

From the Center for

Positive Organizational Scholarship

WORKING PAPER SERIES

Making Sense of Organizational Actions in Response to Tragedy: Virtue Frames, Organizational Identification and Organizational Attachment

by

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ABSTRACT

This paper analyzes members' sensemaking of organizational actions using virtue frames and its effects on members' relationship with the organization in the context of the events of September 11th. We explore the use of three virtue frames to make sense of a university's response to the events of 9-11-01. We examine the effects of interpreted virtuousness of actions on members' identification with and attachment to the organization through members' emotions, their self-construals and overall images of the organization. Our study sheds light on how sensemaking about the virtuousness of organizational actions influences members' cognitive and emotional connection to the organization.

LEADING IN THOUGHT AND ACTION

Making sense of what an organization represents or cares about is never an easy task. Organizations are complex with rich histories and diverse activities that challenge members' capacity to make meaning out of what the organization does and why it matters. One way members infer what an organization stands for is by parsing and interpreting organizational actions in response to specific events (Weick, 1995). Despite an interest in sensemaking, researchers know little about *how* the interpretation of organizational actions shapes members' cognitive and emotional connection to the organization. This is our research focus.

September 11th, 2001, is a day etched in human history. A cluster of world events took place on that day, involving the crashes of U.S. commercial airplanes hijacked by a group of terrorists and flown into the World Trade Center, U.S. Pentagon, and a rural field in Pennsylvania. The scale and scope of this day's events induced a range of organizational actions. In certain cases members treated these actions as diagnostic of what the organization stands for and what are its core values. In particular, the events of September 11th called for actions of humanity, justice and courage on the part of members as well as organizations as means for healing physical and psychological wounds from the events. What organizations did in this situation may have transformed the meaning of an organization for its members, affecting their affective and cognitive connection. This paper empirically explores this possibility.

We build our theory connecting virtue frames and member attachment and identification from three assumptions. First, organizations act and members punctuate and interpret actions to better understand their organization (Weick, 1995). For example, potential employees watch what organizations do to infer what kind of an employer they might be (e.g., Cable & Judge, 1996). For newcomers, sensemaking sometimes involves interpreting surprises (Louis, 1980). Other times members attend to ongoing organizational actions, using them to infer core ideas

about the organization (Riordan, Gatewood, & Bill, 1997). Interpretations of organizational actions modify how members conceptualize the organization (Dutton & Dukerich, 1991).

Second, we assume that members interpret organizational actions based partly on their interpretation of the kind and degree of virtuousness of actions. We call the interpretive lens a virtue frame. A frame is “a generalized point of view that directs interpretations” (Cantril, 1941: 20 as cited in Weick, 1995: 4), which renders “what would otherwise be a meaningless aspect of the scene into something that is meaningful” (Goffman, 1974: 21). A virtue frame captures people’s attributed meanings of virtuousness applied to a particular cluster of acts or dispositional features of members or collectivities like organizations.

Virtue frames are important because people are socialized to detect and understand different forms of virtuous behavior (e.g., Stilwell, Galvin, Kopta, & Padgett, 1998). As young children, we learn to make sense of other people’s behavior in interaction with parents, peers and teachers and we acquire a sense of whether a behavior is good or bad. As we grow, we internalize virtue principles through direct experience (e.g., Kochanska, 1995). A virtue frame is a shorthand way of describing the level and type of virtuousness ascribed to a particular action or behavior.

We define “virtuous organizational action” as the perceived exercise of collective behavior that indicates the organization is following principles that lead to some form of moral or ethical betterment. At the level of individuals, virtues involve good or admirable qualities of one’s character, moral excellence, and conformity of one’s life and conduct to moral and ethical principles or standards of right (McCullough & Snyder, 2000). Conformity to these principles makes oneself and society morally better and promotes well-being and the good life (Meara, 2001; Sandage & Hill, 2001; Smith, 1982).

Cameron and colleagues (Cameron, 2003; Cameron, Bright, & Caza, 2004) note the rarity of consideration of organizational virtuousness, despite its association with behaviors that contribute to a meaningful life for members and for an organization. They note that Greek philosophy originally applied virtuousness to collectivities as well as individuals. They argue that organizations vary in the virtuousness of their actions, and that these organizational qualities make a difference for financial performance. We complement their perspective by focusing on the micro process of how members discern action virtuousness, and how this affects their relationship with the organization.

Third, we assume that the meaning that people apply to organizational actions has implications for cognitive and emotional connections to the organization, through both identification and attachment. By organizational identification we mean members' cognitive self-awareness of organizational membership (Bergami & Bagozzi, 2000). By organizational attachment we refer to members' emotional involvement in or affective commitment to the organization (e.g., Allen & Meyer, 1990; Tsui, Egan, & O'Reilly, 1992). For example, as members of Enron try to make sense of managerial misconduct, their connection to their employers rides, in part, on how they make sense of the virtuousness of their employers' actions.

Several virtue frames apply to organizational actions and relate to members' organizational identification and attachment. While there are many possible virtue frames that members use to make sense of action, at least three have some precedent in research on organizations. First, Solomon (1993) suggests that acts of caring and compassion provide a sense of belongingness for members. For example, members increased affective commitment when they perceived organizational practices to be motivated by management's genuine concern for their safety (Barling & Hutchinson, 2000), which implies the relevance of the virtue of humanity

in how employees respond to organizational action. Second, members who perceived organizational practices (e.g., performance evaluation) as manifesting the virtue of justice were more likely to show organizational commitment (e.g., Cropanzano, Byrne, Bobocel, & Rupp, 2001). Third, individuals use courage as an interpretive lens to make sense of actions that violate organizational norms or routines (Worline, Wrzesniewski, & Rafaeli, 2002). Worline and colleagues (2002) found that witnessing a courageous incident transformed the quality of interpersonal connections and members' involvement in the organization's mission and goals.

There is evidence to suggest that members' identification with and attachment to their organization partly result from perceived virtuousness of organizational actions. These assumptions position our research with others interested in how members use sensemaking to understand their organization (e.g., Dutton, Ashford, Lawrence, & Miner-Rubino, 2002; Louis, 1980; Morrison & Milliken, 2000). In particular, our research assumes that social actors are actively involved in the sensemaking process by constructing and using frames (Gephart, 1993) to parse and interpret extracted cues (Weick, 1995).

The events of 9-11 produced an opportunity to study how members make sense of organizational actions, and how members' use of virtue frames as sensemaking lenses affects their relationship with the organization. First, organizational members exert more sensemaking efforts to understand organizational actions when uncertainty and change are present (Weick, 1995). The events of 9-11 were uncertain due to a lack of information and discrepant, conflicting cues about the events and about what institutions and members should or could do. The events disrupted "normal" life patterns, putting people into a more active, mindful state of trying to make sense of the organization, what it was doing, and what it meant (Louis & Sutton, 1991). In

particular, organizational actions that are disaster-related have stronger impact on people than those related to ongoing events or developments (Ellen, Mohr, & Webb, 2000).

Second, we employed three virtue frames that had particular applicability to making sense of the events of 9-11: humanity, justice, and courage (e.g., Peterson & Seligman, 2004). A humane frame associates actions with kindness, generosity, nurturance, and love. An organizational action is humane when it involves helping and caring oriented toward organizational members or a larger society, through which they feel the worth of their existence (e.g., Post & McCullough, 2004). A just frame implies actions that represent fairness and equity. It implies just treatment of members with dignity and respect, based on moral and ethical reasoning (e.g., Berkowitz & Sherblom, 2004; Cropanzano et al., 2001). Finally, we define a courageous frame as one that represents the exercise of will to accomplish goals in the face of internal or external opposition. A courageous organizational action is one voluntarily taken by the organization in pursuit of “what is right” regardless of risks it faces, which brings social well-being and moral betterment (e.g., Worline & Steen, 2004).

Two rationales informed our choice of these three virtue frames. First, these virtues are enduring and valuable in and of themselves, and they are thought to fulfill and contribute to the good life of self and others (Peterson & Seligman, 2004). Second, these virtue frames are salient in philosophical and psychological research and everyday experience (Walker & Hennig, 2004), and are particularly appropriate to the events of 9-11. In the media and in everyday encounters, people expressed concern about hate crimes (justice), heralded kindness of volunteer workers, need for support and compassion for each other (humanity), the acts of public servants, and the actions taken by institutions such as canceling of classes by universities that might have been under criticism when occurred in ordinary situations (courage). These three virtue frames were

part of the currency through which society seemed to make sense of the events and actions of 9-11.

Our research focused on sensemaking in a U.S. university context. More specifically, we investigated how members' interpretations of organizational actions in terms of virtuousness contributed to members' identification with and attachment to the organization. In particular we explored the relative impact of the virtuousness of organizational action on members' emotions, self-conceptions and images of the organization. Thus, our study is designed to explore the mechanisms through which applications of virtue frames as sensemaking lenses affect members' relationships to their organization.

Our research builds on sensemaking research in three ways. First, our focus on organizational actions as important cues for members in sensemaking of their organization complements perspectives that have focused on issues (e.g., Jackson & Dutton, 1988; Ginsberg & Venkatraman, 1992; Thomas, Clark, & Gioia, 1993) and on managerial as opposed to member sensemaking (Gioia & Chittipeddi, 1991). Second, a focus on virtue frames as sensemaking lenses reveals how members discern the goodness or moral significance of what organizations do. These frames imbue organizations with a moral meaning that contrasts with views of organizations as economic and strategic institutions. Finally, this paper contributes to understanding how sensemaking builds or destroys identification and attachment through how it shapes the meaning of membership.

Our paper also contributes to work on organizational identification. First, we try to unpack the psychological process that links organizational actions and organizational identification (e.g., Pratt, 1998). Our approach complements research on organizational action (e.g., community outreach) as a context that evokes members' organizational identification

process (Bartel, 2001). In addition, we assess the emotional as well as cognitive elements of organizational membership. Past research has focused primarily on cognitive processes (Ashforth & Mael, 1989; Dutton, Dukerich, & Harquail, 1994). We explore the emotional aspect of organizational membership in two ways: (1) through examining the influence of positive emotions on organizational identification, and (2) through exploring the association between organizational identification (cognitive aspect of organizational membership) and organizational attachment (emotional aspect of organizational membership).

Finally, our study contributes to research on virtues and organizations by heeding the call to deepen understanding of how virtuousness at the organizational level affects behavior at the individual level (Cameron, 2003; Park & Peterson, 2003). By focusing on virtue frames for action, identification and attachment, our study addresses the psychological mechanisms that explain these macro-level effects.

PREWORK FOR THE STUDY

Given the uniqueness of a focus on virtue frames and the unusual circumstances of the events of 9-11 we did considerable prework to establish that organizations (in this case universities) did respond differently to the events of 9-11, and to explore if and how members applied virtue frames to interpret organizational actions at this time.

One step in the prework involved identifying the range of actions² taken by U.S. universities in response to this event by downloading all web-based displays³ of what each university reported doing related to the events of 9-11. For narrowing purposes, we only tracked the documentation for the university and its business school homes of the top 34 business schools (as identified by the US News business school ranking). We gathered data once a week for six weeks, starting September 19th, 2001, and ending on October 28th, 2001. The five most

frequent actions taken by the universities as revealed by web displays included: offering tragedy response resources (i.e., counseling), providing donation information, the university president sending letters/emails to the university community, holding a memorial service, and having a webpage dedicated to the events⁴. The results of our analysis reveal that universities exhibited a range of actions in response to this event, suggesting that members would have had different kinds of organizational actions to refer to in their event sensemaking.

We also took steps to explore members' reactions to these organizational actions. We distributed questionnaires to 51 undergraduate students⁵ enrolled in a course at a large Midwestern university during the first week of November, 2001, and 43 of 51 responded (response rate of 84%). In the questionnaire, we asked students to list the meaningful actions that the university had taken in response to the events of 9-11 and the reasons why they thought the actions were meaningful. The five most frequently mentioned meaningful organizational actions included: canceling of classes, holding a candlelight vigil, having class discussions about the events, offering counseling service, and the university President's open house.

Students' responses to the inquiry about why the actions were meaningful did suggest that the virtuousness of the action was a critical part of their sensemaking. Participants used words that indicated the salience of the virtues of humanity, justice and courage as represented in words such care, support, console, compassion, and prevention of racial hatred. A content analysis by the authors resulted in the categorization of the responses into two groupings which captured two major means by which participants inferred virtuousness: 1) by the level and type of positive emotions participants associated with the action (i.e., pride in the university and comfort in seeing the university's support) and 2) virtuousness of the image of the organization (i.e., seeing the university as caring, concerned for students' well-being, and suffering with the

university community)⁶. In addition, the qualitative data suggest a number of mediators that may explain how members' interpretations of the virtuousness of organizational actions affect their emotional and cognitive connections to the organization. More precise specifications of these links are tested in the focal study.

The questionnaire also included a brief description of seven actions taken by the 34 universities: canceling classes, sending doctors to New York, holding a candlelight vigil, calling for an end of hate crimes, coordinating blood drives, establishing scholarships for the victims of the event, and designating an area for remembrance. These seven actions were either the most frequently mentioned across the 34 universities or they appeared to be the most virtuous. We asked students to rate the virtuousness of each action in terms of its humaneness, justness, and courage, using a simple 1 item scale for each virtue frame 'Is this action humane (just, courageous)?' and a 7-point scale: 1 = 'not at all', 4 = 'to some extent', 7 = 'completely'.

To explore whether different actions were framed differently in terms of virtuousness we performed analyses of variance (ANOVA) with ratings of humaneness, justness, and courage as dependent variables, and different organizational actions as an independent variable. The results provided initial support for the idea that members judge the virtuousness of different organizational actions differently (humaneness: $F(6, 299) = 3.20, p < .01$; justness: $F(6, 299) = 5.67, p < .01$; courage: $F(6, 299) = 8.72, p < .01$). In addition, ANOVA with virtuousness ratings for each of the actions indicated that members judged virtuousness of a single organizational action differently along the humaneness, justness, and courage dimensions⁷. Thus, the prework analysis does suggest differences exist in the type and degree of virtuousness that individuals infer for a particular organizational action.

THE FOCAL STUDY

Our empirical study builds on our prework efforts by investigating how members' interpretations of organizational actions as virtuous affect their cognitive and emotional connection to the organization. We predict that the perceived virtuousness of organizational actions as humane, just, and courageous will lead to three member responses (i.e., greater positive emotions, virtuous self-construals, and virtuous images of the organization) that, in turn, increase organizational identification and attachment.

General proposition. Interpretations of organizational actions as virtuous will influence members' responses, which in turn leads to their cognitive and emotional connection to the organization. We turn now to a development of specific hypotheses.

Member Responses to Virtuous Organizational Actions

Positive emotions. Individuals interpret features of their internal or external environment and appraise them in terms of their well-being, plans and goals (Lazarus, 1991). Emotions arise as a result of this appraisal process (Lazarus, 1991). Positive emotions arise when an event is appraised to have positive meaning (Fredrickson, 2000) or to be related to realization of one's or others' goals and well-being (Ortony, Clore, & Collins, 1988). Also, individuals feel positive emotions when an event increases the prospects of a desirable future event or when it is related to an agent that caused a desirable event (especially for the emotions of hope and pride).

Our prework suggested that members perceived many organizational actions taken in response to the events of 9-11 as virtuous. These actions communicated messages that the organization was concerned about members' well-being and was committed to comforting and supporting members. It is likely that members' interpretations of organizational actions as virtuous triggered appraisals filled with positive meaning that elicited positive emotions. Hence,

we hypothesize that interpreted virtuousness of organizational actions will increase members' positive emotions.

Hypothesis 1. Perceived virtuousness of organizational actions in response to tragedy increases members' positive emotions.

Virtuous self-construals. Interpretations of organizational actions as virtuous influence members' self-construals. By self-construals we mean qualities that members apply to themselves and the meaning of those qualities (Baumeister, 1999). We assume that self-construals are malleable and fluid rather than stable, and that a facet of a self-construal may dominate over the other facets in any given circumstances (Zurcher, 1977). Building on the idea that organizational members actively interpret the images of organizations as partial reflections of themselves (Dutton & Dukerich, 1991), we assume that interpretations of organizational actions affect how members see themselves. Social identity theory asserts that actions and attributes of groups become sources of information about group members' self-construals, influencing cognition, affect and behavior (Tajfel & Turner, 1979; Turner, 1985).

Individuals like to see themselves having positive attributes of the groups to which they belong. Cialdini and colleagues found that individuals tended to publicize their affiliation with a group especially when the group was successful, thus enhancing their personal image (Cialdini, Borden, Thorne, Walker, Freeman, & Sloan, 1976). This finding suggests that attractive organizational characteristics are more easily incorporated into members' self-construals. Thus, we expect virtuous characteristics of an organization will be adopted by members, contributing to the virtuousness of their self-construals. We hypothesize that interpreted virtuousness of organizational actions enhances members' virtuous self-construals.

Hypothesis 2. Perceived virtuousness of organizational actions in response to tragedy increases the virtuousness of members' self-construals.

Virtuous images of the organization. When members see their organization as acting virtuously, they are likely to infer that the organization is virtuous as well. The categorization-based theories of inference assume people use attributes of objects (i.e., characteristics of organizational actions in response to the events of 9-11) to infer enduring attributes of an overall category (i.e., the organization) (Rosch, 1978).

Several empirical studies provide evidence that members use organizational actions to infer more enduring features of the organization. In Dutton and Dukerich's (1991) study of the Port Authority, organizational members relied on the organization's treatment of homeless people to infer features of the enduring organizational identity. Organizations that act ethically in the wake of scandals or product recalls are often seen as being ethical at their core (e.g., Johnson & Johnson in Arguilar & Bhambri, 1983). Insiders and outsiders use salient organizational actions to infer organizational identities (Dutton et al., 1994). While most studies focus on how actions threaten perceptions of an organization's identity (Elsbach & Kramer, 1996; Ginzel, Kramer, & Sutton, 1992), a study of virtuous organizational actions redirects attention to a more affirmative identity creation process. Thus, we hypothesize that interpreted virtuousness of organizational actions will enhance virtuous images of the organization.

Hypothesis 3. Perceived virtuousness of organizational actions in response to tragedy increases the level of virtuousness of organizational images.

Members' Cognitive and Emotional Connection to the Organization: Organizational Identification and Attachment

Social identification theory suggests that an organization provides a basis for members' self-construals to the extent that members identify with the organization (Ashforth & Mael, 1989). Organizational identification is a specific form of social identification where members define themselves using the same attributes as those of the organization (Ashforth & Mael, 1989; Dutton et al., 1994). Because organizational identification is self-defining, it tells us about organizational members' cognitive state (Bergami & Bagozzi, 2000), that is what they think of themselves in terms of their organizational membership.

The emotional dimensions of organizational membership have commanded less research attention. The emotional significance of organizational membership strengthens members' attachment to the organization through cognitive self-awareness of their membership (Tajfel, 1982). Bergami and Bagozzi (2000) found that the emotional and cognitive aspects of social identity are distinct, and used "affective commitment" (Allen & Meyer, 1990) to represent this emotional aspect in organizations. We propose that members' connection to the organization involves both cognitive and emotional aspects, captured by organizational identification and attachment.

Positive emotions. Past research shows that individuals are drawn to sources of positive emotions. Individuals tend to associate themselves with successful persons or groups that generate positive emotions (Cialdini et al., 1976). Positive emotions facilitate cohesiveness in interpersonal relationships and bind groups together (Lawler & Thye, 1999). Positive emotions may facilitate cohesiveness by expanding an individual's view of self, by which the individual experiences an overlap of characteristics with close others (Waugh & Fredrickson, 2002) or with

the organization, in our case. Research suggests that members who feel positive emotions induced by virtuous organizational actions are drawn to see themselves as connected to the organizational source of these positive emotions, strengthening levels of identification.

Hypothesis 4. Positive emotions of organizational members derived from the perceptions of virtuousness of organizational actions increase members' level of identification with the organization.

Virtuous self-construals. Research on organizational identification suggests that members who perceive similarity between their self and organizational attributes will identify with the organization (Dutton et al., 1994). Moreover, members can establish an even stronger positive self-image by identifying with an organization that possesses attractive and valuable attributes (i.e., virtuousness) (Dutton et al., 1994; Tajfel, 1982). Thus, if members see themselves as virtuous they will more strongly identify with an organization that takes actions perceived as virtuous. As a consequence, we hypothesize that the more virtuous members' self-construals are, the more they will identify with the organization.

Hypothesis 5. Virtuous self-construals of organizational members derived from the perceptions of virtuousness of organizational actions increase members' level of identification with the organization.

Virtuous images of the organization. Members use organizational actions to discern what their organization is about and what it stands for (Dutton & Dukerich, 1991). Past research shows that individuals like to be members of organizations with positive identities. When organizations have a negative identity, members act to separate their self-identities from the organization (Elsbach & Bhattacharya, 2001) or they redirect their attention to more positive identity features (Elsbach & Kramer, 1996).

Research on job search processes indicates that applicants are more likely to continue the application process with organizations with positive images (e.g., Richey, Bernardin, Tyler, & McKinney, 2001). Members' interpretations of an organizational image as caring and respectful increased their commitment to the organization (e.g., Barling & Hutchinson, 2000). Thus, virtuous images of organizations are likely to strengthen members' identification with the organization.

Hypothesis 6. Virtuous images of the organization derived from the perceptions of virtuousness of organizational actions increase members' level of identification with the organization.

Organizational identification and attachment. We propose that organizational identification precedes attachment to the organization. Bergami and Bagozzi (2000) found that affective commitment was a motivational force that directly affected members' positive behaviors on behalf of the organization, whereas organizational identification indirectly affected those behaviors through affective commitment. Also, Ellemers and colleagues showed that affective commitment to the group was the only predictor of displays of in-group favoritism, while members' self-awareness of group membership did not predict this outcome (Ellemers, Kortekaas, & Ouwerkerk, 1999). These findings suggest that early organizational membership is cognitive. Hence, we hypothesize that members' identification with the organization will enhance their organizational attachment.

Hypothesis 7. Members' identification with the organization increases their attachment to the organization.

These general hypotheses test the effects of interpreted virtuousness of organizational actions on organizational identification and attachment, and how member responses (i.e.,

positive emotions, virtuous self-construals, and virtuous images of the organization) mediate these effects. Our empirical investigation tests specific instances of these general hypotheses.

METHODS

Participants and Procedure

We administered a survey in early December, 2001. We recruited participants through newspaper advertisements and fliers, and specifically sought out Midwestern University's staff and students. Of a total of 372 students and staff that registered to participate in the study and received the questionnaire, 214 responded to the survey (an overall response rate of 58%). Among the 214 respondents, 196 were students and 18 were staff. Due to the small staff sample size, we dropped their responses and used only the student sample. Of the 196 students, 59% were female and 41% male. Respondents' ages ranged from 18 to 33, with an average age of 20 (s.d. = 2.55). Participants' enrollment time with the university ranged from 3 months to 6 years and 4 months with an average time of two years.

The questionnaire asked participants to think of three meaningful actions taken by the university (as a whole) in response to the events of 9-11, and then to describe reasons why they found those actions meaningful. The data are based on the participants' retrospective thoughts of the events and their emotions, self-construals, and organizational images formed when they thought of a specific meaningful action they mentioned earlier in the questionnaire. Finally, the questionnaire measured organizational identification and attachment as well as demographic information and some control variables.

More than half the participants mentioned two specific meaningful actions. One hundred and twenty-three students (63% of the sample) mentioned the candlelight vigil that the university held in response to the events, and one hundred and fourteen students (58% of the sample)

singled out the university's canceling of classes on 9-11. Because the participants' responses were action-specific, we tested the hypotheses for each action separately⁸.

Measures

Virtuousness of organizational actions. We used three items to measure the degree of virtuousness for each action: 'Is this action humane (just, courageous)?' A 7-point scale was used: 1 = 'not at all', 4 = 'to some extent', 7 = 'completely'.

Positive emotions. We used eight items, six from Shaver and colleagues' positive emotion categories (joyous, happy, excited, content, proud, hopeful) (Shaver, Schwartz, Kirson, & O'Connor, 1987), one from Izard (1977) (interested), and one from Haidt (2000) (elevated). These emotions are highly likely to occur when people observe or experience virtuous actions. The item for each emotion reads: 'Please tell us how you feel when you think of the meaningful action taken by the university.' We employed 5-point response alternatives: 1 = 'very slightly or not at all', 5 = 'extremely'.

Virtuous self-construals. From Anderson's (1968) 555 personality-trait words we selected 9 words based on their relevance to individual virtuousness. Participants rated themselves on a 5-point scale anchored by two words that have opposite meaning to each other: selfish-unselfish, cold-hearted-warm-hearted, dishonest-honest, immoral-moral, unforgiving-forgiving, unethical-ethical, cowardly-courageous, tightfisted-generous, unfeeling-sympathetic.

Virtuous images of the organization. To measure virtuousness of organizational images, we used a count of virtue words mentioned in response to an open-ended question: 'When you think of the meaningful action taken by the university, what characteristics do you associate with the university?' Because most responses were four or fewer words, we used a 4-point scale: 0 = 'no virtue related words', 3 = 'more than three virtue related words'. Samples of virtue related

words are: humanity (caring, concerned, nurturing), justice (fair, justness, equal), and courage (courageous, perseverance). Two raters coded the responses and the interrater reliability was .92 for the candlelight vigil case and .90 for the canceling of classes case.

Organizational identification. We used a scale developed by Bergami and Bagozzi (2000). It includes two items, a visual measure that assesses the felt degree of overlap between one's own identity and the organization's identity, and a verbal report of organizational identification stating: 'Please indicate to what degree your self-image overlaps with the university's image.' The responses were anchored by 8 graduations of overlap and by 1 (not at all) and 7 (completely), respectively. Alphas were .81 for the candlelight vigil case and .82 for the canceling of classes case.

Organizational attachment. We measured organizational attachment using the 7-item scale developed by Allen and Meyer (1990). We used five response alternatives in a disagree-agree format with 1 indicating 'strongly disagree' and 5 'strongly agree'. Alphas were .85 for the candlelight vigil case and .90 for the canceling of classes case.

Control variables. We measured three control variables: the length of the period that participants have been enrolled at the university (1 item), the extent to which participants were affected by the events of 9-11 (1 item, 7-point scale) and the frequency that participants thought or talked about the events (3 items, 7-point scale). Alphas were .82 for the candlelight vigil case and .85 for the canceling of classes case.

Analysis

We used structural equations modeling with AMOS 4.0 and confirmatory factor analysis with SPSS 10.0 to analyze the structural model. Firstly, factor loadings and correlation coefficients of positive emotions and virtuous self-construals measurement items indicated that

they were composed of two constructs. Positive emotions items included two constructs: (1) present happiness positive emotions (i.e., joyous, excited, content, happy) capturing good feelings about something current and (2) forward-looking positive emotions (i.e., proud, hopeful) capturing emotions that involve expecting a future good to happen (e.g., Shaver et al., 1987). Virtuous self-construals contained two constructs: (1) moral self-construals (i.e., ethical, moral, honest) and sympathetic self-construals (i.e., warm-hearted, sympathetic, generous). For the constructs with more than three items, we created composite indicators for the latent constructs by taking means of pairs or triplets of items (Bagozzi & Heatherton, 1994)⁹.

Structural equations modeling procedures provide path coefficients to assess our hypotheses and a series of statistics that assess the overall fit of the model to the data. The chi-square value is commonly used to indicate model fit, although it can be criticized for being sensitive to sample size (Bentler & Bonett, 1980). We also used model fit indexes such as the root mean squared error of approximation (RMSEA), the root mean square residual (RMR), the non-normed fit index (NNFI), and the comparative fit index (CFI) (Bentler & Bonett, 1980; Browne & Cudeck, 1993; Tucker & Lewis, 1973). In addition, we conducted causal mediation chi-square difference tests to see if each mediating effect is full or partial (Bagozzi & Lee, 2002; Bergami & Bagozzi, 2000; cf., Baron & Kenny, 1986).

RESULTS

Descriptive Statistics and Correlations

Table 1 presents the means, standard deviations, and correlations between the variables in both holding a candlelight vigil and canceling classes cases. The correlations suggest that the measures achieve good convergent and discriminant validity.

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Structural Equations Modeling Results

Confirmatory factor analyses¹⁰ using AMOS 4.0 revealed that organizational identification and organizational attachment were two distinct factors as shown in past research (Bagozzi & Lee, 2002; Bergami & Bagozzi, 2000). Figures 1a and 1b report the results of the structural equations modeling analyses including the standardized path coefficients. By convention, RMSEA of .05 or less, RMR of .07 or less, NNFI and CFI of greater than .95 indicate a close fit of the model to the data.

University's action of holding a candlelight vigil. The model for the university's action of holding a candlelight vigil showed a good fit (RMSEA = .04, RMR = .06, NNFI = .97, CFI = .99, $\chi^2(49) = 56.77, p \leq .21$). The hypotheses received mixed support (See Figure 1a). Members who interpreted the university's action as humane and courageous experienced both (1) present happiness (for humane: $\beta = .21, p \leq .05$; for courageous: $\beta = .31, p \leq 0.01$) and (2) forward-looking positive emotions (for humane: $\beta = .22, p \leq .05$; for courageous: $\beta = .26, p \leq 0.5$). However, when members interpreted the university's action as just, they experienced less present happiness ($\beta = -.21, p \leq .05$). Thus, hypothesis 1 was partially supported. Hypothesis 2 was also partially supported. When members interpreted the university's action as courageous, they evaluated themselves as moral persons, with marginal significance ($\beta = .17, p \leq .10$). And members who interpreted the university's action as just thought of themselves as sympathetic ($\beta = .22, p \leq .05$). Members' interpretations of the university's action as humane, but not just or courageous (i.e., $\beta = .06, \beta = -.14$), contributed to virtuous images of the university ($\beta = .20, p \leq$

.05). Thus, hypothesis 3 was partially supported¹¹. Overall, the proposed general relationship was modestly supported that interpretations of the university's action as virtuous led to members' positive emotions, virtuous self-construals, and virtuous images of the university. However, because not all paths were statistically significant, the results only provide partial support for our hypotheses.

Hypothesis 4 was also partially supported. Members' positive emotions of present happiness, but not forward-looking positive emotions (i.e., $\beta = .01$), were positively related to their identification with the university with marginal significance ($\beta = .27$, $p \leq .10$). Contrary to our hypothesis, members with a moral self were associated with reduced identification with the university ($\beta = -.22$, $p \leq .05$). The path coefficient from members' sympathetic self-construals to organizational identification (i.e., $\beta = .13$) was not significantly different from zero, thus rejecting hypothesis 5. Virtuous images of the university were not significantly related to members' organizational identification (i.e., $\beta = -.02$), rejecting hypothesis 6. Thus, only the relation between members' positive emotions and their cognitive and emotional connection to the organization was positive and marginally significant. Finally, hypothesis 7 was supported in that members' identification with the university was associated with greater attachment to the university ($\beta = .85$, $p \leq .01$).

We tested the moderation effects of control variables on two variables: organizational identification and organizational attachment. The regression analysis results indicated that the longer the students were enrolled in the university, the more they felt attached to the university ($\beta = .23$, $p \leq .01$). The test of the significance of simple moderation (Jaccard, Turrisi, & Wan, 1990) showed that the more members thought or talked about the events, the more negative the effects of present happiness were on their organizational identification ($\beta = -.27$, $p \leq .05$).

Insert Figure 1a about here

University's action of canceling of classes. Although the chi-square for the structural model was significant ($\chi^2(49) = 76.56, p \leq .01$), the other fit indexes in general indicated that the model fits the data well (RMSEA = .07, RMR = .06, NNFI = .91, CFI = .95). The hypotheses received mixed support (See Figure 1b). Overall, the hypotheses related to the university's action here received weaker support than that of holding a candlelight vigil. Interpretation of the university's action as humane was related to forward-looking positive emotions with marginal significance ($\beta = .19, p \leq .10$). Members who interpreted the university's action as courageous felt positive emotions of both present happiness ($\beta = .21, p \leq .10$) and forward-looking ($\beta = .35, p \leq .01$). Thus, hypothesis 1 was partially supported. Hypothesis 2 was also partially supported. Members' interpretations of the university's action as humane were associated with thinking of themselves as sympathetic ($\beta = .30, p \leq .01$) but not moral (i.e., $\beta = -.10$). Members' interpretations of the university's action as humane, but not just or courageous (i.e., $\beta = -.13, \beta = .13$), were related to virtuous images of the university with marginal significance ($\beta = .18, p \leq .10$). Thus, hypothesis 3 was partially supported¹². Overall, the results are not strong, but provide some support to the general proposition that members' interpretations of university actions as virtuous influence members' responses.

Hypothesis 4 was also partially supported. Members' forward-looking positive emotions, but not positive emotions of present happiness (i.e., $\beta = .01$), were positively related to their organizational identification ($\beta = .24, p \leq .10$). Hypothesis 5 was not supported. Members' sympathetic self-construals were not significantly related to identification with the university

(i.e., $\beta = .16$). And contrary to our hypothesis, moral self-construals of members reduced their level of identification with the university but with marginal significance ($\beta = -.16, p \leq .10$). The path coefficient from virtuous images of the university to organizational identification was not significantly different from zero (i.e., $\beta = -.04$). Thus, hypothesis 6 was not supported. Overall, members' positive emotions were the only aspect of members' responses that was positively related to their cognitive and emotional connection to the organization with marginal significance. Hypothesis 7 was supported. When members cognitively identified with the university, their level of attachment to the university increased ($\beta = .79, p \leq .01$).

There were significant moderation effects by a control variable in our tests by multiple regression methods. We found that the more strongly members were affected by the events of 9-11, the more positive the effects of sympathetic self-construals were on organizational identification ($\beta = .21, p \leq .05$). In contrast, the more strongly members were affected by the events, the more negative the effects of moral self-construals were on their organizational identification ($\beta = -.21, p \leq .05$).

Insert Figure 1b about here

Causal Mediation Test Results

To verify the mediation effects and compensate for the limitations of cross-sectional design of the focal study, we compared the chi-square value of the final model (Figures 1a and 1b) with those of several models that involve additional direct paths from the antecedent variables to the outcome variables (Baron & Kenny, 1986; Bergami & Bagozzi, 2000). Table 2 reports the findings. First, a test of a model with reciprocal causation reveals that only the path

coefficient from organizational identification to attachment is significant, but not the reverse (M2). In M3, chi-square difference tests show that all effects on organizational attachment are fully mediated through member responses and organizational identification. Another mediation test shows that organizational identification fully mediates the effects of members' responses on organizational attachment (M4). The final test verifies nearly full mediation effects of members' responses on the relationship between interpreted virtuousness of organizational actions and organizational identification (M5). Overall, the proposed general relationships in the model were supported: interpreted virtuousness of organizational actions → members' responses → organizational identification → organizational attachment. The findings also show that non-hypothesized paths, other than the ones in the final model, were not significant.

Insert Table 2 about here

DISCUSSION

Our research provides initial support for the general proposition that virtuousness of organizational actions influences members' responses, which lead to organizational identification and attachment. We found that members can use virtue frames in interpreting organizational actions, and that these interpretations affected members' emotions, the way they interpreted themselves and their images of the organization. In both holding a candlelight vigil and canceling of classes cases, members' positive emotions and virtuous self-construals mediated the effects of interpreted virtuousness of organizational actions on members' organizational identification. The results suggest that organizational identification involves both cognitive and emotional aspects. Consistent with past research (Bagozzi & Lee, 2002; Bergami & Bagozzi, 2000), organizational identification predicted organizational attachment but not the reverse.

Our hypotheses received more support from the university's holding a candlelight vigil case than from the canceling of classes case. This may be due to greater involvement of social processes in making sense of this event (e.g., Weick's intersubjective sensemaking process), which strengthens the link between individual interpretations, reactions and connections to the organization. A candlelight vigil is a rare but strong emotional and spiritual experience with the university community coming altogether for a common purpose, showing care and concern for each other. In comparison, the canceling of classes is a more expected or less forthcoming university action than holding a candlelight vigil, and may have been experienced more as an individual than group benefit. Although participants mentioned both actions as meaningful, what these actions meant to members may be different.

There were two paths in the structural model that showed signs opposite to our hypotheses. First, the more members thought of themselves to be moral, ethical and honest, the less they defined themselves in terms of their membership in the organization. In addition, members' moral self-construals had negative effects on their organizational identification when they were strongly affected by the events of 9-11. Three reasons may explain these findings. First, to define oneself as moral, ethical, and honest assumes autonomy or independence, involving a sense of duty to follow moral law (Statman, 1997). People who see themselves this way may be relatively independent from, and may be less likely to think of themselves in terms of membership with social organizations, particularly a social organization that is not connected directly to the events of 9-11. Second, individuals tend to view themselves as more ethical than peers, coworkers, and others (Ford & Richardson, 1994), including the organizations they belong to (Reynolds, 2003). Because they view the organization as less ethical than themselves, members with strong ethical and moral self-construals may perceive less overlap between their

self-images and the images of the organization. Finally, seeing oneself as moral, ethical, and honest might be associated with a more conservative political ideology and values. Given a large public university research site with a reputation of liberalism, this may have diminished the desire of members who see themselves as moral so as to identify with the organization. Future research will need to explore this possible explanation.

Second, the more members interpreted the university's holding a candlelight vigil to be just, the less they felt joyous, excited, content or happy. Judgments on justice usually accompany a comparison with injustice (Solomon, 1993). When members used a virtue frame of justness to interpret the organization's action, they may have been tuned into both justice and injustice. In our case, the candlelight vigil was a gathering of the whole university community with different religions and value perspectives all represented, and a few speakers even made remarks about anti-hate crime issues. At that moment, positive emotions of happiness may have diminished, replaced by a more complex set of emotional reactions to these implications of the action, including negative feelings. Alternatively, because justice is a virtue that is supposed to hold on the basis of reason and not be subject to emotional concerns, it may be that the more people hold to or judge something to be just, the less they wish to associate emotion with it.

Virtuous images of the organization did not mediate the effects of interpreted virtuousness of organizational actions on members' organizational identification. We surmise that many people could not easily or spontaneously generate instances of virtuousness when asked to give "organizational characteristics" in an open-ended format.

General Discussion

The results suggest that members engage in parsing and interpreting organizational actions in terms of how virtuous they are, which in turn relates to members' connection to the

organization through their feelings and thoughts of themselves and of the organization. Our findings suggest that organizational actions are potentially important cues for members in understanding the organization. In particular, how much members self-identify with the organization depends partly on the level and type of virtuous meaning applied to organizational actions. Our research has implications for understanding sensemaking in organizations, especially the promise of virtue as a sensemaking frame, and for research on organizational identification and attachment.

First, our study improves understanding of how organizational members make sense of organizational actions in times of trauma or stress. Members may be most attentive to organizational actions when there have been major interruptions in “normal” life patterns (Weick, 1995) such as when unexpected events of tragic proportions impact a wide universe of institutions and individuals. Our findings affirm that organizations publicly convey actions in times of trauma and these actions acquire different meanings for members. In the same organization, a singular act (e.g., holding a candlelight vigil, canceling classes, etc.) signaled different meanings to different members in the light of how virtuous it was. Organizations act and members make meaning of these actions as a normal part of trying to discern what the organization is, what it stands for, and what it is likely to do in the future.

Second, our research builds on the literature on organizational virtue by introducing virtue frames as sensemaking lenses. Understanding an organization in terms of its general virtuousness has not been given much attention in organizational research. This gap exists despite the recent debate about the moral and ethical foundation of business practices. While public awareness and attention seem to be on the absence of virtuous conduct by certain organizations, we believe that people inside and outside also attend to the positive end of the

virtue spectrum. By a focus on virtue frames and their application to organization actions, we see how sensemaking is an ongoing process through which members respond emotionally and cognitively, shaping their identification with and attachment to the organization but most likely other behaviors as well. For example, interpreting organizational actions as virtuous may increase organizational citizenship behavior, willingness to cooperate, and intention to stay longer in the organization. More research on the importance of virtue frames is warranted.

Organizations might not display virtuous actions every day. But small actions seen as virtuous in certain situations may transform the meaning of an organization to its members. Following the events of 9-11, there have been numerous accounts of the significance of small moves that organizations have made to provide comfort and care to members (Dutton, Frost, Worline, Lilius, & Kanov, 2002). To the degree that these actions are seen as the “true heart and soul” of a workplace, the actions may transform the bases and strength of organizational membership. Similarly, in a negative way, small actions seen as explicitly unvirtuous (e.g., inhumane, unjust, cowardly) may do lasting damage to the foundation needed for bonding members to the organization as a whole.

Not all virtuous actions affect organizational members the same way. The types and degrees of virtuousness that members attributed to organizational actions were different for different actions. Also, the effects of interpreted virtuousness of organizational actions were different for different types of virtues. While different virtues share common ground by being admirable and socially valued, their association with organizational actions may unlock different psychological reactions. For example, the humaneness of organizational action may have been a more central and fitting filter for understanding what an organizational action meant in the context of the events of 9-11. Our results suggest that a more customized virtue-specific link to

outcomes may be warranted, representing an exciting future research opportunity. While organizational research has focused on justice as a frame for interpreting practices of organizations and people (e.g., Cropanzano et al., 2001), our research encourages consideration of underexplored virtue frames such as humanity and courage (Peterson & Seligman, 2004; Walker & Hennig, 2004)

Third, our research contributes to work on the meanings of organizational membership. Our research addresses how positive meanings about organizational actions contribute to members' cognitive and emotional connection to the organization. While there is growing interest in how the positive meaning of work affects organizational members (e.g., Pratt & Ashforth, 2003; Wrzesniewski, 2003) we see real promise in extending this interest to the consequences of positive meaning-making about organizational actions. While our results were mixed, the few significant paths, particularly between positive emotion and organizational identification, and from organizational identification to organizational attachment, provide some support for the processes of positive connection to the organization. The focus on meaning as a mechanism for organizational identification and attachment complements perspectives that emphasize how material rewards (e.g., Schaubroeck, 1996), leadership attributes (e.g., Pelled & Xin, 1997), and organizational practices (e.g., Tsui et al., 1992) contribute to or detract from members' bonds with the organization. By unpacking the black box between meanings of virtuous actions and organizational identification and attachment, we understand how virtuous behaviors create vital assets of positive connection to the organization.

Limitations

The present findings need to be considered in light of the research's limitations. First, respondents to our questionnaire might have been those who were affected by the events of 9-11

more than others, producing a biased distribution of acts and interpretations of those acts.

Second, we have looked at sensemaking as a single snapshot and not as a process (Weick, 1995).

The survey was administered three months after the target events implying that the data rely on participants' retrospective thoughts on the events. Third, we captured the degree of virtuousness for each action using single-item measures. Future research should work to develop more reliable and valid multiple time measures. Finally, generalizability is limited by the sample, the event, the actions and the subset of virtues studied.

CONCLUSION

Overall our research invites deeper exploration into the theoretical and empirical links between organizational actions and members' cognitive and emotional connections to the organization. The trauma and scale of the events of September 11th, 2001 are hopefully rare and unique. However, the process of members' sensemaking of organizational actions is common and relatively routine. Our hope is that by applying the frame of virtuousness to how members make sense, we uncover a significant and useful path for understanding members' meaning-making and its consequences. Further, by unpacking the mechanisms that explain how virtue frames shape members' positive connection to the organization, we see the potentially important role played by positive emotions and self-construals in the process of identification in organizations.

ENDNOTES

¹ On September 11th, 2001, four U.S. commercial airlines hijacked by a group of terrorists crashed into the World Trade Center in New York, the Pentagon outside Washington, D.C., and a field in Pennsylvania, killing more than 3,000 people. Hereafter, “the events of 9-11” stands for the events that happened on September 11th, 2001.

² We define actions as a cluster of related activities that serve a particular purpose.

³ We assume that the university web sites displayed a meaningful subset of organizational actions in response to the events of 9-11. We also assume that the universities updated their web sites frequently, considering the impact and importance of the events of 9-11.

⁴ A table of the range of organizational actions taken by the 34 universities in response to the events of 9-11 can be obtained from the authors by request.

⁵ We assume that students are members of a university they are enrolled in. There are a few studies that support our assumption (e.g., Elsbach & Kramer, 1996). In addition, Rafaeli (1997) has made a compelling case for this assumption.

⁶ A full set of responses can be obtained from the authors by request.

⁷ A full set of ANOVA results can be obtained from the authors by request.

⁸ Other actions mentioned included discussions held in class during the day after the events (37%), counseling support provided by the university (35%), and the university president’s letter sent to the community (19%)

⁹ We created one composite indicator each for moral and sympathetic self-construals, and two composite indicators for the positive emotions of present happiness and for organizational attachment.

¹⁰ For both holding a candlelight vigil and canceling of classes cases, the model with all endogenous items loading on one factor showed a poor fit (candlelight vigil: $\chi^2(2) = 12.576$, $p \leq .00$, RMSEA = .21, RMR = .05, NNFI = .87, CFI = .96; canceling of classes: $\chi^2(2) = 31.414$, $p \leq .00$, RMSEA = .36, RMR = .11, NNFI = .68, CFI = .90), whereas a two-factor model fit the data well (candlelight vigil: $\chi^2(1) = 0.168$, $p \leq .682$, RMSEA = .00, RMR = .00, NNFI = 1.02, CFI = 1.00; canceling of classes: $\chi^2(1) = 0.301$, $p \leq .583$, RMSEA = .00, RMR = .01, NNFI = 1.02, CFI = 1.00).

¹¹ We compared fit indexes between the research model and one with a “global construct of virtuousness of organizational action” that includes humaneness, justness and courage of the university’s action altogether in a single construct. The model with a global construct of virtuousness did not fit the data well ($\chi^2(59) = 80.287$, $p \leq .03$, RMSEA = .05, RMR = .10, NNFI = .94, CFI = .96), compared with the research model. Each organizational action may imply one or two specific virtues, rather than all virtues at the same time. Thus, combining three virtues as a single construct may offset the effects of each virtue, resulting in a poor fit of the model to the data.

¹² The model with a global construct of virtuousness did not fit the data well ($\chi^2(59) = 88.010$, $p \leq .01$, RMSEA = .07, RMR = .08, NNFI = .92, CFI = .95), compared with the research model.

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TABLE 1

Means, Standard Deviations, and Correlations: University's Holding a Candlelight Vigil ^a and Canceling of Classes ^b Cases

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Humane action	6.16 (5.41)	1.20 (1.60)													
2. Just action	5.23 (5.59)	1.61 (1.24)	.44** (.29*)												
3. Courageous action	4.55 (3.48)	1.82 (1.90)	.17 (.26*)	.43** (.35**)											
Positive emotions 1: Present happiness															
4. Factor 1: Joy, Excited	2.37 (2.38)	1.21 (1.16)	.16 (.11)	.01 (.08)	.26* (.20*)										
5. Factor 2: Content, Happy	2.94 (2.80)	1.18 (1.18)	.14 (.12)	.04 (.16)	.14 (.22*)	.76** (.77**)									
Positive emotions 2: Forward-looking															
6. Factor 1: Proud	4.20 (2.99)	1.07 (1.42)	.14 (.19*)	.13 (.14)	.15 (.27*)	.36** (.15)	.41** (.22*)								
7. Factor 2: Hopeful	3.96 (2.46)	1.01 (1.30)	.19* (.26*)	.06 (.21*)	.22* (.36**)	.50** (.36**)	.41** (.33**)	.56** (.60**)							
8. Moral Self-construal: Ethical, Moral, Honest	4.21 (4.25)	.53 (.52)	.03 (-.09)	.08 (-.03)	.17 (.06)	.08 (.01)	.15 (.06)	.10 (.07)	.13 (.10)						
9. Sympathetic Self-construal: Warm- hearted, Sympathetic, Generous	4.16 (4.06)	.63 (.64)	.23* (.35**)	.28* (.25*)	.14 (.21*)	-.07 (.02)	-.07 (.05)	.04 (-.05)	.24* (.14)	.19* (.17†)					
10. Virtuous Organizational Images	1.40 (1.29)	.94 (.93)	.20* (.17)	.08 (-.03)	-.08 (.13)	.08 (.00)	.08 (.06)	.22* (.27*)	.17 (.21*)	-.07 (-.09)	.17 (.08)				
Organizational Attachment	11. Factor 1	3.76 (3.68)	.83 (.95)	.08 (.26*)	.11 (.15)	.08 (.09)	.13 (.14)	.10 (.19*)	.14 (.10)	.08 (.20*)	-.04 (.00)	.14 (.29*)	.01 (.04)		
	12. Factor 2	3.81 (3.71)	.77 (.90)	.00 (.14)	.00 (-.04)	.11 (.00)	.15 (.05)	.14 (.07)	.17 (.13)	.11 (.13)	-.09 (.00)	.10 (.21*)	.05 (.10)	.72** (.81**)	
Organizational Identification	13. Factor 1	4.44 (4.32)	1.39 (1.56)	.15 (.20*)	.07 (.17)	.13 (.18)	.14 (.01)	.09 (.11)	.13 (.10)	.10 (.18)	-.13 (-.11)	.09 (.14)	.07 (.08)	.60** (.69**)	.63** (.67**)
	14. Factor 2	3.64 (3.61)	1.08 (1.16)	.10 (.10)	-.02 (.11)	.19* (.10)	.27* (.13)	.22* (.20*)	.22* (.18)	.11 (.19*)	-.19* (-.12)	-.03 (-.02)	.00 (-.10)	.57** (.53**)	.62** (.53**)

^a N = 123, ^b N = 114 (The means, standard deviations, and correlations for the canceling of classes case are in parentheses.)

† p < .10

* p < .05

** p < .01

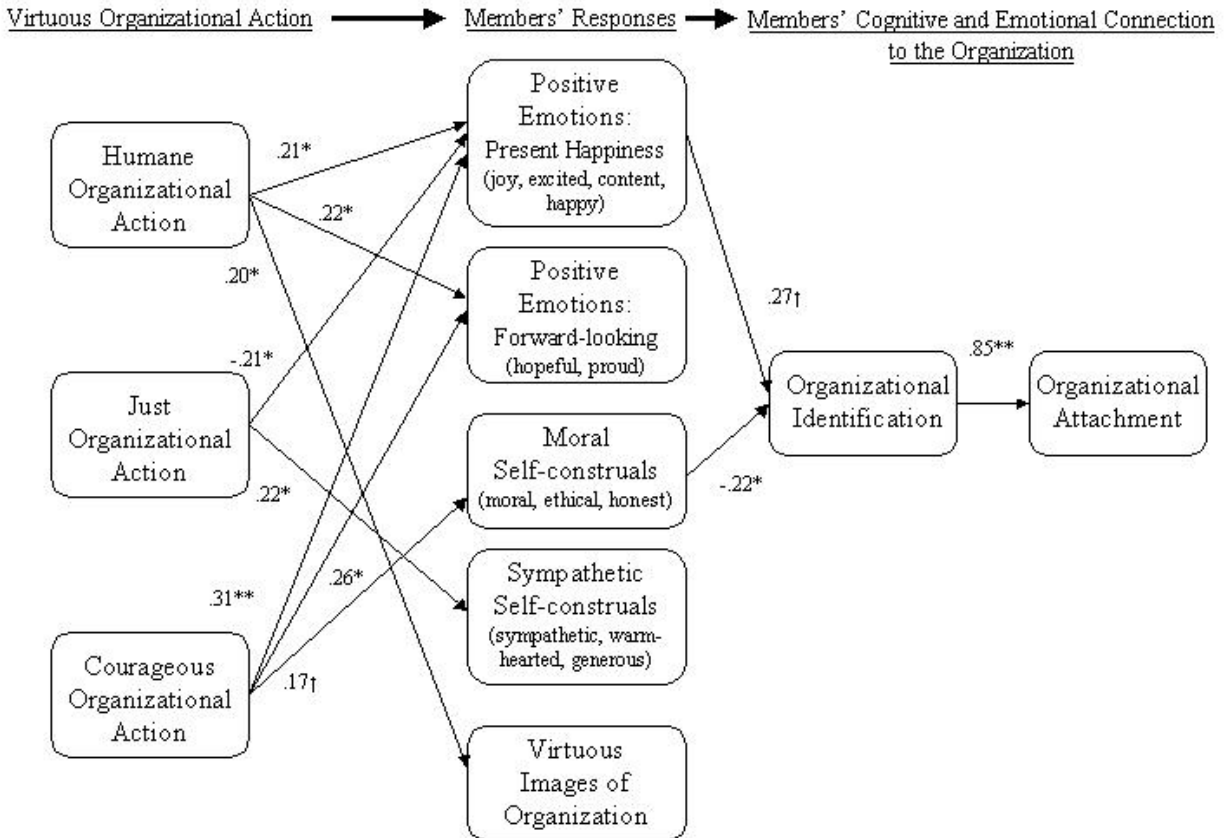
TABLE 2

Tests of Causal Mediation in Figure 1a (Candlelight Vigil) and 1b (Canceling of Classes)

Model		Candlelight vigil: Goodness-of-fit and Test of causal mediation	Canceling of Classes: Goodness-of-fit and Test of causal mediation	Conclusion
M1	Baseline (Figures 1a and 1b)	$\chi^2 (49) = 56.77, p = .21$ RMSEA = .04 RMR = .06 NNFI = .97 CFI = .99	$\chi^2 (49) = 76.56, p = .01$ RMSEA = .07 RMR = .06 NNFI = .91 CFI = .95	
M2	Reciprocal causality between organizational identification and organizational attachment	$\chi^2 (48) = 56.11, p = .20$ M2 – M1: $\chi^2 (1) = .66, p = .42$	$\chi^2 (48) = 73.12, p = .01$ M2 – M1: $\chi^2 (1) = 3.44, p = .06$	Organizational identification influences organizational attachment, not vice versa.
M3	Added paths from virtuous organizational actions to organizational attachment	$\chi^2 (46) = 53.88, p = .20$ M3 – M1: $\chi^2 (3) = 2.88, p = .41$	$\chi^2 (46) = 72.21, p = .01$ M3 – M1: $\chi^2 (3) = 4.35, p = .23$	Member responses and organizational identification mediate the effects of virtuous organizational actions on organizational attachment.
M4	Added paths from member responses to organizational attachment	$\chi^2 (44) = 53.28, p = .16$ M4 – M1: $\chi^2 (5) = 3.48, p = .63$	$\chi^2 (44) = 66.75, p = .02$ M4 – M1: $\chi^2 (5) = 9.81, p = .08$	Organizational identification mediates the effects of member responses on organizational attachment.
M5	Added paths from virtuous organizational actions to organizational identification	$\chi^2 (46) = 53.89, p = .20$ M5 – M1: $\chi^2 (3) = 2.87, p = .41$	$\chi^2 (46) = 75.08, p = .00$ M5 – M1: $\chi^2 (3) = 1.48, p = .69$	Member responses mediate the effects of virtuous organizational actions on organizational identification.

FIGURE 1a

Structural Equations Modeling Results: Candlelight Vigil^a



^a Only statistically significant paths are shown.

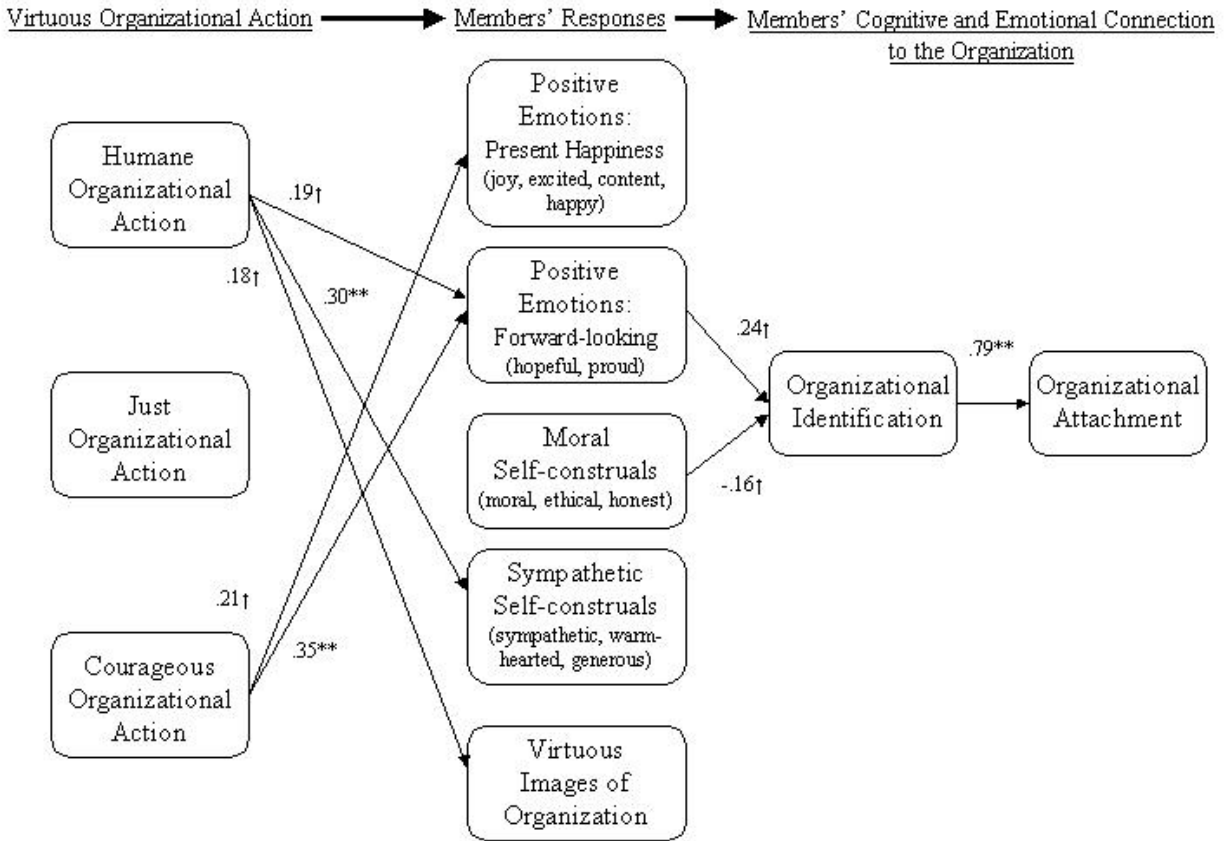
† $p < .10$

* $p < .05$

** $p < .01$

FIGURE 1b

Structural Equations Modeling Results: Canceling of Classes^a



^a Only statistically significant paths are shown.

† $p < .10$

* $p < .05$

** $p < .01$