

Changes in Marital and Partner Relationships in the Aftermath of Hurricane Katrina: An Analysis With Low-Income Women

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Abstract

Little is known about the impact of natural disasters on marital and partner relationships. In this study, the authors aimed to fill this gap by investigating the changes in such relationships in a sample of 40 low-income, mostly African American women who survived Hurricane Katrina. Through in-depth interviews, participants described how the hurricane affected their intimate relationships. The authors found that, although many participants reported negative changes in their relationships, others reported that their relationships grew stronger, often despite initial strain. As a framework for understanding the processes underlying participants' negative and positive outcomes, the authors drew on the family stress model. Consistent with the model, participants reported that the hurricane led to external stressors, including unemployment and prolonged separations, and that these stressors, in turn, undermined both individual functioning and relational processes (e.g., communication and support). Conversely, participants reporting positive changes experienced new employment opportunities, a greater sense of perspective, and high levels of effective communication and support in their relationships. Based on the findings, policies that reduce the economic strain of low-income families in the aftermath of disasters and empirically supported, culturally sensitive, clinical interventions for individuals and couples are recommended.

Keywords

natural disasters, stress, coping behavior, relationship quality, resilience (psychological), socioeconomic status

Researchers have consistently demonstrated that exposure to natural disasters has a negative impact on individual psychological functioning, including increases in posttraumatic stress, depression, and anxiety symptoms (e.g., Brewin, Andrews, & Valentine, 2000; Gibbs, 1989; Ginexi, Weihs, Simmens, & Hoyt, 2000), and that low-income individuals, women, and African Americans are at increased risk for postdisaster adjustment problems (e.g., Gibbs, 1989; Morrow, 1997; Rubonis & Bickman, 1991). More recently, researchers have broadened their focus to examine the effects of disasters on families—for example, by investigating the relationships among parents' postdisaster psychological distress, parenting practices, and children's functioning (e.g., Scaramella, Sohr-Preston, Callahan, & Mirabile, 2008; Spell et al., 2008). Little is known, however, about how disasters affect marital and partner relationships in families with dependent children, particularly among families vulnerable to postdisaster adversity. To shed light on this issue, we investigated the impact of Hurricane Katrina on the marital and partner relationships of 40 low-income women, the majority of whom identified as African American ($n = 35, 87.5\%$), through qualitative analyses of in-depth interviews.

Hurricane Katrina and Class, Race, and Gender

On August 29, 2005, Hurricane Katrina made landfall in the Gulf Coast region of the United States, leading to nearly 2,000 deaths and the displacement of over 650,000 people (Knabb, Rhome, & Brown, 2006; U.S. Department of Commerce, 2006). Low-income and African American communities were at disproportionate risk of damage and destruction due to the storm and its aftermath (Logan, 2006), in part because of their increased likelihood to live in housing unable to withstand disaster exposure (Ruscher, 2006; Weems et al., 2007) and in proximity to levees in need of repair (Park & Miller, 2006). Furthermore, existing evacuation policies did not take into account the increased needs

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of low-income citizens in the days leading up to the storm, heightening their risk for exposure (Lavelle & Feagin, 2006; Park & Miller, 2006) and postdisaster psychological distress (e.g., Brewin et al., 2000). Their disproportionate exposure to additional stressors in the immediate aftermath of the storm, including higher rates of residence in shelters and unemployment (Brodie, Weltzien, Altman, Blendon, & Benson, 2006; Elliot & Pais, 2006), may have also heightened low-income African Americans' mental health risks.

The impact of natural disasters is not gender-neutral, and factors such as gender inequality, lack of resources, and disrupted social support networks put women at increased risk for adversity, including gender-based violence (e.g., Fothergill, 1996; Thornton & Voigt, 2007). Austin (2008) has suggested that the increased risk of sexual violence after Hurricane Katrina was due, in part, to the postdisaster economic upheaval and its impact on masculinity. With the destruction of institutions that maintained male dominance, men were more likely to resort to hypermasculinity (including violence against women) to restore their power. In addition to the increased risk of violence exposure, in the 5 years since the hurricane, African American female survivors have faced disproportionate rates of homelessness, unemployment, and other financial barriers that put them at risk for psychological distress (Jones-DeWeever, 2008; Kaiser Family Foundation, 2010; Liu & Plyer, 2010).

Consistent with findings on the disproportionate impact of Hurricane Katrina on low-income individuals, women, and African Americans, researchers have detected elevated rates of psychological distress and disorder among these groups in comparison to their counterparts (e.g., Elliot & Pais, 2006; Rhodes et al., 2010). Yet, researchers focusing solely on the effects of disasters on individual functioning miss out on the broader effects of disasters, including their impact on relationships and families.

Family Processes in the Aftermath of Disasters

A burgeoning area of research has demonstrated that exposure to disasters, and the chaos and uncertainty that often characterize their aftermath, can negatively impact family functioning. For example, researchers have shown that mothers' parenting practices are often undermined by the conditions (e.g., substandard child care, separation from extended family members, loss of other sources of social support, financial stress, residential instability, and adjustment to new communities) that occur in the aftermath of natural disasters (Lowe, Chan, & Rhodes, 2011; Scaramella et al., 2008). In contrast, other researchers (e.g., Caruana, 2010) have found increased levels of family cohesion over the postdisaster recovery period. Although this body of research has shed light onto a range of postdisaster family processes, notably absent from the extant literature is information on the ways in which disasters might affect marital and partner relationships. This

oversight is significant, given consistent findings suggesting that declines in the quality of such relationships can jeopardize partners' psychological functioning and have both direct and indirect negative effects on children (Conger et al., 2002).

Despite a lack of research on the quality of marital and partner relationships in the aftermath of disasters, macro-level studies have shown that disasters are often followed by broad demographic changes. For example, Cohan and Cole (2002) found that counties in South Carolina deemed disaster areas during Hurricane Hugo had increases in marriage, divorce, and birth rates following the hurricane, relative to other counties in the state. In contrast, in the aftermath of both the September 11 and Oklahoma terrorist attacks in the United States, divorce rates in surrounding areas decreased (Cohan, Cole, & Schoen, 2009; Nakonezny, Reddick, & Rodgers, 2004). Reconciling these divergent findings, Cohan, Cole, and Schoen (2009) noted a major distinction between the contexts of targeted terrorist attacks and natural disasters: whereas the loss of human lives is more characteristic of the former, the chronic stressors of rebuilding entire communities are more characteristic of the latter. As such, terrorist attacks are more likely to produce acute stress that triggers increased striving for intimacy, whereas natural disasters are more likely to produce chronic stress that disrupts relationships. However, the personal and interpersonal processes behind postdisaster relationship changes have been left to speculation.

The Family Stress Model and Race, Class, and Gender

The family stress model (Conger et al., 1990) provides a useful theoretical model to understand the potential impact of natural disasters on the intimate relationships among "at-risk" groups, including low-income individuals, women, and African Americans. This model, which has been confirmed with low-income African American couples (e.g., Conger et al., 2002; Cutrona et al., 2003), posits that economic disadvantage (e.g., financial stress, economic pressure, job loss) leads to increased individual distress, which, in turn, contributes to marital conflict, distress, and dissatisfaction. Consistent with this model are findings that poverty, loss of income, and unemployment increase the risk of poor marital adjustment (Howe, Levy, & Caplan, 2004; Kinnunen & Feldt, 2004) and divorce (Attewell, 1999; Yeung & Hofferth, 1998).

Poverty rates and life stress are exceptionally high in households headed by African American women (Handler & Hasenfeld, 2007), rendering them particularly vulnerable to psychological distress (Belle & Doucet, 2003) and associated relational dysfunction (e.g., Bodenmann & Cina, 2005; Story & Bradbury, 2004). For example, stress can exacerbate negative personality traits (e.g., aggression, impulsivity) and increase reactivity, which can lead to negative marital interactions and decreased relationship quality (Langer, Lawrence, & Barry, 2008; Neff & Karney, 2009). Likewise,

individuals under stress have a decreased ability to offer support to their partners and, in turn, perceive less support from them (Davila, Bradbury, Cohan, & Tochluck, 1997; Neff & Karney, 2004). Given declines in mutual support processes, it is perhaps not surprising that stressors can interfere with a couple's ability to work jointly toward alleviating stress on the relationship and family, or *dyadic coping* (Bodenmann, Pihet, & Kayser, 2006). Stressors can have practical implications for relationships, contributing to sexual dysfunction and reductions in shared activities and positive interactions (Bodenmann, Ledermann, & Bradbury, 2007; Randall & Bodenmann, 2009). Additionally, couples under distress are at increased risk for communication difficulties (including more negative statements and demand-withdraw patterns) and for getting caught in negative communication cycles that are difficult to break (Eldridge, Sevier, Jones, Atkins, & Christensen, 2007; Fincham & Beach, 1999). Moreover, they are more likely to make negative attributions for their partners' behaviors, which further exacerbate communication difficulties (Pearce & Halford, 2008). In contrast, couples who are able to frame their relationship distress as external and temporary, engage in joint problem solving, express support, and accept their partners' faults and limitations maintain higher levels of relationship satisfaction (e.g., Bradbury & Fincham, 1990; Sevier, Eldridge, Jones, Doss, & Christensen, 2008; South, Doss, & Christensen, 2010).

Notably, researchers have documented gender differences in negative communication within relationships—for example, women are more likely to take a demanding role in relationship conflicts; men, a withdrawing role (Eldridge et al., 2007). Likewise, male unemployment has emerged as a particularly salient stressor affecting marital adjustment (Kinnunen & Feldt, 2004). This effect seems to be due, in part, to the greater likelihood of men to cope with job loss through alcohol and substance abuse (Rönkä, Kinnunen, & Pulkkinen, 2001), which undermines men's relationship and family functioning. Also of note is that male unemployment is associated with lower marriage rates (White & Rogers, 2000) and an increased likelihood of domestic violence (Cano & Vivian, 2003; Fox, Benson, DeMaris, & Van Wyk, 2002).

The Family Stress Model in the Context of Hurricane Katrina

Given the economic strain precipitated by Hurricane Katrina, particularly for already vulnerable low-income individuals, women, and African Americans, the family stress model would predict especially negative relationship outcomes for these at-risk groups. In particular, we would expect compromised individual functioning and relationship processes (including diminished support, communication, and dyadic coping) to tax relationships and undermine closeness.

In addition to the economic indices identified in the model, the economic disruption in the aftermath of the hurricane could have led to residential transitions or

prolonged separations, both of which could tax relationships. Hurricane Katrina had a devastating effect on local economies, necessitating moves for employment opportunities (Gault, Hartmann, Jones-DeWeever, Weschkul, & Williams, 2005). Residents whose homes or schools had been destroyed relocated to live with friends or relatives or to communities less vulnerable to disaster (Groen & Polivka, 2009; Rosen, 2010). Competing forces could have driven relocating partners to physically separate, at least temporarily, exacerbating survivors' psychological distress and leading to emotional distance and breakdowns in communication. Couples who relocated together faced other stressors—including income and property loss, diminished social support, cramped or substandard temporary housing, and child adjustment problems—all of which undermine psychological functioning and take a toll on relationships (e.g., Fullerton & Ursano, 2005; Uscher-Pines, 2009).

We also explored whether pressure to maintain traditional gender roles exacerbated the negative impact of external stressors on women and their partners' individual and relational functioning. Male partners' feelings of powerlessness could have affected relationships in the aftermath of Hurricane Katrina—for example, by leading to mental health problems, by undermining effective communication, and even by provoking instances of violence. Shifts in gender dynamics within families could also have led to role strain and marital dissatisfaction (Karney & Bradbury, 2005), particularly if women perceived their partners as unsupportive or if men felt that their roles had been appropriated (Brock & Lawrence, 2008).

Possibilities for Relationship Growth

Although the stress of Hurricane Katrina could have led to relationship strain for many, it is also possible that some couples experienced increased intimacy and growth in their relationships. Researchers have observed that many survivors of disasters and other traumatic events experience *posttraumatic growth* (PTG)—a facet of which includes improved interpersonal relationships (Tedeschi, Park, & Calhoun, 1998)—and that women are especially likely to report PTG (Vishnevsky, Cann, Calhoun, Tedeschi, & Demakis, 2010).

The family stress model provides a context for understanding what processes account for PTG in relationships. It could be that, in an inverse of the model, economic improvements yield improvements in individual and relational functioning, thereby promoting relationship growth. Despite the disruptive impact of Hurricane Katrina on local economies, the hurricane has, in some cases, led to new economic opportunities. Indeed, Graif (2010) found that survivors who relocated after Hurricane Katrina moved to communities with lower rates of poverty and unemployment than in their predisaster neighborhoods. Furthermore, recent reports have shown that, although African American residents continue to lag behind Whites in income and level of education, the New Orleans

area has been economically resilient since Hurricane Katrina (e.g., Kaiser Family Foundation, 2010; Liu & Plyer, 2010).

We therefore explored whether couples experiencing economic improvements also experienced improvements in individual and relational functioning. If this reasoning was supported, positive psychological functioning among women and their partners with lower-economic distress would lead them to successfully cope with stressors, communicate effectively, and ultimately emerge with stronger relationships (Bodenmann & Cina, 2005; O'Brien, DeLongis, Pomaki, Puterman, & Zwicker, 2009).

The Current Study

In the current study, we explored the impact of Hurricane Katrina and its aftermath on intimate relationships in a sample of 40 low-income women, the majority of whom were African American. Through open-ended interviews, we asked about the overall impact of Hurricane Katrina on their intimate relationships, the ways in which the economic changes after Hurricane Katrina affected their mental health and their partners', how changes in mental health impacted relationship processes (including support and communication), and the relationship between postdisaster relationship processes and relationship outcomes. Throughout our qualitative analyses and drawing on the family stress model (Conger et al., 1990), we explored changes in intimate relationships, including both relationship strain and relationship growth, in the aftermath of Hurricane Katrina.

Method

Procedure

Participants were initially part of a study of low-income parents in community colleges in New Orleans, examining the impact of scholarship funding on a variety of outcomes (see Richburg-Hayes et al., 2009). To be eligible for the initial study, students had to be between the ages of 18 and 34 years old; be parents of at least one dependent child under 19; have a household income under 200% of the federal poverty level; and have a high school diploma or equivalent. Although structural damage to the research sites made it impossible to complete the original study, the research team reorganized the study to investigate the participants' posthurricane adjustment.

In the current study, we included data from qualitative face-to-face interviews with a subsample of participants and conducted after Hurricane Katrina between April 2006 and March 2007. The overall purposes of the interviews were (a) to provide an in-depth understanding of the participants' experiences during the hurricane and its aftermath and (b) to ascertain participants' perspectives on how the hurricane led to changes in their functioning, relationships, and goals. The interview protocol covered a range of topics that were informed by previous research on postdisaster adversity and resilience. Examples of topics included experiences in the

immediate aftermath of the hurricane, postdisaster decisions about work and school, postdisaster physical and mental health, and changes in relationships with family members and friends since the hurricane. Although postdisaster changes in intimate relationships were not the sole focus of the interviews, three questions specifically addressed them: (a) "How is your relationship with your spouse/partner?" (b) "How has your spouse/partner been affected by the hurricane?" and (c) "Has the disruption in your life from Hurricane Katrina changed your relationship with your partner?" Additionally, participants often discussed their relationships when responding to other questions about postdisaster experiences and decisions.

A professor of sociology who lived and worked in New Orleans throughout Hurricane Katrina and two trained research assistants (both New Orleans residents and advanced doctoral students in sociology with previous coursework and research experience in qualitative methodology) served as interviewers for the study. These interviewers, all women, were selected based on their knowledge and familiarity with New Orleans. Interviewees were purposively sampled because they had lived in either Orleans or Jefferson Parish prior to the hurricane and had suffered damage to their predisaster home. The researchers formulated these criteria to target participants for whom the hurricane had a significant impact. In addition, because a major aim of the interviews was to understand how the experience of being displaced for a prolonged period differed from that of having returned to New Orleans, interviewees were purposively selected to include a comparable number of participants who had returned to New Orleans after the storm and participants who had relocated elsewhere (e.g., Baton Rouge, Houston, or Dallas).

Interviews were conducted in mutually convenient locations (e.g., the interviewee's home, the interviewer's office, a coffee shop) and typically lasted between one to two hours. Displaced interviewees were interviewed in the city in which they currently resided, unless they happened to be visiting New Orleans. Interviewers explained the study and answered participants' questions, and participants provided written informed consent. With the participants' permission, the interviews were audio-recorded. The interviewers compensated participants with \$50 gift cards. A total of 57 posthurricane interviews were completed, 40 of which included discussions of changes in their intimate relationships. Of the 17 interviewees excluded, 12 reported that they were single both prior to and after the hurricane, and 4 had established new relationships since the hurricane. An additional participant was excluded due to a malfunctioning audio-recorder.

Participants

At baseline, the 40 interviewees were, on average, 23.3 years old ($SD = 3.0$; range: 19–29) and had 1.9 children ($SD = 1.2$; range: 1–5). Thirty-five (87.5%) identified as African American, three as Hispanic, one as White, and one as

“other” race or ethnicity. Prior to the hurricane, 12 (30%) reported being married, and 16 (40%) reported living with a spouse or partner. After the hurricane, 15 (37.5%) reported being married, and 25 (62.5%) reported living with a spouse or partner. All of the participants reported living in an area affected by Hurricane Katrina, and 18 (45%) reported living in an area also affected by Hurricane Rita.

Qualitative Analyses

To better understand the participants’ experiences, we analyzed the qualitative interviews with an emphasis on issues pertinent to relationships. Prior to qualitative analysis, administrative staff transcribed the interviews, and transcript accuracy was established in two ways. First, the interviewers read the transcripts while listening to audio-recordings and made corrections as needed. Second, during Step 1 (described below), the coder (an advanced sociology doctoral student) went back and forth between interview transcripts and recordings to ensure accuracy.

Qualitative coding took place in four steps. In Step 1, the coder conducted descriptive coding in Atlas.ti qualitative software (Muh, 1997). A deductive approach was taken, with descriptive codes based on prior research on disasters and the investigators’ interests. Descriptive codes covered a broad range of general topics, such as “Education,” “Work,” and “Relationships.”

In Step 2, a psychology doctoral student and an undergraduate psychology research assistant reviewed the quotations under the descriptive codes related to intimate relationships (e.g., Partner, Relationships). Using an inductive approach, we read through the quotations with the broad research questions in mind, looking for common themes in the data. We met weekly to discuss themes evident in the descriptive codes, as well as relevant readings on natural disasters, intimate relationships, low-income individuals, gender, and race. Through this process, it became evident that the variables within the family stress model (specifically, *external stress*, *individual functioning*, *relationship processes*, and *relationship outcomes*) represented the interviewees’ experiences.

Because we used the family stress model as a framework for interpreting the data, we proceeded with a deductive approach for Steps 3 and 4. Step 3 consisted of an initial round of process coding in a case matrix (Miles & Huberman, 1994). The psychological doctoral student and undergraduate psychology research assistant began by dividing participants into two categories: (a) participants for whom the hurricane had a negative impact on their relationship (*negative changes*) and (b) participants for whom the hurricane had a positive impact on their relationship (*positive changes*). These categories were not mutually exclusive; that is, any participant who noted both positive and negative relationship changes was included in both categories within the case matrix. Quotations for each participant were then coded with process codes, which consisted of the main variables within

the family stress model, using the labels “external factors,” “individual functioning,” “relationship processes,” and “relationship outcomes.”

In Step 4, we created subcodes within each process code that allowed for further examination of the ways in which the hurricane affected relationships. For example, the process code of external factors was divided into two process subcodes: employment and living conditions. Each of these was further divided into additional subcodes; for example, living conditions was divided into separation, reunification, and cohabitation. We then returned to the data and coded for each process subcode for each participant.

Throughout Steps 3 and 4 of the coding process, we first coded independently and then met to discuss areas of disagreement until consensus was reached. We also discussed our biases and how they might impact our analysis; in doing so, we increased the credibility and confirmability of the results (Morrow, 2005). In addition, we reduced bias through counting procedures; that is, we tallied that number of participants included under each process code and subcode to provide a sense of the frequency with which each was applied (Miles & Huberman, 1994). This procedure diverted us from putting undue weight on participants whose accounts were particularly vivid, moving, or engaging or that fit our preexisting beliefs and biases (Kahneman & Tversky, 1972). The coding scheme and number of participants falling under each category, code, and subcode are listed in Table 1. In coding the data, we moved between coded quotations and raw data in order to establish a better sense of the contexts in which interviewees were living.

Results

As noted above, interviewees were divided into two overlapping categories based on their general assessments of whether the hurricane had negative or positive effects on their relationships. Below, we discuss how the variables coded within the family stress model (external factors, individual functioning, relationship processes, and relationship outcomes) were represented in the interviews.

Negative Changes

A majority of interviewees (29 of the 40) described the hurricane as having a disruptive impact on their relationships. When asked what brought about changes in their relationships, the women in this overarching category cited factors consistent with the variables in the family stress model and related research.

External factors. Interviewees in the negative impact group cited hurricane-related stressors as taking a toll on their relationship. These external stressors were captured with two subcodes: employment and living conditions.

In the aftermath of the hurricane, interviewees faced considerable stress regarding employment. They noted that it was

Table 1. Qualitative Coding Scheme and Participant Tallies

Category	
<i>Code</i>	<i>n</i>
Subcode	
Negative changes	29
<i>External factors</i>	16
Employment	13
Male unemployment	6
Partner feels emasculated	3
Participant feels frustrated	4
Partner's job prioritized	3
Living conditions	12
Physical separation	11
For work-related reasons	6
Led to relationship termination	3
Tension after reunification	2
New cohabitation	3
<i>Individual functioning</i>	9
Partner's psychological symptoms	3
Partner's alcohol/substance use	4
Partner abuse	2
Partner abandonment	2
<i>Relationship processes</i>	12
Communication difficulties	9
Not resulting in arguments	2
Decreased support from partner	3
Context of physical separation	3
<i>Relationship outcomes</i>	
Relationship ended	8
Relationship became stronger	8
Positive changes	18
<i>External factors</i>	3
Partner's employment improved	3
Texas	2
New Orleans	1
<i>Individual functioning</i>	
Employment benefited partner's mental health	3
Greater perspective	6
<i>Relationship processes</i>	8
Effective dyadic coping	6
Partner was a major source of support	2
<i>Relationship outcomes</i>	
Step toward commitment	3

difficult to find job opportunities for both their partners and themselves, whether they returned to New Orleans or relocated elsewhere. Male unemployment had a notable influence on six interviewees' relationship quality. Three of these women speculated that their partner's unemployment caused him to feel emasculated, which created tension in the relationship. In these cases, male partners were accustomed to being the provider for the household, and participants imagined that posthurricane unemployment left their partners feeling inadequate and angry, putting strain on the relationship. A 23-year-old African American woman living in Dallas described such strain in her relationship with her boyfriend:

We were kind of on and off because I think a lot of it has to do with the stress. I was the sole provider at the time because he had lost his job back in New Orleans. It wasn't a job that he could have transitioned with, so it was a lot of stress on him because I was doing everything financially, and just really being the breadwinner and holding everything together and, as a man, I guess that's really hard for them. So that kind of put a strain on our relationship.

Other women expressed frustration that their partner did not have a job, which contributed to the family's financial stress. In Houston, a 23-year-old African American woman offered an example of this frustration, when she was the sole breadwinner for the household:

So that put a lot of stress on me and I'm like, "You've got to get a job." And I'm pounding it in his head. And it actually got to the point to where I called the wedding off. I told him screw him, I don't need this. I could do better by my damn self.

In both examples, disruptions in relationships were directly attributed to male unemployment, implicating this as a significant posthurricane stressor.

Three women described resentment and tension when their male partner found employment, particularly if his job was prioritized over hers. A 28-year-old African American woman in Houston, for example, spoke about switching between being the one working in the family to the one staying home with the children and the distress that came from this change:

He went back to work and the shoe got flipped on the other foot. I saw he was really miserable staying home keeping the kids, as opposed to in New Orleans, I was on childcare assistance which paid a portion of the childcare and made it affordable. And he worked. Even if not, I had friends who were willing to keep the kids. Childcare wasn't an issue in New Orleans like it is down here in Houston. So I sacrificed and quit my job. Actually I was making more money than he did when he went back to work. But to put him where he's supposed to be, I stayed home and started keeping the kids, cleaning and cooking, and let him get out the house and work to be head of the household. That's something that I would never have done. For a long time I would always tell him, you took away my identity because I've been working all my life and you changed me. Even when we got married, I was still working. So I had to kind of sacrifice what I was used to doing to make him feel like head of household.

Evident in the above quotations is the pressure respondents felt to maintain traditional gender roles, with the male the breadwinner and the female the primary caretaker, in the aftermath of the hurricane. Additionally, their experiences illustrate the point that economic concerns often drove decisions about living situations.

Many interviewees lived separately from their partners for a prolonged period of time in the aftermath of the hurricane, and six of them reported that separations were for work-related reasons (e.g., partner had to return to New Orleans for his prehurricane job; partner could not find a job in the displaced community). Separations precipitated disruptions in support and communication and prevented participants from spending quality time with their partners. For example, a 27-year-old African American woman who had relocated to Houston explained:

We were separated for 9 months. My husband was in San Antonio. It became stressful because he would expect me to drive there on the weekends and it was such a long, hard ride. And it was actually a little stressful. It was starting a little tension in our relationship.

In three cases, participants explained that prolonged separation from their significant other led directly to their subsequent divorce, legal separation, or termination of the relationship. For example, one woman, a 28-year-old African American in Houston, said that the only reason that she and her boyfriend were not together was because he would not move to be with her because of his job and she did not want to move back to New Orleans.

When interviewees were reunited with their partners, it often became evident that prolonged separations had disrupted their relationship. Two women, for example, described their relationship as feeling different, foreign, and uncomfortable. These interviewees had become accustomed to living independently from their partners, and they described feeling like coping with the hurricane separately created emotional distance in their relationships. A 27-year-old African American woman in New Orleans said of her reunion with her fiancé after a period of separation:

When I was in Houston and he was down here, he was missing me. But since I got home, he changed a little. It's not the same as when we were in Houston. He was calling me 24/7. I don't know, like it's slipping.

Another woman, a 29-year-old African American mother of two living in a suburb of New Orleans, spoke of conflict with her boyfriend upon reunification, which ultimately led to their separation:

But after the hurricane, it went downhill from there. Because he was saying that I treat him bad because we [were] in Texas, and he left his family to be with me. And I felt like, "You left your family, but you have a family. I don't know where my family is," you know, at the time. "I lost everything. The place where I grew up at—that's gone. My high school—gone. My elementary school—gone. I can't [ever] bring my kids and show them where I come from." You know? And he didn't realize that that was something serious. You know,

that's a big thing. "You can always go back to your neighborhood, and see people that you know. I can't do that."

The woman and her boyfriend, who was the father of her newborn child, were dealing with their losses separately and, perhaps because of the prolonged separation, they did not see the hurricane and its aftermath as something they were enduring together.

Although the hurricane led to prolonged separations from partners for some women, other women found themselves cohabiting with their partners for the first time. This proved to be a major adjustment. In Houston, a 28-year-old African American woman explained:

It caused a strain on me for a short time because me and my [current] husband were constantly around each other. Constantly fussing about things. That was a little stressful there because we are not used to being around each other as much.

In sum, the hurricane brought about changes in participants' economic and residential lives which had a disruptive impact on their relationships. Often, but not in all cases, employment opportunities drove decisions about living arrangements, including those related to prolonged separations and cohabitation.

Individual functioning. The external stressors due to the hurricane also had indirect effects on participants' relationships through their perceived impact on their partners' psychosocial functioning. Several women commented that hurricane-related stressors caused their partners to behave in ways that put a strain on their relationships. Three participants specifically stated that their partners were exhibiting psychological symptoms—including irritability, depressed mood, and angry outbursts. In each of these cases, the interviewees attributed these symptoms to changes since the hurricane, including unemployment and residential instability. A 24-year-old White woman noted that, when she and her husband returned to New Orleans after living in Houston for a few months, her husband's negative mood amplified the salience of an additional stressor:

It was starting to go downhill when we first came back with the stress. He wasn't the same. He was real grouchy. I was real grouchy. Attitudes and tempers. Then, on top of [everything], we had a truck that got burned . . . I think if that would have happened on a regular day, he would have been mad that his truck burned, but he wouldn't have been as mad. He probably would have been like, "Stuff happens. That's what you have insurance for."

Other interviewees reported that their partners used alcohol or substances to manage the stress of the hurricane and that this had a damaging effect on their relationships. For example, in New Orleans, a 21-year-old African American mother of five young children noted concerns about her

partner's use of alcohol to manage stress and about its effect on their children:

He drank in the past, but now he's drunk. We have this thing, "Just don't do it around my kids." He respects that. But he's been under a lot of stress. I guess not being able to find a job. He did go a couple of places looking for a job and they tell him you don't have enough experience or we are not hiring. He's been drinking. Just stress.

Two participants noted that their partners' drinking led to abusive behavior, in one case verbal abuse and in another physical abuse. For example, in Baton Rouge, a 27-year-old African American woman talked about how, after her family relocated to San Antonio, her former husband began to physically abuse her. When asked why he began hitting her and throwing her down stairs, she answered, "I guess because of the drinking and the stress from the storm." She stated that he was never abusive before the storm, nor did he drink; it was "a whole 90 degree turn."

Another woman, a 28-year-old African American, discussed how financial strain after the hurricane drove her back to a previously abusive partner. Upon relocating to Dallas, she needed help to establish herself and her children in a new city. Despite considerable hesitation, she reunited with her previously abusive partner in hopes that this would assist her in the transition:

Plus he hit me. I don't love him like that. So in my mind, I didn't want to be back to him . . . Because of Katrina, I think that's the reason I got back to him . . . If we were at home and take Katrina out of the equation, I wouldn't have gotten back with him. We got back together because I was coming back to Dallas and he was like, "I'm going to stay out here with you. I'm going to help you out. We are going to do this thing together," and then I started pondering things. I didn't tell my family I was going back with him.

This respondent imagined that she would be able to move on from this relationship had the hurricane not occurred. However, due to the uncertainty and stress in its aftermath, she reunited with an abusive partner and risked alienating other sources of support in her life.

An additional problematic partner behavior that proved quite stressful for two women was abandonment. In these cases, women mourned the loss of their partner, and also dealt with even more extreme posthurricane financial and emotional stress. One respondent, a 27-year-old African American woman, described how, after relocating, her partner just disappeared and never came back. Another respondent, a 32-year-old African American mother of five children, described the difficulty of abandonment: "He left. And just you leaving, I'm new here, I'm not working, and I have the kids and I don't have anybody else, That was awful. But I made it." Eventually, this respondent's partner returned,

and she reported that they are working on their relationship as they rebuild their family's life in Texas.

Relationship processes. Some women reported that the stress of the hurricane led to disruptions in relationship processes including communication, dyadic coping, and support. For example, as quoted above, the 29-year African American woman in a New Orleans suburb noted how she and her partner had difficulty understanding each other's losses and that these misunderstandings led to resentment. Other women expressed that the stress of changes brought about by the hurricane led to breakdowns in communication, which resulted in arguments. A 27-year-old Hispanic woman illustrated this feeling when discussing her relationship with her boyfriend: "It's like all we do is argue most of the time now. Every day. If we miss a day, it shocks me. I tell him, 'Since I've come home, all we do is argue.'"

In some cases, communication difficulties were evident even when they did not escalate to arguments. For example, the 23-year-old African American woman in Dallas quoted previously described how such differences precipitated a temporary separation:

He liked to talk about a lot of things and I [would] kind of freeze up, or if I just get aggravated I don't want to talk. So it caused a strain on our relationship and we separated, took time apart, and now we're giving it a try again.

Disruptions in communication led to interviewees perceiving less support from their partners. In a similar vein, when separated, women reported missing their partner's support, which exacerbated the stress of the hurricane and its aftermath. In Houston, a 28-year-old African American mother of four whose husband was living in Mississippi reflected on what would help her achieve her future goals:

My husband coming home for one. Or me going out there so I can have that support. Because when I was in school he was like, "How did you do in your test?" And [I'd] be so excited when I [would come] home. He did support me. He was excited, too.

Relationship outcomes. In some cases in which the hurricane had a negative impact, interviewees reported that their relationships had dissolved due to the stress of the hurricane. A 24-year old woman in Houston, for example, directly linked the stress of the hurricane and its aftermath to the dissolution of her relationship:

He came out here, but it was just for a few months or so . . . No one would hire him, so he eventually had to go back to New Orleans. I don't know [if we will get back together] at this point. I mean, we haven't done anything, neither of us has cheated or anything like that, and he tries to visit often.

I guess it's just the stress on both of us that he can't be here [and] then the little problems in between.

Notably, other interviewees reported that, despite the initial stress of the hurricane on their relationships, they adjusted over time and their relationships had become stronger.

Positive Changes

A significant plurality of interviewees (18 of the 40), including eight who experienced initial relationship stress, reported that the hurricane brought about positive changes in their relationships. The processes within this overarching category were parallel to those above, and thus represent an inverse of the family stress model. That is, growth in relationships was attributed to positive changes in the aftermath of the hurricane—capacities indicative of high psychological functioning and high levels of communication, support, and dyadic coping.

External factors. Respondents cited concrete changes in the aftermath of the hurricane that decreased their economic distress and in turn benefited their relationships. Again, these reports centered upon their partners' employment opportunities. Two of these participants had relocated to Texas, where they felt that their partners had access to higher paying jobs. For example, a 24-year-old African American woman in Houston noted the positive impact of a higher paying job, both on her husband's individual functioning and on the family as a whole:

Out there in New Orleans, my husband [couldn't] really flourish . . . because it was hard for him to make it. He's doing the exact same thing he was doing in New Orleans, but now he's making twice as much money. So it makes him feel better about himself, and that helps out in the family, with him feeling that way. It helps with him as a father because he's able to encourage my son more than he was in New Orleans.

Economic improvements were not exclusive to interviewees who relocated. For example, in New Orleans, a 29-year-old African American woman discussed how the hurricane boosted her partner's motivation to get a job and provide for his family:

[Our relationship] got stronger because before the hurricane he wouldn't work. But once the hurricane came he was looking for a job. He was doing more for his family. When he came back he found a job and he's been on his job a whole year. And he loves it.

Again, it is evident that the interviewee perceived her partner's employment as having a positive impact not only on the family, but also on his well-being.

Individual functioning. In the cases of economic improvements cited above, the interviewees were attuned to the positive effects

on their husband's mental health. Other respondents noted that the hurricane brought about a greater sense of perspective, both in themselves and their partners, which is also indicative of greater psychological well-being. Changes in perspective were not attributed to economic improvements, but it is notable that only one respondent reported that the hurricane had led to external stress on her relationship (she and her husband were physically separated due to his job).

Interviewees who cited a greater sense of perspective reported that they appreciated or loved their partner even more than before the hurricane. A 28-year-old African American woman who had returned to New Orleans pointed out that the knowledge that she could have lost her partner in the hurricane made her much more loving toward him and willing to work harder to keep the relationship:

We both look at life as precious. Either one of us could have died any time on the road. From seeing so much you see and us being on the road, the way people were getting crazy, any one of us could have been killed. Just seeing we could have lost each other.

Other respondents expressed a feeling that the worst was over. They felt that if they could make it through the hurricane together, then they could make it through anything that came their way. These women felt that going through the ordeal with their partners brought them closer together and made their bond stronger. A 21-year-old African woman who had moved back to the Ninth Ward talked about her fiancé and about how he felt that they had what mattered most (those whom they loved) and that the things they lost in the hurricane were trivial:

He doesn't let nothing bother him. He the type of person [who says], "I had it all before and I can have it all now." He [doesn't] care. "God gave it to me one time, he can give it to me again." That's how he looks at it. He looks at it like, "That's material stuff."

Similarly, two women drew on the memory of the hurricane to remind them of how good things are now. Specifically, they said that now when they get into an argument with their partner, they think of how bad the hurricane was and the argument seems insignificant by comparison. A 31-year-old, married woman (who self-identified her race as other) explained:

But I would weigh that whether that's disagreement that's worth keeping or let go of it. But I always have the picture of those people at the Superdome in my head. Every time I get in a disagreement, I always say how lucky my family is and I should be thankful. So, that just takes the anger out of you sometimes.

Across all of these cases, respondents perceived that the hurricane had benefited their relationships. They realized that

they could have lost their partner, and they were able to compare their postdisaster stressors to the horrors they witnessed during the hurricane and its aftermath. Such perspective allowed them to appreciate their partners more and prevented conflict escalation.

Relationship processes. Some interviewees described how they and their partners were able to cope with the stress very well. Participants in these relationships tended to see themselves as working through the stress of the hurricane together with a shared sense of purpose. For example, in Houston, a 23-year-old African American mother described her experience with her husband in the aftermath of Hurricane Katrina:

So during that time we just put our hands and heads together and tried to do whatever we could do. I don't even know that there was a time that we had an argument during that time. I don't even think we had any disagreements. Cause it was just like, we are in a situation, in a place that we don't know where we at, this is what we need to do for the better of our family.

Evident in such reports was a sense of "we," that participants and their partners were effectively communicating to work through the stress together, as a unit.

In addition, two participants reported that their partners were a major source of support during the hurricane. A 22-year-old African American woman in New Orleans said that her fiancé helped her cope with painful emotions during the immediate aftermath of the hurricane:

Some days like you'll just sit there, and I was watching the news some days. I just watched shows and cried because that's where I could have been if I would have stayed. But, for the most part, I was all right. He kept me together.

Another respondent, a 21-year-old African American woman in New Orleans talked about how her husband supported her decision to go back to school and was willing to go out of his way to help her accomplish her goals: "[He was] very supportive. He tells me, 'If you want to go to school, I'll work two jobs.'" Notably, in contrast to the other respondents in this category, this participant saw her partner as supportive despite her overall assessment of the hurricane as having a strain on the relationship. This example demonstrates that positive and negative changes in relationships were not always mutually exclusive.

Relationship outcomes. Three women cited that posthurricane improvements in their relationship led them to take steps toward what they saw as greater commitment to their partner, such as marriage or cohabitation. For example, a 23-year-old African American woman who had returned to New Orleans said that the hurricane made her and her partner realize how in love they were, so much so that they decided to live together for the first time: "He thought about it after the

hurricane. He wanted to be around his baby more. It was more like, 'I love you. Let's try to get this together.'"

Discussion

The purpose of our study was to explore the impact of Hurricane Katrina on the marital and partner relationships of a sample of low-income, mostly African American women. Through qualitative analysis, we found that the processes leading to negative relationship outcomes were consistent with Conger et al.'s (1990) family stress model and related research. Relationship strain was attributed to negative hurricane-related changes, including disruptions in employment and prolonged separations. These processes, in turn, undermined both individual functioning and relationship processes and precipitated relationship termination for some of the participants.

Despite the predominance of reports of relationship strain, it is remarkable that nearly half the participants reported that their relationships had become *stronger* since the hurricane, often despite initial strain. The findings fit into the broader literature on resilience and PTG (e.g., Bonanno, 2004; Tedeschi et al., 1998), suggesting that natural disasters could have unexpected benefits not only for individual functioning but also for intimate relationships. Furthermore, they extend the research on the family stress model by demonstrating that the same variables and processes that undermine relationships can also account for instances of relationship growth. That is, just as economic strain (through its negative impact on individual and relational functioning) yields negative relationship outcomes, economic improvements can have positive effects on individual functioning and relationship processes, thereby promoting positive relationship outcomes. Our analyses therefore shed light onto a range of postdisaster relationship outcomes and have implications for policy, practice, and future research.

Practices to Mitigate Negative Changes

When asked about the external factors that led to relationship strain, participants pointed to stressors indicative of economic strain, including disruptions in employment. Their reports suggest the need for policies that address the structural roots of individual and relational dysfunction in the aftermath of disasters. Extending unemployment benefits, enforcing antidiscrimination laws, expanding access to diverse training and educational opportunities, providing child care, and increasing earnings and work supports could help promote postdisaster adjustment among low-income women and their families (Jones-DeWeever, 2008; Williams, Sorokina, Jones-DeWeever, & Hartmann, 2006). More generally, as outlined by Belle and Doucet (2003), policies and organizations that aim to relieve economic hardship of low-income families, reduce economic inequality, and redress sexual and racial discrimination should be bolstered

to increase the psychological well-being of low-income women and their partners. The women in our study also cited economic concerns as precipitating changes in living situations, including prolonged separations and new experiences of cohabitation, which put a strain on their relationships. The disruptive effects of such changes underscore the importance of policies and interventions that help survivors identify job opportunities as well as acquire affordable housing.

Clinical interventions should also address the impact of economic distress and residential changes on psychological functioning. The women in our study were attuned to the negative impact of disaster-related stress on their partners' functioning (including increases in mental health symptoms as well as alcohol and substance use) and to the relationship between stress and instances of abandonment and abuse. Their insights underscore the need for empirically supported treatments for psychological symptoms in the aftermath of disasters (Hobfoll et al., 2007). Clinicians should reach out to lower-income disaster survivors, taking into account structural barriers that often prevent low-income women from receiving services—including lack of insurance, child care, and transportation (Miranda & Green, 1999). Understandably, attitudinal barriers (e.g., concerns about being medicated and the fit of psychotherapy with religious beliefs and practices) also often reduce low-income women's willingness to access mental health services, calling for the need for outreach and psychoeducation groups (Miranda & Green, 1999). To this end, practitioners could reach out to low-income women through religious communities, housing developments, social service agencies, and community health centers to provide support and advocacy. Services providers should also be educated about the impact of poverty on mental health and should address survivors' fundamental needs and limited resources (e.g., employment, housing) alongside their psychological symptoms and relational stress (Belle & Doucet, 2003).

Within this context, clinical interventions should engage both partners in treatment because it was clear in our findings that postdisaster stressors and symptoms undermined the support, communication, and dyadic coping processes instrumental to relationship functioning. Physical separations in particular seemed to interfere with these processes, inhibiting participants from developing a sense of having endured the hurricane together and leading to feelings of disconnection upon reunification. As such, interventions that help partners manage long-distance relationships and subsequent reunification and work through disagreements during the postdisaster period are recommended. Providers should also be attuned to the nature of survivors' causal attributions for their relationship strain by helping them to normalize and externalize the stressors (Zinzow & Jackson, 2009). Given our finding that male unemployment was a common relationship strain, with women expressing stress and dissatisfaction stemming from their partners' inability

to fulfill the traditional breadwinning male gender role, postdisaster interventions should help couples examine the implications of traditional gender roles for their relationships, while simultaneously assisting disaster survivors in finding adequate education and employment.

Practices to Enhance Positive Changes

Despite the dominance of reports of the hurricane as a relationship stressor, in almost half the cases, participants felt that their relationships had grown stronger. This relationship growth fits with research on PTG, showing how survivors' lives, perspectives, and bonds can sometimes strengthen through trauma (Tedeschi et al., 1998). Additionally, as noted above, this pattern also extends the family stress model by showing that the same variables and processes explain both negative and positive relationship outcomes. That is, economic changes are connected to changes in individual functioning and relational processes, which have implications for relationship outcomes. In cases of relationship growth, economic improvements yielded improvements in individual functioning, which in turn led partners to have high levels of positive communication and support.

Notably, however, only three participants in the positive changes group alluded specifically to economic improvements, particularly improvements in their partners' employment. Although this finding provides additional evidence for interventions that address the economic concerns of low-income women, they also suggest that respondents and their partners might have had preexisting psychological resources that allowed for relationship growth. Participants' ability to put their struggles into perspective might reflect more general emotion regulation skills, which have been associated with psychological resilience (John & Gross, 2004). Postdisaster therapies (including cognitive behavioral therapy and stress management) could help build these skills—while also restoring a sense of calm, self-efficacy, and mastery (Hobfoll et al., 2007).

Participants who experienced relationship growth also reported that they and their partners were able to cope with the hurricane as a team with a shared sense of purpose and that they perceived their partners as being supportive of their goals and well-being. Clinical interventions should therefore encourage couples to devise and work toward mutual goals and to reflect upon feelings of closeness, intimacy, and appreciation that arose during the hurricane and its aftermath. Empirically supported couples therapies could be employed to work toward these objectives. For example, integrative behavioral couple therapy (Jacobson & Christensen, 1998), which combines training in communication and problem solving with promotion of greater partner acceptance and intimacy, has been found to increase long-term marital satisfaction (Christensen, Atkins, Baucom, & Yi, 2010). In addition, Structural Ecosystems Therapy (SET),

a home-based family intervention focusing on conflict management and boosting women's social support networks (Jackson-Gilfort, Mitrani, & Szapocznik, 2000), has been found to reduce women's psychological distress and increase family support (Szapocznik et al., 2004) and therefore could be useful in postdisaster contexts.

Limitations and Conclusion

Participants in our study represent a select group of low-income, primarily unmarried African American women who survived Hurricane Katrina. We therefore do not intend for our findings to reflect the experiences of all members of this demographic group. The inclusion criteria for the study (i.e., that participants reported damage to their prehurricane home; that there would be a balance of participants who relocated and who had returned to New Orleans), as well as the participants' initial involvement in a community college intervention study, further underscore this limitation.

Likewise, Hurricane Katrina has been characterized as having both natural and human dimensions, including a foreseeable failure of levees and delayed responses to low-income residents and people of color (Lavelle & Feagin, 2006; Park & Miller, 2006). The unique features of Hurricane Katrina should be taken into account when interpreting our findings and whether they might generalize to survivors of other disasters. In addition, the researchers might have overlooked how ongoing conditions that increased participants' risk of exposure (e.g., poverty, discrimination) were operating in relationships independent of the hurricane and its aftermath when formulating questions for the interview protocol.

The current study drew upon a brief module of questions about intimate relationships from a larger interview protocol, and future qualitative research should focus more specifically on the processes within the family stress model in postdisaster contexts. Collection of data from both low-income women and their partners would also allow for triangulation and for investigation of inconsistencies in couples' reports. Demographic information about participants' partners would likewise permit exploration of how factors such as race, ethnicity, and culture shape relational processes. Quantitative studies that examine relationship variables along with psychological distress and indices of economic stability and distress would provide additional verification of the family stress model in the context of natural disasters.

Despite these limitations, our study represents a step toward understanding the experiences of a subgroup that is particularly vulnerable to adverse outcomes following natural disasters. We provide evidence that disasters affect key processes underlying intimate relationships. Although some survivors emerged with stronger relationships, the results illuminate the many ways in which disasters can undermine the quality of survivors' marriages and partnerships.

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