatic events. We used a scale of several items to measure changes in spirituality. This methodology would be expected to provide a more sensitive measure than using one direct question, which in turn would be expected to be more sensitive than using an open ended question that does not specifically mention spirituality. The overall picture from the studies noted in the introduction is generally consistent with this expectation. In addition, the sample in this study was predominately African Americans and other minorities. It is well established that religion tends to be particularly salient in the lives of minorities, especially African Americans (Blaine and Crocker, 1995; Gallup and Castelli, 1989: pp. 37-38; Ferraro and Koch, 1994; Levin, Taylor, and Chatters, 1994). Although ethnic factors obviously may have contributed to the changes in spirituality found in this sample, the small sample sizes of non-African Americans prevents convincing comparison of differences between groups.
The correlation of .54 between changes in spirituality and well-being suggests that religious change merits consideration in studies of religion and coping. The victims with increased spirituality appeared to have restored well-being, whereas those without increased spirituality continued to have depressed well-being. Of course, this descriptive study cannot provide convincing evidence for why these measures are associated. Numerous causal mechanisms can be postulated. For example, increased spirituality may cause increased well-being, or increased well-being could cause a person to feel more spiritual.

However, a model of compensating reciprocal causation, in particular, merits discussion and further study because it explains both the high correlation found in this study and the much lower correlations found in cross-sectional studies of spirituality and well-being. Under this model an event causes a decrease in well-being (i.e., suffering or distress), which causes an increase in spirituality, which in turn helps restore well-being to pre-event levels. For example, Baumeister (1991) concludes that "suffering stimulates the needs for meaning" because "people analyze and question their sufferings far more than their joys" (232). This search for meaning leads to increased religious meaning for some people, which helps to restore their well-being (Baumeister, 1991: 232-268). This compensating bidirectional causation would lead to misleadingly low correlations between variables in cross-sectional studies.

A review of 28 studies reporting 56 correlations between religion and well-being found low, positive correlations typically in the range of .15 to .20 (Witter et al. 1985). These correlations were between level of well-being and religion in a population rather than changes following a particular event, and are much lower than the .54 correlation in the present study. This type of difference between change and level measures would be expected under the compensating reciprocal causation model. If this model is correct, path or structural equation models based on cross-sectional data would not accurately identify the role of spirituality. Prospective studies would be the optimum method to evaluate the alternative models. Unfortunately, obtaining before-event data for an unpredictable, rare event requires a major research effort that is normally not feasible.

This study suffers from the methodological limitations that are pervasive in the investigation of unpredictable, rare, real-life traumatic events. Ethical considerations preclude randomized experiments that would provide the most compelling evidence. Before-event measures that would allow optimal measurement of change and identification of the factors associated with change are not reasonably possible. And, we have no control or comparison group to evaluate how much changes in well-being or spirituality may have occurred in this population due to factors other than the assault. These methodological limitations must be kept in mind in interpreting this study and other studies of real-life traumatic events. Despite the limitations of this area of research, future studies can take several steps to improve and extend the present methodology. Well-being and spirituality could be investigated longitudinally after the event to see if the time course of changes is consistent with the compensating reciprocal causation model. Also, a comparison group matched on variables such as gender, age, race,
socioeconomic status, and religious affiliation could help distinguish between effects of the traumatic event and changes in the larger population.

In a related point, our measure of change in well-being may reduce the problems resulting from the fact that well-being has both state and trait components. Well-being consists of stable dispositions or personality traits combined with short-term states resulting from transient events or environmental conditions (Chamberlain and Zika, 1992; Diener, 1984; Feist et al. 1995; Heady, Veenhoven, and Wearing, 1991; Pavot and Diener, 1993; Yardley and Rice, 1991). Available data generally support the picture that good or bad events cause corresponding fluctuations in well-being that subsequently tend to return to a relatively stable baseline level, but major losses can cause long-term decreases in well-being (Baumeister, 1991: 226-229; Chamberlain and Zika, 1992; Diener, 1984; Lehman et al. 1993). The present data are consistent with this view.

Several researchers have noted the difficulty in identifying causal mechanisms when well-being is measured as the combined total of both the trait and state components (Feist et al. 1995; Heady, Veenhoven, and Wearing, 1991; Yardley and Rice, 1991). The stable trait components of well-being presumably are more likely to influence other factors, including reactions to traumatic events, whereas the fluctuating state aspects of well-being are more likely to reflect influences by other factors.

The strategy of measuring self-reported changes in well-being may be useful in separating the effects of an event from the dispositions of the person. However, the degree to which these measures reflect the actual change that would be obtained by before and after measures remains to be evaluated. Here too, prospective research is needed for more compelling evidence.
NOTES
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1. The items on the well-being scale were:
   My overall satisfaction with life has ...
   The amount of time I spend feeling happy has ...
   The amount of time I spend feeling calm and peaceful has ...
   The amount of time I spend feeling cheerful and light-hearted has ...
   The amount of time I spend feeling nervous has ...
   The amount of time I spend feeling depressed or blue has ..
   My tendency to feel guilt or shame has ...

(The last three items were reverse scored.)

2. The items on the spirituality scale were:
   My belief that there is a divine plan for the world has ...
   My search for spiritual meaning has ...
   My desire to understand events in spiritual terms has ...
   My belief that it is important to follow a spiritual path has ...
   My tendency to base my actions on guidance from a higher power has ...

3. The items on the intrinsic religiosity scale were:
   I try hard to carry my religion over into all other dealings in life.
   Quite often I have been keenly aware of the presence of God or of the Divine Being.
   My religious beliefs are what really lie behind by whole approach to life.
   Religion is especially important to me because it answers many questions about the meaning of life.
   I read literature on my faith.
   It is important to me to spend periods of time in private religious thought and mediation.
REFERENCES


