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Lisa A. Mainiero

Fairfield University, lmainiero@fairfield.edu

Donald E. Gibson

Fairfield University, dgibson@mail.fairfield.edu

Sherry E. Sullivan

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Retrospective Analysis of Gender Differences in Reaction to Media Coverage of
Crisis Events: New Insights on the Justice and Care Orientations
Mainiero, L.A. (Fairfield University), Sullivan, S.E. (Bowling Green State
University), and Gibson, D.E. (Fairfield University)

Abstract (n=120)

We surveyed 2,125 men and 3,735 women ($N = 5,860$) across the U.S. to test hypothesized relationships regarding women's and men's use of justice and care orientations when they confront crisis events with moral implications. Consistent with previous research, we found that women were more likely than men to adopt a care orientation. Contrary to expectations, however, women also adopted a justice response to a greater degree than did men. We found that, in response to a crisis, women, unlike men, were more likely to believe they would connect with others *and* take action. Implications for explaining inconsistencies in prior research findings on the justice and care orientations, and for conceptualizing these important constructs in a new way, are discussed.

Keywords: Gender differences, justice and care orientations, crisis events

Retrospective Analysis of Gender Differences in Reaction to Media Coverage of Crisis Events: New Insights on the Justice and Care Orientations

Introduction

The events of September 11th, 2001 received sufficiently broad media coverage to allow the study of possible gender differences in reactions to a specific crisis event. Research has shown that vicarious viewing through the media of an event as a secondary observer can have an impact on that observer (Everstine & Everstine, 1993; Lerias & Byrne, 2003; Pennebaker & Harber, 1993; Stone & Pennebaker, 2002). Subsequent research on the crisis of September 11th, 2001 has focused on how individuals cope with the psychological aftermath of traumatic disasters (Argenti, 2002; Galea, Resnick, Ahern, Gold, & Bucuvalas, 2002; Schuster et al., 2001), and the types of counseling needed by individuals who were directly and indirectly affected by the events (Stein et al., 2004). The literature primarily addresses the need for post-traumatic stress attention (Stein et al., 2004) as well as psychological and other health effects surrounding the disaster (Herman, Felton, & Susser, 2002).

However, one intriguing gender-related finding among the post-traumatic stress research associated with the events of September 11th, 2001 is that, in general, women more so than men may have a pronounced reaction to crisis events observed vicariously through the media. This gender difference may also apply when women are direct participants in a traumatic event. For example, Freedman et al. (2002) reported that one week, one month, and four months after directly being involved in a traumatic event, more women (50%) indicated one or more “substantial stress symptoms” than men (37%). Bryant and Harvey (2003) and Van Loey, Maas, Faber, and Taal (2003) have reported that women who are primary victims of a trauma are more likely than men to develop post-traumatic stress syndrome. Specifically concerning the events of

September 11th, 2001, Pulcino et al. (2003) further reported that women were two times more likely to report post-traumatic stress disorder than men in their study of 988 women in New York City directly after the events.

The purpose of the present study is to examine possible gender differences between women and men in their reactions to the media coverage of the events of September, 11th, 2001, and to provide an alternate explanation for such differences, if they exist. While some studies have reported that women who are primary victims of a trauma are more likely than men to develop post-traumatic stress syndrome, we considered an alternative explanation: that gender differences might be aligned with moral/ethical orientations, specifically in terms of how men and women might offer a justice or care retrospective explanation for their reactions to the events covered by the media. The present study ties together these themes to highlight this alternative explanation.

We chose to study men's and women's responses to the media coverage soon after the crisis of September 11th, 2001 in the hopes of discerning possible gender-defined responses. Soon after a major widespread crisis, we expected individuals' responses to reflect more closely true reactions based on the media coverage rather than "managed" responses and feelings, which have been the subject of recent organizational research (e.g., Diefendorff & Richard, 2003; Erickson & Wharton, 1997; Hochschild, 1983; Kring & Gordon, 1998; Pennebaker & Harber, 1993). Thus, gender differences in responses soon after a crisis may provide a more authentic reading of these differences than at any other time that similar research might take place (e.g., Brody & Hall, 1993; Hutson-Comeaux & Kelly, 2002; Shields, 2002).

The primary independent variable in this study is respondent gender, and the dependent variables are a *justice* response orientation versus a *care* response orientation (Gilligan, 1982; Jaffee & Hyde, 2000). Our research question is: To what extent do women's and men's

responses to a crisis as presented by media coverage fit the predictions of Gilligan's moral orientation perspective? We predict, based on extant theory that women will respond to this crisis in a way consistent with a care response orientation, while men will respond to this crisis consistent with a justice response orientation.

To test these hypotheses, we run two regression analyses to explore the effect of gender on 1) a justice response orientation versus 2) a care response orientation. Because women's and men's patterns of behavioral response to a crisis are likely to be influenced by a range of variables that may affect our hypothesized relationships, we controlled for several possible moderators. Consistent with past research (e.g., Jaffee & Hyde, 2000), we controlled for the respondent's age (under 18, 18-24, 25-34, 35-44, 45-54, 65 or older), because some researchers have found that gender differences in care versus justice orientations are dependent on life experiences, even among young, middle, and older adults (Pratt, Golding, & Hunter 1988). Socioeconomic status (defined as income level: under \$20,000 and in increments of \$10,000 through \$60,000; \$60-74,999, \$100,000 - 199,000, \$200,000 and above), and education (some high school or less, high school graduate, some college, 2 year college/technical school, 4 year college, some post-graduate work, post-graduate degree) were also measured to control for status differences and the potential interaction between gender and lower levels of occupation, attainment, and power (Kirchemeyer, 1998).

Because much of the work-family literature suggests that focusing on family issues is a greater concern for women than for men (e.g., Friedman & Greenhaus, 2000), we controlled for marital status (married, living with a partner, single or separated/divorced/widowed) and the presence of children (how many, living at home or not) to assess the effect of family relationships on response orientation. Finally, proximity to the crisis locations was measured, as the intensity of reactions to the media coverage may have varied based on geographic proximity

to the locations affected. We defined proximity as 10 miles or less, 11 - 25 miles, 26 - 50 miles, 151-500 miles, 501 miles or more. As noted previously, studies in differences in responses to traumatic events based on whether the event directly involved an individual (e.g., being the primary victim of a crime; Everstine & Everstine, 1993), or involved the individual indirectly (e.g., being the secondary victim or witness to a serious earthquake, war, or death of a well-known person; Pennebaker & Harber, 1993; Stone & Pennebaker, 2002) have shown that even those who experience events secondarily or vicariously (i.e., through the media) go through patterned responses to traumatic events that may take months to resolve, depending on the degree of involvement and harm to the individual.

Research on Moral/Ethical Orientations

The research on gender differences in moral/ethical orientations that has resulted from Gilligan's (1982) original work has been widely reported. Gilligan (1982) studied moral orientations of women and men and challenged Kohlberg's (1976) model of moral development (1976) by contending that it was based on an all-male sample and a masculine definition of morality that failed to represent the realities of women's lives. She proposed that women predominantly use a "care" orientation, which focuses on connectedness and relationships, whereas men predominately use a "justice" orientation, which focuses on independence and achievement. According to this line of reasoning, Gilligan (1982) suggested that women may focus on relational aspects, such as: attending to the needs of others, maintaining relationships, and caring for others. Women generally learn to see themselves and others as embedded in relations and connections, as interdependent with others, and as responsible for their collective well-being (Benhabib, 1987; Eisler, 1987; Gallos, 1989; Gilligan, 1982; Tannen, 1990). Men, on the other hand, tend to look at the world from a more independent, action-driven perspective (Kohlberg, 1976; Maier, 1999.) Men show more respect for hierarchy, status, individual

competition, and personal advancement (Maier, 1999). Men typically conceive of individuals as separate, autonomous beings who value independent achievement and eschew commitments that might hinder success in competitive endeavors, such as in the workplace (Cheng, 1996; Connell, 1995; Maier, 1999).

Gilligan's challenge of Kohlberg's model generated substantial research and controversy. Research that was conducted to test her theory produced results that were variable and inconclusive. Some research has provided solid support for the hypothesized gender split in the care and justice orientations (e.g., Gilligan & Attanucci, 1988; Johnston, 1988; Lyons, 1983; Peter & Gallup, 1994; Yacker & Weinberg, 1990), whereas other research has provided only weak support (Colby & Damon, 1983; Thoma, 1986; Walker, 1991) or has been considered inconclusive (Ford & Lowery, 1986; Gibbs, Arnold, & Burkhart, 1984; Rothbart, Hanley, & Albert, 1986). In a meta-analysis of 113 empirical studies, Jaffee and Hyde (2000) reported that 73% of the researchers who measured the care orientation and 72% of the researchers who measured the justice orientation did not report any significant gender differences. Moreover, the effect sizes for gender differences in both the care orientation ($d = -.28$) and the justice orientation ($d = .19$) were small.

These conflicting findings have raised questions about how properly to test the theory (Jaffee & Hyde, 2000) and whether other factors, such as gender role orientation (Karniol, Grosz, & Schnorr, 2003), life experiences (Boldizar, Wilson, & Deemer, 1989), and the nature of the dilemma posed (Brabeck, 1983), influence the adoption of either the care or justice orientation. It has also been argued that the context influences the adoption of the care or justice orientation. For instance, some studies showed that women predominantly use a care orientation when they confront real-life ethical dilemmas (e.g., Lyons, 1983; Peter & Gallup, 1994), and other studies

showed that women predominantly use a justice approach when they confront workplace issues (Hopkins & Bilimoria, 2004).

The strong form of Gilligan's (1982; Gilligan & Attanucci, 1988) work is that women predominantly use a care orientation and infrequently use a justice orientation and that men predominantly use a justice orientation and infrequently use a care orientation. According to the strong form of Gilligan's (1982) and Gilligan and Attanucci's (1988) work, we expected that men would exhibit a high justice orientation (a desire to take action and see justice done to the terrorists) and a relatively low care orientation (a desire to connect more with others in response to the terrorist attacks), whereas women should exhibit the opposite pattern. This reasoning led us to hypothesize the following:

Hypothesis 1. Controlling for relevant individual difference variables, women are more likely than men to use a care response orientation in reaction to the media coverage of the common crisis event of September 11th, 2001.

Hypothesis 2. Controlling for relevant individual difference variables, men are more likely than women to use a justice orientation in reaction to the media coverage of the common crisis event of September 11th, 2001.

We use the terms of care and justice as defined by Gilligan (1982) in her studies of moral orientation. However, following the precedence of other researchers, we do not apply these terms solely to the narrow category of moral dilemmas but rather in a more general way to situations that have moral or ethical content. For example, MacGeorge (2003) applied these labels to her study of attributions and emotions; Simola (2003) applied them to cases of corporate crisis management; and Reiter (1997) contrasted an ethic of care and justice perspectives in accounting practices in organizations. Our study, however, differs from these previous studies in that it

focused on men's and women's responses to the media coverage of a common major crisis event as a means of learning more about gender.

Given the referent event of September 11th, 2001, in our study, we examined how people—men and women—reacted to the media coverage associated with those events. Therefore we examined participants' retrospective judgments concerning these events, not their participation in these events themselves. Dube and Morgan (1996), writing in the marketing/communications literature, suggest there might be a “selectivity hypothesis” such that under certain conditions, men are more likely to be driven by overall message themes in the media and women are more likely to engage in detailed elaboration of messages. Their research further fuels the possibility of a gender difference that could be expected as a result of an analysis of retrospective judgments concerning this widespread media coverage. We expected that vicarious viewing through media coverage of such a major crisis event is likely to have produced sufficient responses on the part of men and women that were worthy of study.

Method

Participants

More than 5,000 people, 3,735 women (63.7%) and 2,125 men (36.2%), for a total of 5,860 participants, were involved in the present study. The sample was comprised primarily of European Americans (86%), African Americans (5%), Asians, (3%), and Latin Americans/Hispanics (2%). An additional 4 % also participated but indicated their demographic category as “Other /Prefer Not to Say.” More than one-half (54%) of the respondents were married, and 36.5% had children aged 18 or younger living at home. Respondents worked in a wide variety of fields, including education (10.9%), healthcare (8.7%), government (8.6%), manufacturing (7.6%), retail (7.6%), computers (6.7%), banking (6.7%), service (3.6%), telecommunications (3%), hotel (2.5%), engineering (2.3%), and others (38.5%).

Because the survey focused on responses to media coverage of the terrorist attacks of September 11th, 2001, we also measured the distance individuals worked from the centers of the crisis, either the World Trade Center in New York City, or the Pentagon in Washington, DC. Individuals who worked within 10 miles of these sites composed 3.6% of the sample; of those, 2.6% were located within 11-25 miles, 2.3% were located within 26-50 miles; 4.9% were located within 51-150 miles, 14.6% were located within 151-500 miles, and 72% were located within 501 or more miles away from the major impact sites.

Measures

Following from the research on gender and moral/ethical orientations, we developed items to represent the two different views. Items on the care response orientation focused on a person's intention to connect with others, to emphasize the quality of relationships one has with others, and to stress caring and sensitivity toward others in the aftermath of the crisis (e.g., Gilligan, 1982). Items on the justice response orientation scale focused on a concern for the resolution of this conflict, a desire to see justice done, an intention to take action in response to the crisis, and a focus on taking affirmative steps to correct the system so that future crises could be avoided (e.g., Kohlberg, 1976). Unlike the relationalism emphasized by the care orientation, the justice orientation emphasized correcting the system through the rule of law rather than directly bettering the situation of those individuals affected by the crisis.

We developed 15 items to assess respondents' views of whether their behaviors had changed since observing the media coverage of the events of September 11th, 2001. Respondents rated these items on a 5-point Likert scale (1 = *Not Changed at All*; 3 = *Changed Somewhat*; 5 = *Changed Profoundly*). We conducted an exploratory factor analysis (principal components analysis with varimax rotation) on these 15 items, and a two-factor solution emerged. After we eliminated three items that did not load cleanly on a single factor, we repeated the analysis. The

resulting two factors were clearly defined. Items had a high loading (over .50) on their primary factor and a difference, in all but one case, of at least .15 between that loading and the next highest loading. Total variance explained was 67.72%.

Table 1 lists items and factor loadings from the exploratory factor analysis. The first factor was defined by eight items and reflects a care response orientation. This factor explained 43% of the variance, and it had a Cronbach's *alpha* of .93. The second factor was defined by four items and reflects a justice response orientation. This factor explained 24% of the variance, and it had a Cronbach's *alpha* of .80. There is intercorrelation between the two factors, $r = .69$.

 Insert Table 1 about here

For the theoretical reasons previously noted, , we controlled for several possible moderators suggested by research: respondent age, marital status, having children, level of education, household income (to indicate socioeconomic status), and distance from the sites of the crisis, the World Trade Center in New York City, and the Pentagon in Washington, DC.

Procedure

To obtain the research sample, we posted our survey on a website of Greenfield Online, one of the largest established marketing research panels in the U.S. This firm is able to employ a variety of statistics and structural methods to ensure varied sample composition and sufficient response rates, thereby increasing the likelihood of obtaining a large, representative sample. The firm draws on approximately 10,000 individuals of various ages, races, backgrounds, industries, and job titles. These individuals have agreed for a fee to participate in research conducted by the firm, and respondents are required to participate in two surveys per month to maintain an active status. When they participate in surveys, respondents' logins are entered into a drawing for a

chance to win a \$100.00 cash prize. Surveys are listed by title, and respondents click on the survey they wish to complete. The title of this research survey was, “Reactions to September 11th, 2001.” The primary surveys involve market research; ours was included in the mix of other market research surveys. Respondents are not required to purchase products for market research purposes. Typically, surveys are made available on the website until percentages and numbers as requested by the researcher are obtained; we made no requests so as to avoid biasing the sample in any way (see Greenfield Online, 2004.)

Survey results were checked, coded, and compiled by the firm during the period of December 11, 2001 through January 11, 2002. Only respondents who indicated that they worked full-time for an organization were included in the sample. At the end of the sampling period, the firm reported that the response rate for the survey was 65%; 5,860 of approximately 9,000 available respondents chose our survey for participation during the busy holiday season, when response rates are typically 20 to 30%.

Analyses

To address this study’s two primary hypotheses, four types of analyses were conducted. First, we used a MANOVA to determine if there were overall gender differences in our two dependent variables, care and justice response orientation. Second, we conducted a correlation analysis to show the overall associations between the control variables, the dependent variables and the independent variable, gender. Third, we conducted a set of regression analyses to assess the degree of variance explained in the dependent variables (care versus justice response orientation) by gender, controlling for moderator variables that could potentially affect this relationship, including age, marital status, having children, education, household income, and distance from the crisis, as identified above. For each dependent variable, we entered two blocks of variables. The first block were the control variables. The second block was gender. The

resulting regression analysis reveals the amount of variance explained in the response orientation by gender, controlling for known moderator variables. We checked the VIFs (variance inflation factors) for a test of multicollinearity among the independent variables (Myers, 1990; Neter, Wasserman, & Kutner, 1990). All VIF factors were within acceptable limits (one rule of thumb being that VIF factors should not exceed 5), with the maximum at 1.251. Fourth, to further explore the patterns in our data, we conducted a chi-square analysis of the percentages of men and women who chose different combinations of care and justice response orientations. Given the large size of our sample, significant results in these analyses are reported in a range from the $p < .01$ to $p < .0001$ level.

Results

We conducted an analysis of gender differences in the measured variables using one-way (male versus female) multiple analysis of variance (MANOVA). The analysis showed that the omnibus F was significant, $F(2,5857) = 122.298, p < .0001$. Table 2 shows the means and standard deviations for the dependent variables in relation to gender. This analysis shows that women are more likely to have a higher care response orientation *and* a higher justice response orientation, though the effect is much stronger for care than for justice. These results are consistent with Hypothesis 1, that women would be more likely than men to use a care orientation, but are not consistent with Hypothesis 2, that men would be more likely to use a justice orientation. However, they do not account for the influence of the control variables.

Insert Tables 2,3 about here

Table 3 reports the means, standard deviations, and correlations among the variables for the whole sample (lower half) and for women (upper half). In terms of the significant effects on the dependent variables, this analysis shows that being married is associated with a justice, but not a care orientation; that participants with children are more likely to have stronger justice and care responses to the crisis than those without children; that more education is related to a less strong response and that being further away from the crisis was also related with a less strong response.. In terms of our hypothesized relationships these correlations indicate that gender (i.e., being a woman) is significantly and positively associated with *both* a care orientation ($r = .19, p < .0001$) and with a justice orientation ($r = .08, p < .0001$), with a stronger effect for care. Table 4 displays the results of a hierarchical regression analysis conducted to test the hypothesis by controlling for individual difference variables that previous studies (e.g., Jaffee & Hyde, 2000) have suggested may affect the hypothesized relationship between gender and response orientation. In these analyses, the control variables were entered in step 1 (Models 1 and 3), and gender was entered in the second step (Models 2 and 4). These analyses reveal that controlling for respondents having children, education (lower), and distance from the World Trade Center (closer) did explain a significant portion of the variance in the dependent variables of care and justice orientation, while age explained a significant portion of the care orientation but not the justice orientation. Results from Model 2 indicate that the inclusion of gender explains a significant portion of the variance in a care response orientation, ($b = 0.18, p < .0001$), beyond that explained by the control variables, and its positive sign indicates that women are associated with this orientation. Results from Model 4 indicate that gender also explains a significant portion of the variance in a Justice response orientation, ($b = 0.07, p < .0001$), and its positive sign indicates that women are associated with this orientation. The regression analysis, then, provides support for Hypothesis 1, but not for Hypothesis 2.

The fact that these analyses suggest that women had a higher response to *both* the care and justice orientations led us to conduct a chi-square analysis to further explore these results. Table 5 shows the frequencies for low and high care and justice response orientation by gender. Low and high orientation was determined by assigning values lower than the median of each orientation to the low category and those higher than the median to the high category. These results suggest that most men (48.3%) were in the low care, low justice quadrant, whereas the most women (41.3%) were in the high care, high justice quadrant. The chi-square for the cross-tabulation for men was significant ($N = 3735$), chi-square = 1095.76, $p < .0001$, as was the chi-square for cross-tabulation for women ($N = 2125$), chi-square = 702.42, $p < .0001$. Because a chi-square analysis cannot control for the effects of other variables, it has been recommended that a logistic regression analysis be completed to confirm the chi-square results. This analysis, done with the same controls as the already reported regression analysis, showed a significant effect for gender, $b = -.64$, $p < .0001$. The model chi-square for the logistic regression was significant, chi-square 42.76, $df = 8$, $p < .0001$. The Hosmer and Lemeshow Test also indicated a good fit ($p = .733$).

The frequency of response data showed that respondents overall were more likely to use a combined approach (High Care / High Justice or Low Care / Low Justice) rather than an approach that favored one orientation over another. This finding is further supported by the mean data for men and women respondents, and illustrates some complexity in our understanding of the care and justice orientations not previously considered by prior researchers. Consistent with previous findings, paired differences t -tests revealed that women use a care orientation to a greater degree than men do (see Table 2, $t(5858) = -14.45$, $p < .0001$). However, women ($M = 2.24$, $SD = .97$) also significantly exceeded men ($M = 2.08$, $SD = .98$) in their tendency toward a

justice approach, and women's ($M = 2.45, SD = .90$) response to the combined scales was significantly higher than men's ($M = 2.18, SD = .92$).

Contrary to previous research that suggests that individuals use either a care orientation or a justice orientation, an examination of the frequency of response data (Table 5) indicates that individuals were more likely to use a combined approach (High Care / High Justice or Low Care / Low Justice). Although unanticipated, we found that women tended to be high on both orientations (41.3%), whereas men tended to be low on both orientations (48.3%). A secondary gender pattern was also evident. Men tended to be higher on the justice orientation (11.4%) and lower on the care orientation (9.3%) whereas women tended to be lower on the justice orientation (8.1%) and higher on the care orientation (15.1%). The patterns we found were not as clear-cut as suggested by the strong form of Gilligan's (1982) theory. Instead, these additional analyses suggest that the relationship between gender and the Justice and Care response orientations may be more complex than previously thought.

 Insert Tables 4, 5 about here

Discussion

The prime contribution of the present study is that it addresses how women and men might differ in their retrospective judgments in response to traumatic events reported by a widespread media event, that of the terrorist attacks on September 11th, 2001. As predicted, the regression analysis showed there were significant differences by gender and that gender was a significant explanatory variable in explaining moral/ethical orientation even when we accounted for important control variables such as age, education, marital status, the presence of children, household income, and proximity to the crisis.

The second contribution of the present study is our finding that women were more likely than men to use both a care and justice orientation. In contrast to the previous literature on gender and moral orientations, we provide empirical support for a recent speculation by Jaffee and Hyde (2000) that men and women may use both types of reasoning. Our analysis of response frequencies suggests that the dominant pattern used by individuals is more complex than the simplicity described by previous researchers. Instead, we found that women were more likely to respond with a high combined orientation (High Care, High Justice) whereas men were more likely to respond with a low combined orientation (Low Care, Low Justice).

Based upon these empirical findings, we offer a possible revision to the ideas on gender and justice and care ethical/moral orientations: that the justice and care orientations exist on two separate continua. Although some researchers have treated these variables as opposite ends of the same continuum, our respondents saw the value of each continuum individually. Our research shows that women were more likely to be in the high combined quadrant (quadrant III), whereas men were more likely to be in the low combined quadrant (quadrant I). We found that both women and men used *combinations* of the justice and care orientations. Thus, our findings suggest that rather than viewing the justice and care orientations as polar opposites, future researchers should examine the degree to which each of the response orientations are exhibited simultaneously by the same individual, treating them as two continuous variables rather than one dichotomous variable. Further testing of this simultaneous model may help to resolve the long-running scholarly debate over gender differences in moral/ethical orientations and explain the inconsistent results of previous studies.

A third contribution of the present study is to acknowledge the importance of a common referent event. We find that context is important, and knowledge of how contextual events shape individual reactions is a rich area of future study. Schuster et al.'s (2001) poll conducted three

days after the events of September 11th, 2001, indicated intriguing gender differences that showed that women reported more stress than did men. This study was consistent with other research on gender differences in response to disasters (Freedman et al, 2002) and specifically associated with the events of September 11th, 2001 (Pulcino et al., 2003). In addition, although some researchers have shown that women predominantly use a care orientation when confronting real-life ethical dilemmas (e.g., Lyons, 1983; Peter & Gallup, 1994), others have shown that women tend to use a predominantly justice approach when they confront workplace issues, particularly financial ones (Hopkins & Bilimoria, 2004). Women may use a justice approach in the workplace because organizational contexts tend to reflect a masculine culture and ethos that reflect values such as individualism, rationality, duty, and autonomy, which concur with a justice orientation (Acker, 1992; Fondas, 1997; Maier, 1999; Powell, Butterfield, & Parent, 2002; Tharenou, 2001). Future researchers must consider how contextual factors may impact retrospective judgments concerning moral/ethical orientations as well.

Limitations, Implications, and Directions for Future Research

Although our data suggest a number of interesting lines of future research, several limitations must be considered. First, as with much of the research on gender differences, all data were collected using one survey instrument, which may result in common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). To assess the degree of this bias, we conducted a Harman one-factor test, in which all the variables were entered into a factor analysis. A single factor did not emerge, nor was there a general factor that accounted for the majority of the covariance in these variables, which suggests that common method bias was not a serious concern in the present study.

Second, there have been some questions about the generalizability of Internet-based surveys (Birnbaum, 2004; Couper, 2000; Kraut et al., 2004). There are strong reasons, however,

for choosing to use this technology. One reason is the ability to access a large and varied survey population. Our survey was listed on the website of one of the largest established marketing research panels in the U.S., and this firm is able to employ a variety of statistics and structural methods to ensure varied sample composition and sufficient response rates. Another reason for our use of this technology is that recent research has shown that web-based samples compare favorably to traditional survey methods. Although Internet samples may not be fully representative of the population at large, they are usually more diverse than samples published in most highly selective academic journals, where student populations are frequently used (Gosling, Vazire, Srivastava, & John, 2004). For example, Gosling and associates (2004) reported that Internet samples were more representative than traditional pencil-and-paper samples with respect to gender, socioeconomic status, geographic location, and age, and were about as representative as traditional samples with regard to race. Other researchers (e.g., Berrens, Bohara, Jenkins-Smith, Silva, & Weimer, 2003; 2004) have found Internet samples to be comparable to large-scale telephone samples in terms of representing the general population.

Third, the nature of the crisis itself may have influenced the results. For example, one alternative explanation for why our findings diverged somewhat from the traditional research on gender may be the nature of the crisis event itself and range of responses available. The inability of the survey respondents to take direct action (even vicarious action) against either the hijackers or their leaders may explain the overall dominance of the care over the justice response orientation in both men and women. This may be especially salient for the male respondents because if taking action is men's dominant approach, and this alternative was removed from the situation, strong responses predicted by Gilligan's (1982) theory were not available. Future researchers should examine whether similar findings are produced when individuals do have the option of taking action in response to a crisis event.

Fourth, the data were collected during the intense media coverage of the three months after the events of September 11th, 2001. Although we considered this time interval to be a critical period for gathering response data, it is possible that respondents had already neglected to remember their immediate actions and responses to the initial crisis events. It is important to note that given this interval hindsight bias is likely to have affected participants' responses. Aspects of bias in individuals' recollections of events may have created more intense reactions to the events (see Fischhoff, 1975 and Werth, Strack & Forster, 2002, for a discussion of hindsight bias), and gender differences in retrospective judgments suggesting a selectivity hypothesis have been noted by others (Dube & Morgan, 1996.) We choose this time interval because it was sufficiently short so that the attacks remained fresh in respondents' minds, especially given the strong media coverage, yet long enough to gauge the extent to which initial feelings of shock had dissipated. The fact that women's survey responses were quite strong three months after the terrorist attacks suggests that a degree of energy and intensity that characterized the reactions of women more so than men.

In addition, the findings of the present study pertaining to men's desire for connectedness (to a greater degree than justice) suggest that we should *not* apply stereotypical notions to men's and women's reactions to crisis. Although women were more likely to acknowledge their need for connectedness and support from family and friends, men also exhibited a care orientation to a greater degree than a justice orientation. We should recognize that, in the face of a crisis, it is likely that *all* individuals, regardless of gender, require some level of psychological support. In organizations for example, women may be more likely to connect with human resource professionals and directly ask for support; however human resource professionals may need to initiate the dialogue with men.

In conclusion, crisis events are a continuing reality in today's societal landscape. One of these tragic events, the terrorist attacks of September 11th, provided us with a real-life context in which strong emotions were aroused and potential gender differences could be examined. Although the results of the present study do not end the continuing debate over gender differences in response orientations, the study nonetheless makes a contribution by examining the basic premise of gender differences in response to a referent common crisis. Moreover, by careful analysis of our data, we were able to suggest an alternative model, that of the dual continua of care and justice orientations. We hope that our work serves as a catalyst to encourage further research on gender differences and the potential interplay between the care and justice response orientations.

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Table 1.
Results of Principal Components Analysis^a
In response to the question “How have your behaviors changed since the events of September 11th, 2001?”

Items	M	SD	Factor Loadings	
			1	2
1. Care Response Orientation				
I have discovered a greater need to connect with others than before.	2.46	1.24	.858	.246
I am examining the quality of my relationships with those around me more so than before.	2.63	1.28	.855	.250
I am demonstrating greater caring for and sensitivity toward others around me.	2.57	1.17	.843	.259
I find I am more thankful for the little things life offers.	3.10	1.33	.803	.256
I am more inclined to share power and develop consensus with others.	2.28	1.18	.777	.342
I notice more similarities than differences in people, and I look for connections with people who are more diverse than I.	2.14	1.13	.674	.382
I find that issues that seemed to be significant at home before Sept. 11 th now seem more minor or petty by comparison.	2.59	1.32	.664	.395
I think more often about charity and charitable organizations and what I can do to help others.	2.47	1.21	.648	.384
2. Justice Response Orientation				
I am concerned that the government’s hierarchy and chain of command is inadequate.	2.35	1.33	.179	.878
I am very concerned about the resolution of this conflict and I want to see justice done.	2.57	1.37	.264	.822
The changes taking place in my workplace have affected the decisions I have made to handle things differently at home.	1.77	1.04	.401	.591
I am putting together a plan of action to keep my family safe should more events occur.	2.03	1.15	.431	.566
Eigenvalue			7.023	1.103
Percentage of variance explained			43.239	24.477

^a**Notes:** Boldface indicates factor loadings. Items are 5-point Likert scale (1 = Not Changed at All; 3 = Changed somewhat; 5 = changed Profoundly).

Table 2.
Means and standard deviations for study variables in relation to gender.

Variable	Men		Women		t
	M	SD	M	SD	
Care Response Orientation	2.28	1.01	2.67	1.00	-14.45***
Justice Response Orientation	2.08	0.98	2.24	0.97	-5.76***

* $p < .01$ (2-tailed), ** $p < .001$ (2-tailed), *** $p < .0001$ (2-tailed).

Table 3.

Correlations between control variables, justice and care orientations, and gender. The lower half refers to total sample (N = 5,860); the upper half refers to female sample (N = 3,735).^a

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9
1. Age ^c	3.78	1.06	-	.02	-.01	-.03	.12*	-.01	.05	-.03	.00
2. Marital Status ^d	0.65	0.48	.09*	-	.23*	-.06*	.36*	.05	.03	.03	.06*
3. Children ^e	1.60	0.52	-.01	.29*	-	-.16*	.00	.04	.05	.03	.06*
4. Education ^f	4.21	1.56	.03	-.03	-.11*	-	.26*	-.06	-.09*	-.06	-.12*
5. Household Income ^g	4.82	2.08	.18*	.18*	.02	.30*	-	-.12*	-.09*	-.00	-.03
6. Distance from the World Trade Center ^h	5.40	1.23	-.01	.32	.03	-.05*	-.12*	-	.29*	-.04	-.06*
7. Distance from the Pentagon ⁱ	5.64	0.83	.03	.04	.04	-.09*	-.10*	.31*	-	-.00	-.02
8. Care Response Orientation	2.53	1.02	-.06*	.01	.10*	-.06*	-.02	-.05*	-.02	(.93)	.68*
9. Justice Response Orientation	2.18	0.98	-.02	.06*	.14*	-.10*	-.03	-.08*	-.03	.69*	(.80)
Gender ^b	1.64	0.48	-.15*	-.08*	-.01	-.08*	-.11*	.02	.03	.19*	.08*

^aNumbers on the diagonal are Cronbach's alpha, where appropriate; * p < .0001

^b Men were coded 1, women were coded 2.

^c 1=Under 18, 2=18-24, 3=25-34, 4=35-44, 5=45-54, 6=55-64, 7=65 or older.

^d Married, or living with a partner, coded 1, single or separated/divorced/widowed, coded 0.

^e Have at least one child under 18 living at home, coded 1; do not have at least one child under 18 living at home, coded 0.

^f 1=Some high school or less, 2=High school graduate, 3=Some college, 4=2-year college/technical school, 5=4-year college, 6=Some postgraduate work, 7=Postgraduate degree.

^g 1=Under \$20,000, 2-5 in increments of \$10,000, 6=\$60,000-\$74,999, 7=\$75,000-\$99,999, 8=\$100,000-\$199,999, 9=\$200,000 or more.

^h 1=10 miles or less, 2=11-25 miles, 3=26-50 miles, 4=51-150 miles, 5=151-500 miles, 6=501 miles or more.

ⁱ Same coding as for the World Trade Center.

Table 4.

Results of Hierarchical Regression Analysis for the Effect of Gender on Care and Justice Response Orientations^a

Predictors	Care		Justice	
	Model 1	Model 2	Model 3	Model 4
Age	-.06***	-.04**	-.02	-.01
Marital Status	-.00	.01	.03	.04
Children	-.11***	-.11***	-.13***	-.13***
Education	-.04**	-.04**	-.07***	-.07***
Household income	-.00	.00	-.03	-.02
Distance, WTC	-.06***	-.06***	-.09***	-.09***
Distance, Pentagon	-.01	-.01	-.01	-.02
Gender		.18***		.07***
Change in R ²	.021	.032	.037	.005
F change	16.177***	178.485***	29.222***	25.377***
R ²	.021	.053	.037	.042
Adjusted R ²	.020	.052	.036	.041
F	16.177***	36.943***	29.222***	28.860***

^aEntries are standardized regression coefficients; sample, n = 5,860; * p < .01 ** p < .001 *** p < .0001

Table 5^a
Frequency of Responses by Gender and Archetype

Men		Justice Orientation	
		Low	High
Care Orientation	Low	48.3% (1026)	11.4% (242)
	High	9.3% (197)	31.1% (660)

^aChi-square, $N = 2125$, 702.42 , $p < .0001$.

Women		Justice Orientation	
		Low	High
Care Orientation	Low	35.5% (1326)	8.1% (304)
	High	15.1% (563)	41.3% (1542)

^aChi-square, $N = 3735$, 1095.75 , $p < .0001$.

Figure 1.
Proposed Model of Simultaneous Use of Care and Justice Orientations

