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An Exploratory Study of Communicatively-Restricted Organizational Stress
(CROS) II: Associations with Organizational Stress and Elevated Cholesterol

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Abstract

This study expands on prior research on Communicatively-Restricted Organizational Stress (CROS), which includes those stressors that individuals do not have a socially-supportive outlet inside or outside of their organizations. First, by using a sample of 405 organizational members, we explore the prevalence of the CROS by identifying the existence of the nature of this concept. After that, we explore the way that the CROS acts on an individual both physiologically and psychologically by evaluating its associations with organizational-level variables (stress, support, and commitment) along with markers of stress (LDL and Total Cholesterol). Results were generally inconclusive. Discussion focused on significant findings and the need for better operationalization of this stressor. Implications and future directions explored the potential utility of this line of research.

An Exploratory Study of Communicatively-Restricted Organizational Stress (CROS) II:
Associations with Organizational Stress and Elevated Cholesterol

There is no question that individuals rely on social networks to help them deal with times of stress. Family, co-workers, lovers, and friends provide crucial social support allowing individuals to vent and think through stressful life events (Collins & Feeney, 2000). While instrumental, emotional, or informational support provided by others is one way that social ties help buffer individuals from the deleterious effects of stressful life events (Cohen & Wills, 1985), the ability to interact and unburden oneself is equally as important. 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 (House, 1981; Zimmermann & Applegate, 1994). When individuals experience a stressful life event and do not have the ability to release the stressor through some form of social interaction, the weight of having to deal with the issue on one's own can exacerbate the painful psychological and physiological effects of that life event. When individuals perceive those support networks as not present or not willing to provide social support, they have few other options in which to manage the stressor. Based on that notion, we first conceptualize a new variable that can be linked to stress and a lack of social support. We then test that link through correlation based research assessing both self reports and objective measures of stress., Finally we explore potential other applications for this newly conceived variable and propose future directions for research.

Most cognitive psychotherapy is based on the simple premise that individuals need to talk about their problems in order to be able to deal with them (Goncalves & Machado, 1999). . Research findings across a range of stressors support the contention that translating one's

emotions to narrative (i.e., putting them into linguistic form through the process of writing or speaking) can lead to deeper understanding and cognitive restructuring. In turn, the person is able to gain mindfulness and begin to deal with the stressor (Pennebaker, 1985; Pennebaker & Beall, 1986; Pennebaker, Colder, & Sharp, 1990; Pennebaker & Francis, 1996; Pennebaker & Seagal, 1999; Slatcher & Pennebaker, 2006).

Research related to social support emerged around the mid-1970s with an exploration of why some individuals are more capable of dealing with the potentially negative effects of stressors in their lives (Goldsmith, 2004). Social support can be defined as information, emotional messages, and material goods exchanged between individuals in an effort to problem-solve (Cohen & Wills, 1985; Goldsmith, 2004; House, 1981). In an organization, the exchange of socially supportive transactions occurs between co-workers as well as from supervisors to subordinates. Outside of the organization, many individuals comprise the social support network including spouses, children, and close relatives. Supportive networks also can include distant family and friends.

Having a robust support network is an important predictor of individual physiological and psychological health. For instance, Cohen, Doyle, Turner, Alper, and Skoner (2003), through their controlled and quarantined trial, found that participants who reported larger social networks had significantly lower objective and subjective symptoms of an administered dose of the common cold (rhinovirus). Psychologically, social support has been seen to reduce global stress as well as positively mediate the relationship between emotional expression and depressive symptomology (Uchida & Yamasaki, 2008). In a large organizational study, social support was significantly related to reductions in job strain (Ganster, Fusilier, & Mayes, 1986). However,

these positive effects of social support can only be seen when there is an available support network to use in an organization (Zimmermann & Applegate, 1994)

People generally turn to their support networks when dealing with various stressors or problems they encounter on a day to day basis to meet these needs for social support (Collins & Feeney, 2000). Nevertheless, under certain circumstances, people may choose not to disclose about their problems for a variety of reasons. In most cases, if individuals elect not to share about their personal problems with a particular individual, they will identify others who can play a supportive role in their lives. For example, scholars examining topic avoidance have identified that certain topic areas such as sexual activity are rarely discussed with parents, but if individuals are experiencing sexual problems, they may turn to a sibling instead (Guerrero & Afifi, 1995). Usually, these choices stem from an evaluation of the risks associated with self-disclosure of negative information. These risks 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.

Under certain circumstances, perception of disclosure related risk can be so high, an individual may feel as though he or she cannot discuss the issue with anyone. In other words, he or she feels the stressor is *communicatively restricted*. One such stressor may be particularly common in an organizational setting. Within an organizational framework, individuals are involved in an intricate web of interpersonal relationships and power dynamics (Morgan, 2006).

As a result, stressors that arise as a result of organizational membership often cannot be discussed with other members of the organization due to the disclosure related risks discussed above. 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) or to a subordinate (fear of loss of face). We label this type of stressor a *communicatively restricted organizational stressor* (CROS). We must note that a 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, a CROS is a stressor that is associated with either real *or* perceived disclosure related risks. Based on this proposed framework, we extend the research questions:

RQ₁: Do members of organizations report that their organizational stressor is communicatively-restricted?

RQ₂: Is there a relationship between members' reports of the distress about an organizational concern and the extent to which they feel they cannot discuss that stressor with members of their organization?

RQ₃: Is there a relationship between the extent to which a CROS exists and perceived global stress and organizational stress?

RQ₄: What reasons do organizational members give for why they feel that they cannot discuss an organizational concern with members of their organization?

We propose that what makes a CROS particularly insidious and painful is that in many cases, individuals may feel that they cannot discuss their CROSS with members outside of the organization either. We posit that this is likely due to the fear of disconfirming responses (Guerrero & Afifi, 1995), or perceived futility of conversation (Afifi & Guerrero, 2000). In

other words, we conceptualize a CROS as a stressor that is often highly specific to an organization to the point that individuals feel that they cannot discuss the issue with their family and friends because they simply will not be understood. As a result, the individual feels forced to deal with the stressor without the benefit of any social support. While fear of disconfirming responses and futility of discussion are likely reasons a CROS may be kept from organizational outsiders, we imagine other reasons exist as well. As such, we propose the next set of exploratory research questions:

RQ5: Is there a relationship between members' reports of the distress about an organizational concern and the extent to which they feel they cannot discuss that stressor with organizational outsiders?

RQ6: Is there is a relationship between the extent to which individuals feel they cannot discuss an organizational concern with organizational outsiders and global perceived stress?

RQ7: What reasons do organizational members give for why they feel that they cannot discuss an organizational concern with organizational outsiders?

Finally, we think it is important to understand the nature of these stressors. Therefore, we propose one additional research question:

RQ8: What topics do individuals identify as a CROS in their lives?

Phase 1

Method

The survey was presented entirely online.

Participants. Respondents were recruited from undergraduate student research participant pools at two university locations. The participants were granted course credit for

volunteering. The sample ($N = 406$) consisted of 169 men (41.6%) and 234 women (57.6%) from a wide variety of ethnicities, but mostly identifying as Euro-American/white ($n = 321$, 79.1%). Participants ranged in age from 18 – 30 years old ($M = 19.04$ years, $SD = 1.32$). All participants were members of various organizations (see Table 1) and were members of those organizations for an average of 15.52 months ($Mdn = 6$ months, $SD = 20.43$).

Procedures. . All procedures were approved by both authors' respective human subjects committees. The first section asked participants to think about stressors in their organization with the following prompt:

In organizations, we sometimes experience things that stress us out. Considering your experiences with the organization that you selected, please tell us the main thing that really stresses you out about being a member of this organization. In the space below, please type your biggest stressor

Participants were given an opportunity to provide a text-response to this prompt. From there, participants were asked to provide a second and third stressor. The names of the stressors were used throughout the questionnaire in order to remind participants of their organizational stressors. To tap into the stressfulness of this issue, we asked the participant to indicate on a scale of 1 – 7 (higher numbers indicating more stress) how stressful this issue was to them. In this sense, we are able to focus these data to just those issues that are most stressful to this sample.

Instrumentation.

CROS measure. In order to operationalize a communicatively-restricted organizational stressor (CROS), we designed a measure that taps into participants' perceptions that they could not communicate about this particular stressor with other members of their organization and with organizational outsiders. Ten statements were generated by the authors, 5 evaluating

communication with members within the organization about the stressor and the other 5 items evaluating communication about the stressor with outsiders. The five prompts were presented in alternating order to the participant with the following prompt, “The following 10 statements ask you to think about the first stressor you indicated, which was: xxxx.” The “xxxx” was replaced with the actual language they used when identifying their first stressor. This was repeated for stressors two and three. Items were presented with a standard 5-point Likert Scale.

Since we were interested in the most stressful organizational issue identified by participants, we only evaluated responses to the first stressor. The ten-item CROS measure was submitted to a principal components analysis with direct Oblimin rotation. We selected this rotation technique to allow for nonorthogonality (i.e., factors relating to a CROS could share variance). Factors with Eigenvalues greater than 1.0 were extracted, which was verified by a scree plot. KMO (.742) and Bartlett’s Test of Sphericity, $\chi^2(45) = 1161.76, p < .001$, were both at acceptable levels. This factor analytic technique returned a 2-factor rotated solution accounting for 54.68% of variance. Items were retained on a factor when they had factor loadings of at least .60 on one dimension and no more than .40 on any other dimension. Based on that 60/40 selection criterion, the two factors were labeled “inside the organization” and “outside the organization,” which was in-line with our original conceptualization of a CROS. Individual item loadings for the final rotated solution are reported in Table 2. The five items loading on the “inside the organization” had a Cronbach’s alpha of .79 (Scale $M = 19.10, SD = 3.38$) and the “outside the organization” items had a Cronbach’s alpha of .78 (Scale $M = 18.49, SD = 3.44$). Mean scores were used for each factor in subsequent analyses.

Perceived global stress. To measure participants’ reported level of perceived global stress, Cohen, Kamarck, and Mermelstein’s (1983) 4-item Perceived Stress Scale (PSS-4) was

used. The PSS-4 has been validated and is used widely in psychological stress research, in fact the original validation study utilized a sample of 332 college students and found high concurrent validity (Cohen et al.). The measure asks participants to rate how often they feel negatively impacted by stressors in their lives on a Likert-type scale with anchors ranging from 1 (never) to 5 (very often), with “3” being the hypothetical midpoint of each scale item.

Since the scale deals with global psychological stress, items were not modified to refer to any specific situational context (i.e., an organization). Certain items in the original measure are reflected in the scale and those items were recoded prior to data analysis, keeping in line with the original authors’ advice on the reflection of items. The measure possessed acceptable levels of internal consistency with Cronbach’s alpha of .77 ($M = 10.19$, $SD = 2.87$). Mean PSS scores were used in all subsequent analyses.

Organizational stress. An eight-item scale first used by Sosik and Godshalk (2000) that evaluated job stress was utilized in the present study. However, since the original measure explored “job stress,” we had to reframe the items to represent the more broad perspective of organizational stress (since many of the participants in this study were not reporting on workplaces). For instance, we rephrased item one from “Your job makes you upset” to “My organization makes me upset,” item two we rephrased from “Your job makes you frustrated” to “my organization makes me frustrated.” In this sense, the primary purpose of the measure remained intact with the context slightly shifted. The eight-items comprising this scale had very high internal consistency (Cronbach’s $\alpha = .91$, scale $M = 26.07$, $SD = 10.06$). Mean scores for this measure were utilized in subsequent analyses.

Open-ended items. We allowed the participants to provide open-ended responses detailing the reasons why they felt a CROS existed in their lives. To that end, we asked

participants to answer two questions with the following prompts, “If there has been a time where you have had an issue related to your organization that you felt you could NOT talk to members of the organization about, please tell us why you felt that way. If you have not been in this situation, please leave this box blank;” and, “If there has been a time where you have had an issue related to your organization that you felt you could NOT talk to people outside of the organization about, please tell us why you felt that way. If you have not been in this situation, please leave this box blank.”

Results

Important to the results reported below is an understanding that these data are exploratory in nature. Therefore, we did not engage in formal inductive coding utilizing coders blind to the nature of the research. Themes were identified by the second author if they appeared at least three times and the first author concurred with the identification of the theme. In future iterations of this research we plan to conduct a more formal analysis of the thematic content of the open ended responses utilizing both software and independent coders. For quantitative results, we utilized standard inferential tests, where indicated.

Research question 1. In order to answer the first research question, we evaluated participants’ scores on the CROS measure for both the inside and outside dimensions. Scores could range from 1 – 5 for each dimension, with 3 being a hypothetical midpoint. For the inside dimension participants reported a mean score of 3.80 ($SD = .68$) and a mean of 3.70 ($SD = .68$) for the outside dimension. These average scores are higher than the hypothetical scale midpoint, indicating that these participants were likely reporting on stressors that were communicatively-restricted.

To further explore this finding, the individual scores on both dimensions were standardized (z-scored) and cut into three groups of low, medium, and high¹. These groups represent the reported frequency of how much this stressor was considered communicatively-restricted. Based on only the high scores (i.e., individuals who felt high communication restrictedness), 62 participants (15.31%) reported high restrictedness inside the organization with 62 participants also reporting high restrictedness outside the organization. Finally, 95 participants (23.47%) reported high restrictedness both inside and outside the organization, indicating that their stressor was a CROS. The distribution of frequencies for those individuals who reported high restrictedness on either dimension ($n = 219$) was significantly different than chance for this sample, $\chi^2(2) = 6.63, p < .05$.

Research question 2. The second research question asked if there is a relationship between members' reports of distress about an organizational concern and the extent to which they felt they were restricted in communicating about that issue with members of their organization. To answer this question, we computed a simple linear regression with scores on issue stressfulness (a single-item question asked after the participant reported their stressor) as the predictor variable and average inside CROS score as the criterion. The result of the regression was not significant, $F(1, 392) = .23, p = .64, R^2 = .001$. Based on this result, we answer this research question in the negative.

Research question 3. The third research question asked if there is a relationship between the extent to which a CROS exists and both global and organizational stress. To answer this research question, we evaluated Pearson's Product Moment Correlation Coefficients between these variables. Scores on the inside dimension were not correlated with scores on the outside dimension, $r(403) = .05, p = .30$. Scores on the inside dimension were correlated significantly

and negatively with both global perceived stress, $r(403) = -.14, p < .001$ and organizational stress, $r(403) = -.18, p < .001$. Scores on the outside dimension were not significantly correlated with both global stress, $r(403) = .09, p = .06$ or organizational stress, $r(403) = .03, p = .50$.

Research question 4. To answer the fourth research question, we examined the responses to our open ended question using the procedure described above. The most common reason given for why members of an organization felt they could not discuss their stressor with other members of the organization was fear of hurt feelings, ruined friendships, or other social consequences which accounted for approximately 19% of the total responses. Futility of discussion or fear of disconfirming responses typified by statements such as “it was sometimes difficult communicating with the rest of my teammates because in some cases they just would not listen to me. Some people are very high strung and are not willing to put their pride aside” accounted for 17% of the responses. Other reasons given included wanting to avoid conflict (15%), fear of looking bad or incompetent (12%) and feeling too low in the hierarchy to say anything (11%). The remainder of the responses did not correspond with a higher order category or did not address the question asked.

Research question 5. The fifth research question asked if there is a relationship between members' reports of distress about an organizational concern and the extent to which they felt they were restricted in communicating about that issue with organizational outsiders. To answer this question, we computed a simple linear regression with scores on issue stressfulness (a single-item question asked after the participant reported their stressor) as the predictor variable and average outside CROS score as criterion. The result of the regression was not significant, $F(1, 392) = 2.10, p = .15, R^2 = .01$. Based on this result, we answer this research question in the negative.

Research question 6. The sixth research question asked if there is a relationship between the extent to which an individual felt outside restrictedness and global stress. To answer this research question, a one-tailed correlation (as we would theoretically expect there to be a positive linear relationship) revealed a positive and significant relationship, $r(403) = .09, p = .03$. However, this accounts for a relatively small effect (less than 1% shared variance). Based on this, we conclude that a marginal relationship exists; however, it is not strong enough to answer the research question in the affirmative.

Research question 7. To answer the seventh research question, we again examined the responses to our open ended questions. Using the procedure described above, we identified six reasons for why individuals feel that they cannot discuss their organizational stressors with organizational outsiders. By far, the most common reason given, accounting for 49% of the responses was a fear that others simply would not understand the nature of their problem. For example, one participant wrote, "I felt as if I could not talk to people outside of the organization because they simply just don't understand the way you do and it is more frustrating to try to explain something they will never get." A second group of responses pertained to the need for confidentiality and accounted for 19% of the responses. The other categories represented concerns about interpersonal relationships (5%), a fear of looking bad or incompetent (5%), a fear of making the organization look bad (4%) and other (19%) where people reported idiosyncratic reasons such as "the religious views we have on others" or simply did not understand the nature of the question.

Research question 8. Provided that individuals indicated that their first organizational issue exerted the most amount of stress on their lives, the first stressor for each person was coded by topic in the same manner as the other open ended responses. The most frequently reported

issue pertained to conflict, interpersonal problems, teamwork, and/or collaboration. These topics accounted for 30% of the responses. The remaining responses pertained to time management concerns (27%), psychological stress such as pressure to succeed (22%), money (4%), and other.

Phase 2

Based on the results presented above, we decided further investigation of this issue was warranted. Nevertheless, we believe that our results may have suffered due to two major limitations. First, our sample in the first phase consisted of college students; a population that is likely to have limited organizational experience. We rectified this by collecting data for phase two as part of a larger study investigating organizational stress and health among university staff and graduate students. The second limitation concerns our conceptualization of the CROS. We believe that while our data support the existence of a cross, the low scores we saw on our measure of the CROS may be due to the fact that participants were instructed to think of a *specific* stressor and then report the extent to which they could discuss *that* stressor with others. After reviewing the results, we believe that participants may experience the stress of a CROS as related to a wide range of stressors. Furthermore, while individuals may be able to discuss certain issues with some people and not with others, they will still feel restricted in their ability to receive support pertaining to the totality of their organizational stress. Therefore in the second phase of this project, we asked participants about their holistic experiences of a CROS (as described in the method below). We believe this more general approach to measuring the existence of a CROS is more closely in line with our original conceptualization of this concept.

In phase two we once again examined individuals' self-reports of a CROS and subsequent perceptions of organizational stress. We also added measures of organizational support and organizational commitment to provide a richer picture of how a CROS fits within

ones' general perception of one's organizational experiences. Based on the results of phase one, we extend the following hypotheses to be tested in phase two:

H₁: There is a positive relationship between the extent to which a CROS exists and perceived organizational stress.

H₂: There is a negative relationship between the extent to which a CROS exists and organizational commitment.

H₃: There is a negative relationship between the extent to which a CROS exists and perceived organizational support.

Finally, in phase two we began to investigate the relationship between self-reports of a CROS and objective measures of physiological health. Much research supports the contention that there is a direct relationship between the psychological experience of stress and the body's physiological reaction to that stress (Boren & Veksler, 2011). Provided that the CROS is indeed a stressor, we would expect an effect of the CROS on the body as well as on the mind. We chose to examine cholesterol, a lipid substance found in the bloodstream that has a significant effect on cardiovascular functioning (Boren & Veksler, 2011). Cholesterol is composed of High Density Lipoproteins (LDL or "Good" cholesterol), Low Density Lipoproteins (LDL or "Bad" cholesterol") and triglycerides (Floyd, Mikkelsen, Hesse, & Pauley, 2007) and elevated LDL and elevated total cholesterol can lead to serious health issues including heart disease, heart attack, and death (Boren & Veksler, 2011). Numerous studies have shown that cardiovascular dysfunction is a marker of long-term stress exposure (Goyal, Shimbo, Mostofsky, & Gerin, 2008) and that elevated cholesterol specifically is associated with both long term and short term stress exposure (Floyd et al., 2007). Provided that we believe the experience of a CROS to be a stressor, we propose two final hypotheses:

H₄: There is a positive relationship between the extent to which a CROS exists and LDL Cholesterol.

H₅: There is a positive relationship between the extent to which a CROS exists and Total Cholesterol.

Method

Data collected for this phase of the study were part of a larger study as a registered Federal Clinical Trial (#NCT01328665). The study's protocol was reviewed and approved by the first author's institutional review board as a biomedical expedited application.

Participants. Individuals in this study were recruited by e-mail messages distributed to staff members at a mid-sized western university. Participants ($N = 36$) were first screened to ensure that they did not have any medical disqualifying condition or were currently taking any medications that could interfere with the biological markers. The final sample included 10 men and 26 women ranging in age from 25 – 65 ($M = 38.11$, $SD = 12.34$) years of age all working as staff members at the university in varied departments. On average, individuals in this sample worked 38.28 hours per week ($SD = 9.92$) and had been employed for 6.46 years ($SD = 6.97$).

Self-report measures. Two measures were replicated in this study from Phase 1 – the CROS measure and the measure of organizational stress. For organizational stress, all items were retained (from Phase 1) and factor analytic procedures closely matched Phase 1. The measure of organizational stress had a reported Alpha of .89 ($M = 27.83$, $SD = 6.44$). The CROS measure was also split between both Inside and Outside dimensions with computed Cronbach's Alphas of .87 ($M = 16.91$, $SD = 4.73$) and .83 ($M = 15.14$, $SD = 3.97$) respectively.

Organizational Commitment was assessed with a commonly-used 15-item measure (Angle & Perry, 1981). The measure asks individuals about their feelings associated with their

level of involvement in the organization, such as “I really care about the fate of this organization” on 15 five-point Likert-type questions. The organizational commitment scale has been used extensively in management and psychology and has been tested for high quality content, criterion, and construct validity. For the present investigation, reliability estimates were high ($\alpha = .93$, $M = 70.51$, $SD = 18.06$).

Perceived Organizational Support was assessed with an eight-item measure (Eisenberger, Huntington, Hutchinson, & Sowa, 1986). The measured asked individuals to rate (on 5-point Likert-type items) the individual’s perception of how much their organization provides them with support. For example “my organization would forgive an honest mistake on my part” or “my organization cares about my well-being.” The scale had high internal consistency ($\alpha = .90$, $M = 37.22$, $SD = 9.31$). Prior reports and uses of this measure indicate high content and construct validity.

Physiological and Laboratory Procedures. The protocol utilized for the present investigation closely matches that of Floyd et al. (2009), as well as other acceptable-methods of measuring blood lipids (see also Floyd et al., 2007). On the day of the laboratory procedures, participants were invited to the campus health center between the hours of 7am – 10am, where they were greeted by a health center staff member. Individuals were asked to sit quietly for a few minutes before being introduced to the first author, at which time the participant and the first author discussed the study and the participant was provided with an informed consent form.

After the participant consented, the first author washed his or her third digit fingertip of the nondominant hand with a 70% isopropyl alcohol swab. That finger was then punctured with a 1.75mm Tenderlette surgical single-use blade lancet (International Technidyne Corp., Edison, NJ) to puncture the capillary bed. The first small bit of blood was wiped away with a sterile

gauze pad and 80 μ L of blood was aspirated into two glass tubes coated with lithium heparin. One of those tubes of blood was used in the present investigation; the other tube was used for another study, not reported here. The blood was immediately placed in a Cholestech LDX blood analyzer (Hayward, CA). The equipment is Clinical Laboratory Improvement Amendments (CLIA)-waived and is the same equipment used in clinical in-vitro settings. The equipment was regularly calibrated and tested with known controls. The equipment provided total serum cholesterol (mg/dL) as well as Low- and High-Density lipoprotein values. Participants were provided \$10.00 as incentive for this laboratory session.

Results

To test each of the hypotheses, a series of Pearson Product Moment Correlation Coefficients were computed (see Table 3). Hypothesis 1 indicated that the CROS dimensions are positively correlated with organizational stress. The correlations do indicate that the CROS inside dimension was positively and significantly correlated with organizational stress, but not for the outside dimension; therefore, hypothesis 1 is partially supported.

Hypothesis 2 stated that the CROS dimensions would be negatively correlated with organizational commitment. We found this to be true for the outside dimension, but not for the inside dimension, but the inside dimension was correlated in the predicted direction (see Table 3). Therefore, hypothesis 2 was also partially supported. Hypothesis 3 indicated that the CROS dimensions would be negatively correlated with organizational support. The results of that test did indicate that there was a significant negative association for the inside, but not the outside dimension of CROS on org support, therefore Hypothesis 3 was partially support. Hypothesis 4 indicated that CROS would be positively associated with LDL cholesterol. Correlation coefficients did indicate that CROS inside was positively and significantly correlated with LDL

cholesterol, but the same finding did not occur for the CROS outside dimension, thereby partially supporting our hypothesis. Finally, hypothesis 5 predicted a positive correlation between CROS and total cholesterol. The correlations also indicated that Inside CROS was significantly and positively correlated with total cholesterol, but the same result did not occur for outside CROS, thereby partially supporting our hypothesis. Table 4 reports the descriptive means and standard deviations for each of these variables.

General Discussion

The first goal of this project was to determine if individuals report the existence of organizational stressors that they feel are communicatively-restricted. In that sense, an individual would appraise a stressor as communicatively-restricted if he or she could not discuss that stressor with other members of the organization or with organizational outsiders. In addition, we were also interested to see what reasons individuals gave for not being able to discuss their stressor as well how restrictedness associates with both global and organizational stress.

In the second phase of the project, we reconceptualized our measure of the CROS to tap into *general* perceptions of restrictedness. That is, rather than asking about the extent to which participants perceived that they could not discuss a specific stressor, we asked about the extent to which participants could not discuss their overall organizational problems with members of their support network (both within and outside of the organization). Finally, we evaluated the extent to which self-reports of a CROS correlated with general perceptions of organizational stress, organizational commitment, organizational support, and physiological health (as indexed by HDL, LDL and total cholesterol).

Respondents in this investigation identified with a variety of organizations; however, their reports of organizational-level stressors are common in the literature (e.g., Hawksley, 2007;

Sosik & Godshalk, 2000). Indeed, when considering what participants reported their stressors to be (see discussion of Research Question 8), most respondents indicated that their main stressor was related to other members of the organization. Other reported stressors were job-function related (e.g., time-management) or job-outcome related (e.g., money). Based on participant responses, we felt that the sample represented a wide cross-section of organizations and organizational issues.

Importantly, we sought to determine if individuals would report that their organizational stressors were communicatively-restricted. This was the most important element of the first phase of the present investigation, as we argued a stressor could be most stressful (and thereby potentially harmful to the individual) if no outlet existed to discuss the stressor. In the context of the second hypothesis, individuals ($n = 95$, 23.45% of the sample in phase one) reported that they could not talk about their stressor with other organizational members or organizational outsiders. This finding is important, as it underscores the prevalence of a CROS. Almost one-quarter of this sample reported that they were restricted in communicating to others about their stressor. Contextualizing this within the framework of self-disclosure and social support literature, these individuals would be at a greater risk of the deleterious effects of stress than would individuals who do not have communicatively-restricted stressors (Goldsmith, 2004; Guerrero & Afifi, 1995; Pennebaker & Francis, 1996; Zimmermann & Applegate, 1994). This proposition was supported by the finding in phase two that people who perceived at least one dimension of a CROS had higher LDL and total cholesterol than those who do not have a CROS. Initially, the results from the analysis of research question three seemed counter-institutive; however, after examining the open-ended responses, we believe that many of our participants may not have felt the need to discuss their stressors with members inside their organization.

Therefore high scores on the inside dimension may correlate with lower stress, because participants felt that they had nothing to talk about. We propose that this was due to our measurement of the CROS in phase one. Consistent with this proposition, in phase two (where we assessed a more holistic perception of the CROS), those individuals who had high scores on the inside dimension also had greater organizational stress, lower organizational commitment, perceived less organizational support, and had elevated levels of both LDL and total cholesterol. In fact, we found that individuals' perceptions of the internal dimension of the CROS supported each of our hypotheses suggesting that this type of stressor may very likely have an effect on both physiological and physiological health.

Furthermore, it appears that perceptions of a CROS are associated with more global organizational problems such as low commitment and perceived lack of support. Due to the correlational nature of this study we cannot make any claims of causality but we allow ourselves to speculate about the possibility that not being able to talk about one's problems in an organization can lead to other problems down the line. Interestingly, the findings for the outside dimension were nonsignificant (with the exception of organizational commitment). We cannot rule out the possibility that the outside dimension of the CROS may not be perceived to be particularly stressful. Nevertheless, provided that the results were mostly in the predicted directions, we believe that our lack of significance on this dimension was more likely due to low power and therefore more investigation on this dimension is warranted. Conversely, these nonsignificant results could also be attributed to a need for reconceptualization of the interplay between the outside and inside CROS dimensions. Since we would expect that these dimensions share some variance, we may need consider a different approach to their analysis.

The CROS measures used in the present studies were newly created and as such, have not been previously validated. Therefore, we focused on the free response answers to determine a) if participants truly understood the nature of the type of stressor we were attempting to tap into, and b) if participants' reasons for feeling restricted supported our conceptualization of a CROS. Based on the responses provided, it appears that participants closely identify with the idea of communicatively-restricted stressors. By providing reasons for restrictedness that were in-line with the research on disclosure related risk, these data support our contention that certain stressors can be difficult (or impossible) to discuss with other people.

The reasons individuals provided (e.g., fear of social judgment, fear of retribution, and fear of disconfirming responses) largely paralleled those identified in past research (see Guerrero & Afifi, 1995). An interesting pattern of responses emerged, wherein the social hierarchy inherent within organizations prevented discussion of particular stressors. Much like rules of social appropriateness may dictate the topics individuals discuss with their families (Guerrero & Afifi, 1995), rules of social appropriateness appear to restrict individuals' ability to communicate about problems in organizational settings.

As expected, the fear that outsiders will not understand (or cannot relate) was by far the most commonly cited barrier restricting one's disclosure to outsiders. To the extent that this may be an inaccurate perception, this finding is particularly interesting. Individuals appear to perceive that their problems are unique even though (as discussed above) participants report consistently similar problems regardless of the nature of their organization. Participants all reported problems with time management, concern over the commitments made to the organization and fear of being ostracized, regardless of the type of organization they reported on. As such, it appears that though individuals report dealing with a CROS because "nobody will

understand,” this is quite likely not the case. The ubiquity of this perception leads us to believe that the presence of a CROS may be more widespread within organizations than we were able to capture in these samples.

The findings presented herein represent an exploration of a newly identified variable of interest for organizational scholars. Given the exploratory nature of this project, a few limitations should be noted. Unfortunately, many of our inferential statistics yielded both nonsignificant results and effect sizes below acceptable levels. The fact that the CROS measures are new and have not been validated outside of this project may contribute to these results. Additionally, since we did not control for the amount of stress that individuals were experiencing in phase one, our relatively large sample ($N = 406$) likely suffered from a threshold effect. Furthermore, given that the first sample consisted of many young college students, there is a real possibility that they did not yet have the wide variety of experiences that seasoned organizational members have. While we address this concern in our second phase, our measures of the CROS differed from phase one to phase two and therefore the results of the two phases are not directly comparable. We therefore suggest continued replication and extension of this research in non-student populations.

In the first two phases of this project we aimed to identify whether a CROS existed, and how the CROS manifested in people’s lives. Our measurement of the CROS therefore, was targeted at identifying the extent to which people felt restricted in their communication. In the next phase of this research we plan to focus not on whether a CROS exists but rather on the extent to which a CROS is perceived as stressful. Additionally, as we continue this line of research, we hope to identify the coping strategies that individuals use to deal with the organizational stress that they perceive to be communicatively restricted. We are interested to see

what forms of support (if any) individuals seek out or utilize to help deal with these types of stressors. Hopefully this information can help us in developing an intervention aimed at reducing perceptions of CROS related stress, and subsequently decrease the negative health effects of a CROS. We feel strongly that when an individual appraises a stressor as being communicatively-restricted, he or she may experience the negative side effects of stress because of a lack of social support. We feel that the findings presented herein justify further investigation of this phenomenon. Taken together, we feel this set of responses not only supports the existence of CROS as a variable of interest, but also provides us with new directions for refinement of our measures for use in future research. The identification of a communicatively-restricted organizational stressor is an important contribution to the on-going study of social support in organizations and beyond. Although our findings are tentative, they provide a heuristic by which scholars can better understand the nature of organizational stress.

Footnote

¹ Z-scores for inside dimension ranges for low = lowest to $-.29$, medium = $-.28$ to $.29$, high = $.30$ to highest. Z-scores for outside dimension ranges for low = lowest to $-.14$, medium = $-.15$ to $.43$, high = $.44$ to highest.

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Table 1

Distribution of Types of Organizations Reported by Participants

			Valid	
	Frequency	Percent	Percent	Cumulative
For-profit company	92	22.7	22.7	22.7
Nonprofit company	35	8.6	8.6	31.3
Government agency	1	.2	.2	31.5
Fraternity/Sorority	63	15.5	15.5	47.0
Athletic Team/club	106	26.1	26.1	73.2
Service organization	36	8.9	8.9	82.0
Competitive club/team	21	5.2	5.2	87.2
Religious group	14	3.4	3.4	90.6
Military/Armed Forces	3	.7	.7	91.4
Other	35	8.6	8.6	100.0
Total	406			

Table 2

Factor Loadings for Exploratory Factor Analysis with Direct Oblimin Rotation of CROS Items

	Factor	
	Inside	Outside
3. I feel that if I wanted to I could talk to members of my organization about this issue	.80	.10
7. This is an issue that I feel I cannot talk to members of my organization about*	.80	.10
9. I feel that members of my organization get what I am talking about when I discuss this issue with them	.80	-.07
1. I talk to other members of my organization about this issue.	.69	.05
5. I am satisfied with the support I receive from members of my organization when I talk to them about this issue	.64	-.07
4. I feel that if I wanted to I could talk to people outside of my organization about this issue	-.00	.83
8. This is an issue that I feel I cannot talk to people outside of my organization about*	.18	.75
6. I am satisfied with the support I receive from people outside of my organization when I talk to them about this issue	.01	.71
10. I feel that people outside of my organization get what I am talking about when I discuss this issue with them	-.11	.68
2. I talk to people not associated with my organization about this issue	.02	.66

Note. The number indicates the original placement in the measure. Items marked with as asterisk were reflected.

Table 3

Phase 2 Study Correlations

	1	2	3	4	5	6	7
1. CROS Inside	--	.43**	.56**	-.26	-.35**	.31*	.39**
2. CROS Outside		--	-.07	-.34*	-.15	-.12	-.03
3. Org. Stress			--	-.29*	-.41**	.27	.31*
4. Org. Commitment				--	.74**	-.12	-.09
5. Org. Support					--	-.32*	-.32*
6. Total Cholesterol						--	.94**
7. LDL Cholesterol							--

Note: All correlations computed at the 1-tailed level. ** = $p < .01$, * = $p < .05$.

Table 4

Descriptive Statistics for Phase 2 Variables

	<i>M</i>	<i>SD</i>
Total Cholesterol	185.08	35.87
LDL Cholesterol	109.88	30.27
Org. Stress	3.46	.82
Org. Commitment	4.68	1.96
Org. Support	4.61	1.15
CROS Inside	2.83	.77
CROS Outside	2.52	.67

Note: Cholesterol figures reported in mg/dL