

Communicatively Restricted Organizational Stress (CROS) I: Conceptualization and Overview

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Abstract

In this paper, we conceptualized a new organizational variable, Communicatively Restricted Organizational Stress (CROS). CROS is a perceived inability to communicate about a particular stressor and functions to exacerbate negative outcomes related to the appraisal of that stressor. To aid in our conceptualization, we reviewed extant literature on organizational stress and social support. We also collected open-ended data from a national sample of 354 workers. The responses to these questions lead us to specific themes about the nature and function of CROS. Finally, we proposed a conceptual conditional process model with two primary propositions: (a) An organizational member who reports high levels of CROS will experience negative outcomes, regardless of reported level of social support and (b) An organizational member who reports high levels of CROS will experience negative outcomes, regardless of the severity of the stressor.

Keywords: Social Support, Worker Relationships, Stress Buffering, Topic Avoidance, Job Stress

Communicatively Restricted Organizational Stress (CROS) I: Conceptualization and Overview

Socially-supportive transactions and the perception of a large support network are typically seen as valuable features of organizations, especially those plagued with high stress. In fact, social support is the typical prescription for psychosocial stress in an organizational setting (Zimmermann & Applegate, 1994). However, we believe that due to certain organizational or individual reasons, workers may feel that they are restricted in their ability to talk about particular stressful issues with others. Therefore, in this paper, we explore the development of a new phenomenon labeled *Communicatively Restricted Organizational Stress (CROS)*. In developing a clear conceptual framework for this variable, we first review extant literature on stress and social support. From there, we discuss potential mechanisms for communication restrictedness. Then, we analyze data from a nationwide survey to aid us in discussing the various attributes of CROS. Finally, in our discussion, we create a conceptual model using CROS and discuss some practical applications and organizational contexts where CROS might be most prevalent.

Background

Stress at Work

Stress is a complex phenomenon that is both psychological and physiological. However, generally speaking, stress can be defined as a response to external forces (stressors) that impact the body's proper functioning (see Hellhammer & Hellhammer, 2008) leading to a reaction (strain) from the individual (Ganster & Rosen, 2013). Stressors can take physical, environmental, emotional, relational, and/or social forms (Seegerstrom & Miller, 2004). Individuals psychologically appraise a stressor as potentially harmful, thereby activating a physiological

hormone-mediated cascade response in the body originating in the hypothalamus with the ultimate result of producing glucocorticoids and catecholamines, chief of which are cortisol and epinephrine (Boren & Veksler, 2011). While often associated with negative outcomes, the stress response (or the process of allostasis) has both adaptive and protective benefits. However, over long periods of time, the effects of this process can build up and take a toll on the human body, a phenomenon labeled “allostatic load” (McEwen, 2000). In addition to physiological effects, stress can also lead to psychological damage. Specifically, an individual is likely to experience negative psychological effects when he or she perceives insufficient resources to meet the demands of a stressor (see Lazarus & Folkman, 1984). While much more can be said about how stress occurs, our goal in this paper is not to explore the body’s stress process with depth. Rather, we intend to conceptualize a particular and applied “meta-stressor,” which we view as having the potential to escalate these processes.

Workers experience many stressors daily including environmental (e.g., safety, chemical exposure, noise), physical (e.g., labor, ergonomic issues), and psychosocial (e.g., poor workplace relationships, job security, organizational culture) pressures. Given these, we conceptualize *work stress* in the same way that Ganster and Rosen (2013) did, as “the process by which workplace psychological experiences and demands (stressors) produce both short-term (strains) and long-term changes in mental and physical health” (p. 4). For the purposes of this project we pay particular attention to psychosocial stressors specifically, while acknowledging that other stressors also contribute to the overall stress model.

From an organizational and economic perspective, stress disorders are incredibly costly. For instance, in a recent presidential address given at the Annual Academy of Management meeting, Tsui (2013) noted that the cost of stress for American organizations has increased from

\$11 billion in 1999, to an estimated cost of over \$300 billion in 2012. More specific effects of job stress on organizations include “impaired functioning at work, absenteeism, and health care costs incurred by employers” (Ganster & Rosen, 2013, p. 2). While these effects are damaging to an organization, the effects of work stress on an individual worker are even more detrimental.

Work stress affects an individual in multiple ways (Boren & Veksler, 2011).

Physiologically, chronic stress and allostatic load have been associated with the metabolic syndrome and cardiovascular disease (Chandola, Brunner, & Marmot, 2006), dysregulation of the stress-response system (Ganster & Rosen, 2013), downregulation of the immune system (Segerstrom & Miller, 2004), and even worker mortality (Shirom, Toker, Alkaly, Jacobson, & Balicer, 2011). Psychologically, workers under chronic stress report high amounts of depression and anxiety and are under greater risk for post-traumatic stress disorder (McEwen, 2000). One concept, in particular, that has been linked extensively with work stress in the literature is job burnout (Maslach, Schaufeli, & Leiter, 2001).

Burnout is a psychological staged-concept that typically leads to a behavioral outcome. Maslach and colleagues (2001) defined burnout as “a psychological syndrome in response to chronic interpersonal stressors on the job” (p. 399). When an individual experiences burnout, he or she may start to report feelings of emotional exhaustion, which would lead to cynicism (or objectification of coworkers, clients, and/or customers), and end with the perception of a lack of professional efficacy. Those workers who report all three of these elements are typically said to be “burnt-out,” but only the first part of the tripartite process (emotional exhaustion) need be present for the behavioral elements of burnout to manifest (Maslach & Jackson, 1981; Maslach et al., 2001). Importantly, burnout is a direct result of the psychological working environment and is highly attributed to interpersonal factors, job demands, and a lack of job resources

(Schaufeli & Bakker, 2004). Burnout is most prevalent in service-related fields, common among workers below the age of 30, and is reported frequently by workers who interface directly with customers, patients, or students (Schaufeli & Bakker, 2004). Taken together, work stress includes both physical and/or psychological issues appraised as stressors, results in a physiological and psychological response, and has both short- and long-term effects on the individual and the organization.

Models of Work Stress. There are many extant theoretical models of work stress, including balance models. One such balance model, the demand-control model (DCM; Karasek, 1979), emphasizes dysphoric feelings as the result of an imbalance between job-related demands and individual control over those demands. An alternative model, the effort-reward imbalance model (ERI; Siegrist, 1996) posits that a lack of equity will lead to stress – that individuals who are high in organizational effort and receive low rewards (e.g., salary, promotion, recognition) will have high levels of stress. Both of these models presuppose that job-related demands are the primary cause of stress in the workplace and that creating balance between these stressors and potential for individualized reward would stabilize the stress-process. Indeed, there are more complex stress-related interactions that take place within an organizational context, such as the relationships between coworkers, organizational culture, and self-efficacy. When combined with a deeper exploration of the psychosocial construct of burnout, both the DCM and the ERI are not easily applied to many service-based organizations. In an effort to rectify this issue, Demerouti, Bakker, Nachreiner, and Schaufeli (2001) proposed an updated theoretical perspective, which they termed the job demand-resources (JD-R) model.

Within the JD-R framework, job demands refer to “those physical, social, or organizational aspects of the job that require sustained physical or mental effort” (Demerouti et

al., 2001, p. 501), leading to the potential for “physiological and psychological costs” (p. 501). Job demands can come in a variety of forms, many of which are elucidated earlier in this paper. Protecting an individual from the negative effects of these job demands are job resources, which can be “physical, psychological, social, or organizational” (Demerouti et al., 2001, p. 501). Job resources can “[a] be functional in achieving work goals, [b] reduce job demands and the associated physiological and psychological costs, and/or [c] stimulate personal growth, learning, and development” (Bakker & Demerouti, 2007, p. 312). The real benefit of this theoretical approach is that job resources are not just a reaction to job demands; rather, job resources can be available for developmental and adaptive purposes. Bakker and Demerouti (2007) further argue that resources might originate from the organization (as is the case with pay) or from other people in the organization (such is the case with social support). The JD-R model proposes that increasing organizational resources leads to higher levels of employee motivation, resulting in both individual- and organizational-level performance-based outcomes. Taken together, the perceived ability to rely on coworkers in times of increasing demands is a job resource.

Social Support

Social support is the availability of social resources including general social integration (i.e., the ability to interact with others) and access to instrumental, informational, or emotional assistance in times of need (Cohen & Wills, 1985). Both actual (received) support, as well as expected (perceived) support, have long been correlated with beneficial outcomes (Cohen, Gottlieb, & Underwood, 2000; Cohen & Wills, 1985). A growing body of research details the benefits of social support on psychological variables such as coping ability, anxiety, and depression (Cohen & Wills, 1985), among others. Furthermore, social support has a robust

influence on physiological health outcomes including cardiovascular, neuroendocrine, and immune system function (Uchino, Cacioppo, & Kiecolt-Glaser, 1996; Uchino, 2006).

Researchers have proposed two mechanisms by which social support leads to beneficial outcomes. According to the direct (or main) effects model, social support is salubrious because social interactions promote perceptions of self-esteem and other positive appraisals, promote physiological health (via neuroendocrine processes), and encourage healthy behaviors (Cohen & Wills, 1985; Uchino, 2006). On the other hand, the stress buffering model argues that social support helps an individual handle the challenge presented by a stressor (Cohen et al., 2000). The stressor either becomes more manageable, or is appraised as less challenging, thereby decreasing the experience of stress (and as such, allostatic load). Furthermore, simply the perceived availability of support shores up one's perceived cache of resources. Therefore, in times of hardship, one is buffered from the deleterious effects of stress (Cohen & Wills, 1985).

Social Support in Organizations. In organizations, social support networks are embedded into the working environment, whereby coworkers typically communicate about their workplace stressors and seek ways to collectively remediate those issues (Zimmermann & Applegate, 1994). The exchange of socially supportive transactions occurs between individuals of the same rank as well as between supervisors and subordinates. Much like in a non-organizational domain, social support involves highly communicative transactions and is comprised of a few key elements. First, organizational colleagues can provide each other with information support messages, or those messages that help to improve knowledge or understanding of an issue. Second, members can provide each other with instrumental (sometimes called tangible) support, which may involve concrete assistance. Finally, morale is communicated among workers through emotional support (Zimmermann & Applegate, 1994).

The value of a socially-supportive environment can be very pronounced. For instance, in a large-scale 20-year longitudinal study, researchers found that increasing peer- and supervisor-support reduced risk of worker mortality (Shirom et al., 2011). Lack of organizational social support has been linked with heart disease (Eller, Netterstrøm, Gyntelberg, Kristensen, Nielsen, Steptoe, & Theorell, 2009) and diabetes (Toker, Shirom, Melamed, & Armon, 2012). Therefore, many organizations attempt to foster a positive communicative environment whereby workers can engage in social support.

From a JD-R perspective, social support is considered a situational variable that tends to provide a clear buffer to the negative effects of stressors. In this case, the socially-supportive transactions become a job resource that gives an individual worker the ability to manage job strain (Bakker & Demerouti, 2007). In the context of the stress buffering hypothesis (Cohen & Wills, 1985), increasing perceived social support would guard against negative individual and organizational outcomes under increasing stress or strain. Social support from colleagues, especially instrumental support, can also directly affect the stressor in that colleagues would be present to assist a worker with task completion (Bakker & Demerouti, 2007). Yet, the positive effects of social support can only be realized when there is an available support network to use in an organization (Zimmermann & Applegate, 1994).

While social support is typically seen to have beneficial individual- and organizational-level outcomes, recent literature has suggested that not all social support is beneficial. In discussing problems with one another, individuals may engage in a process known as co-rumination (Rose, 2002). Co-rumination is excessive problem-talk about an issue whereby individuals extensively talk about their problems with no real discussion of solutions and with messages that tend to focus on their negative feelings. Individually, co-rumination has been

associated with increasing levels of stress hormones (Byrd-Craven, Granger, & Auer, 2011) and has been seen to reduce some of the positive psychological benefits of social support (Boren, 2013). From a social support perspective, individuals feel as if they are engaging in a supportive transaction when they co-ruminate. However, in a study of 447 working adults, Boren (2014) found that co-rumination suppressed the positive benefits of perceived social support on both burnout and stress. In this sense, “the ability to share a stressful experience with a coworker may be beneficial to the worker only when the content of social support remains focused around solving the problems and not dwelling on problems” (Boren, 2014, p. 16). Unfortunately, people are rarely consciously aware that they are engaging in co-rumination and even co-ruminative exchanges are perceived as socially supportive (Boren, 2013, 2014; Rose, 2002). Therefore, in general, people tend to turn to their support networks when dealing with various stressors or problems they encounter on a day- to-day basis to meet their need for social support (Collins, Ford, & Feeney, 2011). Nevertheless, under certain circumstances, people may choose not to disclose about their problems for a variety of reasons.

Communicatively Restricted Organizational Stress

Thus far, we have outlined the pervasive nature of organizational stress, and the deleterious effects of stress on workers. Furthermore, we have outlined a means by which organizational members often cope with their stress (i.e., social support). We turn our attention now to a special case of organizational stress that cannot be alleviated through social support because individuals believe that they are unable to (or are limited in their ability to) discuss their stressors with others. In other words, organizational members believe they are *restricted* in their ability to communicate about their organizational stressors. We deem this phenomenon, Communicatively Restricted Organizational Stress (CROS).

We conceptualize CROS as a perceived inability to communicate about a particular stressor. CROS is a meta-stressor in so far as it starts with the appraisal of an initial stressor (e.g., conflict with co-workers, lack of job security, unsafe work conditions, etc.) and functions to exacerbate the experience of stress caused by that stressor. CROS functions in multiple ways. First, the experience of CROS decreases an individual's ability to directly address and/or resolve the stressor. Second, CROS can be experienced as a lack of social support if an individual feels that he or she has few (if any) people to turn to for help. Next, CROS can be experienced as a decrease in coping ability if one's perception of available support is reduced. Finally, CROS can frustrate one's ability to convert perceived support into received support.

Research suggests that perceived support confers benefits on an individual precisely because he or she believes that the support will be available in times of need. Therefore, the benefits of perceived support deteriorate when one is not able to actually engage the support system (Norris & Kaniasty, 1996). In the case of CROS, not only are the benefits of perceived support attenuated, but initial stress becomes compounded (a result of the frustration associated with learning that one's perceptions of availability of support were inaccurate). The feeling that support is theoretically available, but just out of reach, becomes an additional stressor for the individual. Therefore, we argue that CROS is not merely the lack of social support in an organizational context. Rather, CROS functions to exacerbate the experience of organizational stress because individuals are unable to a) remediate the problem, b) obtain emotional support, and c) confirm expectations about availability of support in times of need.

Causes of Restrictedness. Organizational members may feel that they cannot communicate about their stressors for a variety of reasons. Within an organizational framework, individuals are involved in an intricate web of interpersonal relationships and power dynamics

(Morgan, 2006). As a result, individuals often feel that organizational stressors cannot (or should not) be discussed with others because of the potential risks associated with self-disclosure. Research on topic avoidance indicates that these risks can include self-protective motivations such as the fear of exposure, fear of abandonment, and fear of angry attacks from others, as well as relationship oriented motivations such as fear of conflict, fear of relational de-escalation, or fear of relational termination (Guerrero & Afifi, 1995). Additionally, Guerrero and Afifi identify partner unresponsiveness (fear the other will think that the issue is inconsequential/meaningless, or fear that the other does not have the requisite knowledge to help deal with the issue), and social inappropriateness, as reasons people may choose not to self-disclose. In organizational settings, additional forces may be in play such as rules about confidentiality, pressure from others, or a culture that values conformity and self-silencing.

In some cases, individuals are able to turn to certain members of one's support network, but not to others (Guerrero & Afifi, 1995). For example, if an individual is having trouble negotiating the terms of a contract with a client, he or she may not want to disclose that information to a supervisor (fear of retribution), to a co-worker (fear of competition), to a subordinate (fear of loss of face, guilt, or shame), but may feel comfortable talking to a friend or family member. Alternatively, one may not want to discuss work stressors with a spouse (fear of partner unresponsiveness), but may be open to communicating about the stressor with one's co-workers. In some cases, an individual might feel that she or he cannot discuss issues with anyone. In any case, this feeling of communicative restrictedness can decrease the perceived size of one's support network and impede one's ability to fully address the target stressor.

Some organizational issues stand in contrast to CROS, such as dissent and circumvention. Dissent occurs when a member feels as if he or she is different from the organization and then

expresses “disagreement or contradictory opinions about [the] organization” (Kassing, 1997, p. 312). Kassing (1997) proposes a four-step model of organizational dissent whereby a member first recognizes a distinction between his/her opinion and that of the organization, considers alternatives to expression, determines an appropriate communicative strategy, and then expresses the dissent message. Dissent can occur in an upward-fashion from subordinate to superior (Kassing, 2007) or among individuals of the same level (Garner, 2013). Given that the first element of the dissent model involves a member cognitively assessing differences between the organization and him or herself, we believe that CROS could act to exacerbate that feeling of difference. However, since CROS involves the perceived lack of a supportive outlet, individuals experiencing feelings of both dissent and CROS might become even more frustrated because of their inability to verbalize their feelings of dissent.

Based on the argument outlined above, we believe that organizational stress can be exacerbated when individuals perceive that they are restricted in their ability to discuss their stressors with others (i.e., are experiencing CROS). Furthermore, we believe that CROS is a pervasive problem and that workers in a wide range of organizations are likely to experience it. Finally, we believe that an understanding of what causes CROS and how CROS is experienced could potentially lead to innovative workplace interventions that can help address the issue of job stress and potentially help alleviate the negative effects associated with it. To examine these assumptions, we collected some preliminary data from a nationally representative sample of adult workers to determine whether their experiences comport with our conceptualization of CROS. The following research questions guided our work:

RQ₁: Do organizational members perceive that they are restricted in their ability to discuss their organizational stressors with others?

RQ₂: Is being restricted in ability to discuss organizational stressors perceived as stressful?

RQ₃: What stressors do organizational members avoid discussing with others?

RQ₄: Whom do organizational members avoid discussing their stressors with?

RQ₅: Why do organizational members avoid discussing their stressors with certain people?

RQ₆: Is Communicatively Restricted Organizational Stress (CROS) associated with (a) global perceived stress, (b) job burnout, and (c) social support?

Method

We employed a survey-based approach by contracting with Qualtrics (Provo, UT), a third-party company, which was responsible for locating our respondents. We selected Qualtrics because we were looking for a national sample from workers in a variety of roles and industries (see Table 1). Qualtrics uses a variety of sources for locating respondents, who were monetarily compensated for their participation. Qualtrics pre-screened participants to ensure that they would qualify for our study (most notably people who were working at least 30 hours per week, over the age of 18, and native English speakers). To ensure data integrity we utilized multiple best practices for opt-in online panels (see Sue & Ritter, 2012). Qualtrics first pilot tested the questionnaire to ascertain average completion time, then we used that average completion time as an exclusion criterion for the actual panel data (i.e., anyone lower than the first standard deviation unit of the time to complete was dropped). We employed trap questions/attention filters throughout the questionnaire, prevented multiple submissions using IP address verification, and Qualtrics automatically removed any response that failed to answer key survey questions. The study protocol was approved by both authors' institutional review boards and data were

anonymized before being sent to the researchers from Qualtrics. Given the demographics of the participants and the thoroughness of their responses, we believe that our integrity-verification techniques produced a valid sample.

Participants

The sample consisted of 354 US residents (representing 43 states); 43.8% were male and 56.2% were female, ranging in age from 21-73 ($M = 43.94$). Most were White/Caucasian (80.2%) with the remainder identifying as Black/African/African-American (10.2%), Asian/Asian-American (6.2%), Latino/Latina (5.6%), Native/Pacific Islander (.6%), Middle Eastern/Indian (.3%), or “other” (.6%). Respondents had been employed with their current organization for 1-40 years ($M = 9.52$), working 30-80 hours a week ($M = 41.47$), in either private for-profit (78%), private not-for-profit (6.5%), or government (14.6%) organizations. Participants were primarily employees (69.2%), with the reminder working in management (20.9%) as owners (1.1%), consultants (1.7%), or “other” (7.1%). Salaries ranged from < \$20,000 to > \$90,000 with a median salary range of \$60,000-69,000. The participants worked in a varied set of industries, reported in Table 1.

-- Table 1 Here --

Instrumentation

Participants completed the following previously-validated measures: The Maslach Burnout Inventory General Survey (MBI-GS; Maslach, Jackson, & Leiter, 1997), Perceived Stress Scale (PSS-10; Cohen, Kamarck, & Mermelstein, 1983), a Perceived Organizational Support measure (Eisenberger, Cummings, Armeli, & Lynch, 1997), and the multidimensional Scales of Perceived Social Support (SPSS; Macdonald, 1998). All of the measures had acceptable Cronbach alpha reliabilities (burnout emotional exhaustion dimension $\alpha = .95$,

burnout cynicism dimension $\alpha = .87$, burnout professional efficacy dimension $\alpha = .80$; PSS-10 $\alpha = .88$; organizational support $\alpha = .91$; supervisor social support $\alpha = .93$, coworker social support, $\alpha = .89$, and family social support $\alpha = .89$). Additionally, a series of open ended questions were designed to probe experience with CROS.

Coding

The responses to open ended questions represented our corpus of qualitative data (Braun & Clarke, 2006) which consisted of 721 unique responses that averaged from a few words to a few sentences in length. These data were compiled in an excel spreadsheet and coded for themes by both authors using procedures based on thematic analysis (Braun & Clarke, 2006). We adopted Strauss and Corbin's (1998) method of “descriptive coding” to categorize qualitative responses. In all, we had four data sets (one for each question asked). While we wanted to anchor our analysis in established procedures for thematizing qualitative data (Braun & Clarke, 2006), our goal was not to develop grounded theory (Glaser & Strauss, 2009), as we were not working with a particularly rich corpus of qualitative data. Therefore, coding was conducted inductively at the semantic level (Braun & Clarke, 2006). After reviewing the corpus of data in its entirety several times to familiarize ourselves with participant responses, we began the coding process by reviewing one data set at a time. Initially, for each participant response, we generated a code/category (or series of categories if multiple ideas were present in a single response). As we worked, we compared incidents with others coded into the same category in order to “generate theoretical properties of the category” (Glaser & Strauss, 2009, p. 106) and resolved any disagreements through consultation. Categories and their properties were integrated into themes as the coding process continued, and themes were collapsed as we identified higher order themes that better represented our data. Finally, we reviewed our data sets again in full to ensure that the

themes and sub-themes identified accurately represented the data. We use the resultant themes and exemplars to represent “a rich description of the data sets” (Braun & Clarke, 2006, p. 83) generated by the participant responses.

Results

Our first open-ended question asked participants “are there things that you find stressful at work, which you feel you can’t (or are limited in your ability to, or don’t want to) talk about with certain people?” Of the 354 participants, 225 (64%) answered in the affirmative indicating that restrictedness does exist for this sample of working adults; therefore, our first research question is answered in the affirmative. As a follow-up, we asked participants whether they agreed or disagreed that their inability to discuss their problems with others was stressful (measured on a Likert scale). As an answer to research question two, most participants reported that they found the experience of CROS to be very stressful (Strongly Agree, $n = 61$, 27%; Agree, $n = 115$, 51%; Neither Agree nor Disagree, $n = 37$, 16%; Disagree, $n = 9$, 4%; Strongly Disagree, $n = 3$, 1%). When asked why they answered this question the way they did, participants responded in ways that were consistent with how CROS has been conceptualized above. Some representative responses are: “I can’t really discuss it with anyone who would be able to relate to it,” “because, not being able to discuss what's on my mind is a heavy burden to carry,” “just can't get it off my chest it just burns me up,” and “If I can't discuss it, I feel like it festers and gets worse.” It is clear from the responses to this question that participants’ inability to discuss their organizational stressors was experienced as stressful and we therefore draw the conclusion that CROS does exist for this sample.

Sources of stress. To address research question three, the first open ended question asked participants to list all of the stressful things they felt that they couldn’t (or were limited in their

ability to) talk to others about. Our coding of the data revealed stressors pertaining to characteristics of the job and/or organization, stressors pertaining to other organizational members' behaviors, stressors pertaining to interpersonal relationships, and stressors pertaining to personal/psychological variables (Table 2).

-- Table 2 Here --

Sources of restrictedness. To address research questions four and five, our next two open-ended questions asked participants to report whom they avoided discussing these issues with, and why they avoided talking to them about these issues. Results indicate that participants avoid discussing stressors with their Boss/Direct Supervisor, Other Superiors/Management, Executives, Subordinates, Coworkers, Spouses, Family Members (other than spouse), Friends, and/or the Person/People who is/are the Source(s) of the Stress. We therefore conclude that CROS is not limited to a particular relationship, but is experienced with a variety of people both within, and outside of, the organization. It is of note that while some participants identified only one individual, others indicated that they avoided discussing their issues with multiple people (e.g., "my coworkers, spouse, and parents"). To further probe the extent to which individuals experience restrictedness across multiple relationships, we asked participants whether there were issues that they felt that they could not discuss with *anyone*. Of the 225 who indicated experiencing CROS, 30% ($n = 68$) responded in the affirmative.

Participants identified a wide range of reasons for why they felt they were restricted in their ability to discuss their issues (Table 3). Our analysis of the data indicated that the reasons people provided for perceiving restrictedness did not differ depending on whether they were restricted in discussing their issues with only some people, versus whether they felt they could not discuss their issues with anyone. In the latter case, the only new categories that emerged were

Issue Avoidance (e.g., “Raises questions about how I will deal with these issues”) and Dissonance (e.g., “I shouldn’t feel or think this way”).

-- Table 3 Here --

To determine whether the experience of CROS was associated with other known constructs (RQ₆), we calculated correlations between the extent of participants’ CROS (how stressful they perceived it to be), job burnout, global perceived stress, organizational support, and social support (Table 4). Results indicated that CROS was positively associated with global stress ($r = .34, p < .05$) and two dimensions of job burnout (Emotional Exhaustion, $r = .39, p < .05$; Cynicism, $r = .27, p < .05$), and negatively associated with organizational support ($r = -.25, p < .05$), supervisor support ($r = -.26, p < .05$) and coworker support ($r = -.11, p < .05$).

-- Table 4 Here --

Discussion

The primary goal of this project was to explore a new concept related to organizational members’ experience of stress. We identified a novel stressor, which we earlier called a “meta-stressor” that would potentially impact the benefit of perceived social support. By collecting data from a nationally-representative sample and thematically coding the open-ended data, we are able to clearly articulate the concept.

Our first research question asked whether organizational members ever perceived that they were restricted in their ability to discuss their organizational stressors with others. Conceptually, we were interested in determining whether CROS existed and whether individuals were able to recognize it in their own lives. Slightly more than two thirds of our sample reported that they either did not want to, or were limited in their ability to discuss things that they found stressful at work. While we take as a given that all workers encounter organizational stressors

(Ganster & Rosen, 2013), the data presented herein provide support for our assumption that in some cases, individuals are restricted in their ability to talk about them. Our second research question asked about the extent to which this restrictedness was appraised as stressful. Notably, more than three quarters of those who experienced restrictedness reported experiencing stress as a result.

In the language of the JD-R model (Bakker & Demerouti, 2007), individuals are not only experiencing job demands, but are also lacking the necessary resources to meet their demands. Furthermore, this perception of lack of resources itself becomes a stressor. Our data therefore support our contention that CROS is a meta-stressor often experienced in organizational settings. Taken together, these findings provide the undergirding for the conceptual model we describe below. We do not expect all workers to experience CROS. Furthermore, we expect that the extent to which CROS is appraised as stressful will vary for individuals. Nevertheless, the prevalence of CROS in this sample of working adults, and the amount of distress that it appears to cause, indicates that investigation of this phenomenon is warranted.

Because CROS is a new concept, we proposed our remaining research questions in order to gain some insight into what causes it, and how it is experienced. With our third research question, our goal was to identify the specific stressors that organizational members avoid discussing with others. Our results suggest that sources of CROS span a range of workplace stressors (see Table 2) that represent three broad types of issues: Characteristics of the job and/or organization, other organizational members' behaviors, and personal/psychological variables. These findings are exploratory in nature based on qualitative data. Therefore, we make no claims about how particular stressors associate either with CROS or with related outcomes (e.g., burnout). Instead, these data allow us to begin to outline a broad understanding of what CROS

looks like. CROS can arise as a result of a variety of trigger issues, and these issues largely parallel the sources of workplace stress identified in past research (Stansfeld & Candy, 2006; Tracy, 2009). For the most part, the sources of CROS (e.g., job insecurity, management incompetence, role conflict, etc.) do not appear to have any unique characteristics that make these issues more difficult to discuss with others. Instead, it appears that virtually any job stressor could potentially be a source of CROS.

In response to our question on with whom they avoid discussing their stressors, participants listed both fellow organizational members (e.g., co-workers, supervisors, and subordinates) as well as other members of one's social network (e.g., spouse or friend). In many cases, participants listed multiple people. Furthermore, almost one third of participants said that they did not discuss their issue with anyone at all. Again, these data confirm that individuals consciously and strategically choose to keep certain issues to themselves. In some cases this means participants must deal with their stressor(s) entirely on their own without the benefit of any social support. At best, for those who may avoid discussing their issues with some people but not with others, their available support network becomes reduced. Our data also indicate that participants often avoid discussing their stressors with the very people who are the source of their stress (see Table 3). For example, one participant stated "I avoid talking to them about my stress because they are the cause of it and they would fire me." Avoiding confrontation with the source of one's stress may lead to reduced likelihood of resolving the trigger issue, which may be another reason CROS would be associated with negative outcomes.

One of the defining characteristics of CROS is in the fact that the restrictedness comes from awareness of certain things that cannot (or should not) be discussed with others. In thinking about that perception, we posed research question five, in which we attempt to clarify the reasons

that organizational members feel restricted. In exploring the themes extracted from our qualitative data (see Table 3), there appear to be both intrapersonal and interpersonal factors at play, consistent with the literature on topic avoidance (Guerrero & Afifi, 1995). For instance, some respondents indicated that they did not want to discuss their stressors with certain organizational members for self-presentation or face-saving reasons. This makes sense, given the fact that “relationships with coworkers” was one of the major stressors for which individuals expressed restrictedness. Also, there could be an issue of self-protection that might prevent people from perceiving available support. For instance, some stressor could evoke issues of shame or fear of guilt from co-workers. As we had expected, participants listed additional reasons that are specific to the organizational context. For example, themes related to escalated burnout existed in some of the responses, especially when respondents indicated that they felt futility or no perceived emotional benefit to discussing their issues. This is consistent with the literature on burnout, since one of the latter signs of burnout is withdrawal from the organizational social network (Maslach et al., 2001; Tracy, 2009).

We must note that CROS is defined by the perception the individual holds regarding the extent to which the topic cannot be discussed with other members of the organization or organizational outsiders. In other words, CROS is a stressor that is associated with either real *or* perceived disclosure related risks. Our respondents also reported some “darker” reasons for restrictedness. For instance, some responses indicated a fear of conflict escalation or even retaliation and bullying. This finding can be situated in the literature on bullying and emotional abuse (Lutgen-Sandvik & Tracy, 2012). Conceptually, Lutgen-Sandvik (2003) connected employee emotional abuse to the muted group theory. In doing so, Lutgen-Sandvik argued that emotional abuse creates a minority group in the organization, who feel suppressed in their ability

to speak up about their experiences of emotional abuse. The end result of the cycle that Lutgen-Sandvik proposes is expulsion from the organization – where the target of emotional abuse ultimately leaves the organization (either voluntarily or not). Perhaps one of the other reasons why individuals feel restricted is culturally-related, insofar that members of the organization have seen others targeted and ostracized, so it feels to be in their best interest to suppress their discussion of stressors. This could also be explained by other cultural factors, such as a high existence of particular messages that seek to change a members' behavior in the organization (Boren & Johnson, 2013). Additionally, our respondents did indicate that they were interested in preserving their social support networks by not overburdening them. Interestingly, there was recognition of potentially burdensome communication both with coworkers and with family members. This is an important element of our conceptualization, as we do believe that CROS exists in the presence of a perceived social support network, not in the absence of support. Finally, some of the respondents noted that they were unable to discuss their stressors due to institutional restrictions such as the confidentiality expected in legal or medical professions.

Regarding how CROS relates to other known concepts, among correlations between study variables, several key correlations stood out. CROS was positively correlated with perceived global stress, positively correlated with emotional exhaustion and cynicism (two indicators of burnout), and negatively correlated with supervisor and coworker support (but not with family support). CROS was also negatively correlated with perceived organizational support. Given that these were correlations, we cannot predict directionality; therefore, we could presume that as social support increases, CROS decreases. Alternatively, it might be the case that as CROS increases, perceptions of support decrease. According to the social support deterioration deterrence model (Norris & Kaniasty, 1996), when perceived support is not

available during a stressful event, the perception of support deteriorates and as such, the protective benefits of perceived support deteriorate as well. According to Norris and Kaniasty (1996), “if support is no longer expected, how could it protect against the impact of the stressor” (p. 508). Therefore, although much research argues that perceived support is more beneficial (confers greater health benefits) than is received support, the value of perceived support may decrease in situations where previously held perceptions of support availability are proven incorrect.

These correlations make sense in the context of our conceptualization – that CROS is a result of an appraisal of a stressor, exacerbates particular organizational and individual outcomes (such as burnout), and exists when social support networks cannot be fully utilized. We were not surprised that CROS was not correlated with lack of professional efficacy (the third element of burnout), as that dimension is usually only experienced in late-stage burnout (chronic burnout), with emotional exhaustion typically being the most common and prevalent symptom (Maslach et al., 2001). Furthermore, the correlation between CROS and family social support was not significant, thereby supporting our conceptualization that CROS is primarily an organizational concept. That is, since CROS exists as a response to organizational stressors, the primary support network that a member would use should be the at-work social network (thereby explaining the correlations between organizational support, coworker support, and supervisor support).

Given this discussion of our results, we believe CROS to be a unique organizational variable, albeit one related to existing organizational communication constructs. CROS is closely tied to social support insofar as that CROS is the feeling that support is unavailable, unhelpful, or worse. As a result, individuals fail to utilize support. We expect the outcomes of CROS to be similar to those found in other studies of organizational stress. For example, much like when

workers engage in co-rumination, we predict that workers who have high CROS are less likely to solve their actual problems, which leads to increased stress. However the difference between co-rumination and CROS is that co-rumination still involves the perception of availability in seeking out social support (Boren, 2014), whereas CROS does not.

Conceptual Model of CROS

We have spent considerable space in this paper explaining and outlining the mechanism by which we believe CROS works in an organizational setting. We conceptualize CROS as being triggered by an organizational stressor and as exacerbating the experience of that stressor because individuals feel that they cannot discuss that particular issue with their support network including, coworkers, supervisors, family, and friends. Reasons for restrictedness are varied, but just the perception that an issue has a level of restrictedness may be enough to make the individual feel forced to deal with the stressor without the buffering benefit of social support.

-- Figure 1 Here --

Therefore, based on both prior literature and the results of our exploratory data collection, we propose that CROS moderates the mediating relationship of social support between stressor appraisal and specific outcomes. In establishing this model (see Figure 1), we propose conceptualization as a conditional process model (Hayes, 2013). In this model, an individual would appraise something in the organization as a stressor. The awareness of a stressor has a direct effect on particular outcomes. For example, those outcomes could be individual (perceived stress), organizationally-linked (burnout), psychological (anxiety and depression), or even physiological (stress response and allostatic load). However, an individual would be buffered from the effects of those outcomes through appraisal of social support. In this case, social support mediates the relationship between stressor appraisal and outcomes, a

relationship that we have elucidated earlier in the paper and that is supported by a large body of literature. However, the conditional effect of CROS could impact this mediation model in two ways.

First, the indirect effect of social support on outcomes would be moderated by CROS, since an individual might feel that he or she has a social support network that cannot be used. Therefore, we propose that *an organizational member who reports high levels of CROS will experience negative outcomes, regardless of reported level of social support*. That said, we also believe that CROS will moderate the direct effects of stressor appraisal and outcomes. For instance, small daily irritations might lead to more negative outcomes, if there is no communication about particular stressors. Therefore, we also propose that *an organizational member who reports high levels of CROS will experience negative outcomes, regardless of the severity of the appraised stressor*. Taken together, we believe that CROS exacerbates the appraisal of the stressor as being stressful and might deteriorate the beneficial buffering effect of social support.

Practical Applications

One of the more salient implications of CROS is based on the notion that social support is predominantly prescribed to organizations where high psychosocial stress exists. The problem with this notion is that, based on our conceptualization, the perception that an issue cannot be talked about may exist even with a social support network that is perceived as large and robust. In this case, the restrictedness becomes a stressor in and of itself, thereby both intensifying the perceived appraisal of the original stressor and increasing the potential for negative effects in the workplace. In fact, some potential negative outcomes could be psychological, in nature: increasing levels of global perceived stress, anxiety, and burnout. Physiologically, some of the

negative outcomes of CROS could include markers of allostatic load (Ganster & Rosen, 2013) including cortisol, epinephrine, interleukin-6, c-Reactive protein, and immunoglobulin leading to potential disease endpoints such as cardiovascular disease and diabetes. We would also expect CROS to be associated with negative organizational outcomes including a poor organizational climate, decreasing levels of organizational support, and reduced productivity.

Contextually speaking, we also suspect that CROS would be more prevalent in some organizations than in others, merely by the nature of the organization, its goals, and tasks. Organizations which have mandated privacy policies, such as health care organizations under the Health Insurance Portability and Accountability Act (HIPAA) would fall under this category. Additionally, individuals working in national security, investigative, intelligence, military, or law enforcement organizations might feel a large sense of CROS. Even with a higher propensity for restrictedness to exist as a function of the organization, we believe that CROS can exist in any organizational setting, as it is an individual-level variable. Furthermore, we would also suspect a differential effect for CROS depending on physical company layout with the potential that CROS might be more prevalent among employees who telework or engage in highly mediated communication, as there is a reduced proximal ability to engage in social support on a regular and ongoing basis.

Limitations and Directions for Future Research

There are some potential limitations with this study. Most notably, we did rely on the use of a professional survey company to locate our participants. Although we believe that this process produced a valid sample, we also suspect that we did miss a large segment of the working public, which was evidenced by the lack of some diversity. An additional limitation is in our quantification of how stressful participants find CROS to be. Because CROS is a new

construct and no validated measurement instrument currently exist, we assessed how stressful CROS was with a single item. Specifically, we used a Likert-scale to ask those participants who had already indicated that “yes” they experienced CROS whether they agreed or disagreed with the statement that their inability to discuss their issues was stressful. By framing this as an “inability” we may have inadvertently framed CROS as problematic by definition. The implication of this is that the values for how stressful participants perceive CROS to be may be overestimates. In the future, it would be prudent to use more neutral language such as “do you believe that talking about the situation would have increased or decreased your stress about it?” Furthermore, as we continue this work, we plan to develop measures for CROS so that we do not have to rely on a single item. While we believe our qualitative data support the quantitative finding that participants feel CROS is stressful, we would be remiss not to mention that the potentially leading nature of this particular question could be a limitation of these data.

Since CROS is a new concept, we believe there is a great deal of potential for future research. Importantly, the most obvious next direction should be the development of a valid and reliable instrument to measure the construct. Once a measure is adopted, CROS could more easily be evaluated in a variety of contexts and organizational types. For instance, perhaps CROS changes depending on the physical layout or proximity of employees including the differences between co-located and remote/telework employees. Given our predictions about CROS’ association with the social support-to-stress process, future research should explore the ways that CROS is associated with both physiological and psychological stress. There are also potential associations between certain other variables and CROS. Future researchers should explore more fully how CROS is associated with co-rumination (Boren, 2014), workplace relationships (Horan & Chory, 2009), personality issues such as attachment (Collins et al., 2011), organizational

dissent (Garner, 2013), circumvention messages (Kassing, 2007), and certain “dark side” concepts like workplace bullying (Lutgen-Sandvik & Tracy, 2012).

Finally, we also suggest that future researchers engage in multiple methodologies to explore CROS more fully. Both in-depth interviews and observations would be beneficial in understanding how CROS affects individual employees and organizational culture, respectively. Given that CROS is a potential problem in an organizational setting, we encourage future researchers to develop and test interventions aimed at reducing CROS.

Conclusion

Throughout this investigation, we sought to conceptualize a unique variable, which we believe to impede the beneficial buffering effects of social support. In thinking about the ways that organizational members discuss their perceived inability to communicate with others about their stressor, we labeled the phenomenon Communicatively Restricted Organizational Stress. CROS is an important organizational variable, especially when considering all the potential beneficial effects of social support. When individuals feel, regardless of the reasons, that they have restrictedness in their ability to communicate about their stressors, they will most likely have greater negative outcomes, regardless of the level of social support they perceive. Our hope is that this theoretic contribution will lead to further empirical investigations and potential organizational interventions.

References

- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology, 22*, 309–328. doi:10.1108/02683940710733115
- Boren, J. P. (2013). Co-rumination partially mediates the relationship between social support and emotional exhaustion among graduate students. *Communication Quarterly, 61*, 253–267. doi:10.1080/01463373.2012.751436
- Boren, J. P. (2014). The relationships between co-rumination, social support, stress, and burnout among working adults. *Management Communication Quarterly, 28*(1), 3–25. doi:10.1177/0893318913509283
- Boren, J. P., & Johnson, S. L. (2013). Examining the relationships among peer resentment messages overheard, state guilt, and employees' perceived ability to use work/family policies. *Southern Communication Journal, 78*, 128–145. doi:10.1080/1041794X.2012.736008
- Boren, J. P., & Veksler, A. E. (2011). A decade of research exploring biology and communication: The brain, nervous, endocrine, cardiovascular, and immune systems. *Communication Research Trends, 30*(4), 1–31.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77–101. doi:10.1191/1478088706qp063oa
- Byrd-Craven, J., Granger, D. A., & Auer, B. J. (2011). Stress reactivity to co-rumination in young women's friendships: Cortisol, alpha-amylase, and negative affect focus. *Journal of Social and Personal Relationships, 28*, 469–487. doi:10.1177/0265407510382319

- Chandola, T., Brunner, E., & Marmot, M. (2006). Chronic stress at work and the metabolic syndrome: Prospective study. *British Medical Journal*, *332*, 521–525.
doi:10.1136/bmj.38693.435301.80
- Cohen, S., Gottlieb, B. H., & Underwood, L. G. (2000). Social relationships and health. In S. Cohen, L. G. Underwood, & B. H. Gottlieb (Eds.), *Social support measurement and intervention: A guide for health and social scientists* (pp. 3–25). New York, NY: Oxford University Press.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, *24*, 385–396. doi:10.2307/2136404
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, *98*, 310–357. doi:10.1037/0033-2909.98.2.310
- Collins, N. L., Ford, M. B., & Feeney, B. C. (2011). An attachment-theory perspective on social support in close relationships. In L. M. Horowitz & S. Strack (Eds.), *Handbook of interpersonal psychology: Theory, research, assessment, and therapeutic interventions* (pp. 209–231). Hoboken, NJ: John Wiley & Sons, Inc.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, *86*, 499–512.
doi:10.1037//0021-9010.86.3.499
- Eisenberger, R., Cummings, J., Armeli, S., & Lynch, P. (1997). Perceived organizational support, discretionary treatment, and job satisfaction. *Journal of Applied Psychology*, *82*, 812–820. doi:10.1037/0021-9010.82.5.812
- Eller, N. H., Netterstrøm, B., Gyntelberg, F., Kristensen, T. S., Nielsen, F., Steptoe, A., & Theorell, T. (2009). Work-related psychosocial factors and the development of ischemic

heart disease: A systematic review. *Cardiology in Review*, 17, 83–97.

doi:10.1097/CRD.0b013e318198c8e9

Ganster, D. C., & Rosen, C. C. (2013). Work stress and employee health: A multidisciplinary review. *Journal of Management*, 39, 1085–1122. doi:10.1177/0149206313475815

Garner, J. T. (2013). Dissenters, managers, and coworkers: The process of co-constructing organizational dissent and dissent effectiveness. *Management Communication Quarterly*, 27(3), 373–395. doi:10.1177/0893318913488946

Glaser, B., & Strauss, A. (2009). *The discovery of grounded theory: Strategies for qualitative research*. New Brunswick, CT: Transaction Publishers.

Guerrero, L. K., & Afifi, W. A. (1995). Some things are better left unsaid: Topic avoidance in family relationships. *Communication Quarterly*, 43, 276–296.

doi:10.1080/01463379509369977

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press.

Hellhammer, D. H., & Hellhammer, J. (2008). *Stress: The brain-body connection. Key issues in mental health*. New York, NY: Karger.

Horan, S. M., & Chory, R. M. (2009). When work and love mix: Perceptions of peers in workplace romances. *Western Journal of Communication*, 73(4), 349–369.

doi:10.1080/10570310903279042

Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24, 285–308.

Kassing, J. W. (1997). Articulating, antagonizing, and displacing: A model of employee dissent. *Communication Studies*, 48, 311–332. doi:10.1080/10510979709368510

Kassing, J. W. (2007). Going around the boss: Exploring the consequences of circumvention.

Management Communication Quarterly, 21(1), 55–74. doi:10.1177/0893318907302020

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer.

Lutgen-Sandvik, P. (2003). The communicative cycle of employee emotional abuse: Generation

and regeneration of workplace mistreatment. *Management Communication Quarterly*,

16(4), 471–501. doi:10.1177/0893318903251627

Lutgen-Sandvik, P., & Tracy, S. J. (2012). Answering five key questions about workplace

bullying: How communication scholarship provides thought leadership for transforming

abuse at work. *Management Communication Quarterly*, 26, 3–47.

doi:10.1177/0893318911414400

Macdonald, G. (1998). Development of a social support scale: An evaluation of psychometric

properties. *Research on Social Work Practice*, 8, 564–576.

doi:10.1177/104973159800800505

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of*

Occupational Behaviour, 2, 99–113. doi:10.1002/job.4030020205

Maslach, C., Jackson, S. E., & Leiter, M. P. (1997). Maslach burnout inventory manual. In C. P.

Zalaquett & R. J. Wood (Eds.), *Evaluating Stress: A book of resources* (3rd ed., pp. 191–

218). London, England: The Scarecrow Press

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of*

Psychology, 52, 397–422. doi:10.1146/annurev.psych.52.1.397

McEwen, B. S. (2000). Allostasis and allostatic load: Implications for

neuropsychopharmacology. *Neuropsychopharmacology*, 22, 108–124.

doi:10.1038/sj.npp.1395453

- Morgan, G. (2006). Creating social reality: Organizations as culture. In *Images of Organization* (pp. 115–147). Thousand Oaks, CA: Sage.
- Norris, F. H., & Kaniasty, K. (1996). Received and perceived social support in times of stress: A test of the social support deterioration deterrence model. *Journal of Personality and Social Psychology, 71*, 498–511.
- Rose, A. J. (2002). Co-rumination in the friendships of girls and boys. *Child Development, 73*, 1830–1843. doi:10.1111/1467-8624.00509
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior, 25*, 293–315. doi:10.1002/job.248
- Segerstrom, S. C., & Miller, G. E. (2004). Psychological stress and the human immune system: A meta-analytic study of 30 years of inquiry. *Psychological Bulletin, 130*, 601–30. doi:10.1037/0033-2909.130.4.601
- Shirom, A., Toker, S., Alkaly, Y., Jacobson, O., & Balicer, R. (2011). Work-based predictors of morality: A 20-year follow-up of healthy employees. *Health Psychology, 30*, 268–275. doi:10.1037/a0023138
- Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *Journal of Occupational Health Psychology, 1*, 27–41. doi:10.1037/1076-8998.1.1.27
- Stansfeld, S., & Candy, B. (2006). Psychosocial work environment and mental health--A meta-analytic review. *Scandinavian Journal of Work, Environment & Health, 32*, 443–462.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.). Thousand Oaks, CA: Sage.
- Sue, V. M., & Ritter, L. A. (2012). *Conducting online surveys*. Thousand Oaks, CA: Sage.

- Toker, S., Shirom, A., Melamed, S., & Armon, G. (2012). Work characteristics as predictors of diabetes incidence among apparently healthy employees. *Journal of Occupational Health Psychology, 17*, 259–267. doi:10.1037/a0028401
- Tracy, S. J. (2009). Managing burnout and moving toward employee engagement: Reinvigorating the study of stress at work. In P. Lutgen-Sandvik & B. Davenport-Sypher (Eds.), *Destructive organizational communication: Processes, consequences, and constructive ways of organizing* (pp. 77–98). New York, NY: Taylor and Francis.
- Tsui, A. S. (2013). 2012 Presidential Address--On Compassion In Scholarship: Why should we care? *Academy of Management Review, 38*(2), 167–180. doi:10.5465/amr.2012.0408
- Uchino, B. N. (2006). Social support and health: A review of physiological processes potentially underlying links to disease outcomes. *Journal of Behavioral Medicine, 29*, 377–87. doi:10.1007/s10865-006-9056-5
- Uchino, B. N., Cacioppo, J. T., & Kiecolt-Glaser, J. K. (1996). The relationship between social support and physiological processes: A review with emphasis on underlying mechanisms and implications for health. *Psychological Bulletin, 119*, 488–531. doi:10.1037/0033-2909.119.3.488
- Zimmermann, S., & Applegate, J. L. (1994). Communicating social support in organizations. In B. R. Burlison, T. Albreth, & I. G. Sarason (Eds.), *Communication of social support* (pp. 50–69). Thousand Oaks, CA: Sage.