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Threats to communion and agency mediate associations between stressor type and daily coping

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ABSTRACT

Background and Objectives: Basic human values have been categorized into two dimensions: those that are self or agentically focused, and those that are other or communally focused. We apply this model to cognitive appraisals of stress and argue that threat appraisals also fall into these two dimensions. The mediating roles of communal and agentic threats in linking stressors with coping responses were examined. **Design:** A daily process methodology was used. **Methods:** Three-hundred and fifty undergraduate students were followed midday and evening over one week, completing structured electronic diaries regarding their experiences of the past half-day. Participants described stressors in open-ended format, which were then coded into social stress, achievement stress, and other stress categories. They also completed scales measuring stress appraisals and coping. **Results:** Communal threat mediated links between social stressors and empathic responding, support seeking, and confrontation. Agentic threat mediated links between achievement stressors and empathic responding, support seeking, confrontation, and problem solving. **Conclusions:** Individuals tend to cope in ways that maintain communion when they perceive communion to be threatened; they tend to cope in ways that maintain agency when they perceive agency to be threatened.

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Coping; daily stress; cognitive appraisal; empathic responding; communal–agentic framework; threat appraisal

Introduction

Little is known about the types of cognitive appraisals of threat that are made in stressful situations, and their role in stressful events and coping responses. Previously, we argued for a key role of cognitive appraisal in the stress process, with appraisals of what is at stake in the situation holding central importance in the model (Folkman, Lazarus, Gruen, & DeLongis, 1986b). However, the model was limited in its discussion of these stakes. The model argued that having more at stake in a stressful situation would lead to a more stressful experience, and that what is at stake in the stressful situation should predict coping responses. There is support for both of these predictions. However, the model provides no guidance for examining *dimensions* of what is at stake in stressful situations. That is, it begs the question of whether all stakes are created equal, or whether there are useful ways to categorize what is at stake in stressful situations that would allow for improved prediction of coping responses.

In the current study, we examined whether threat appraisals could be better understood using a communal–agentic framework (Bakan, 1966; Gurtman & Pincus, 2003). Research suggests that this framework can be used to differentiate basic human values (Trapnell & Paulhus, 2012). Communal

values are related to relationships with others and include factors such as trust, harmony, equality, and altruism (Trapnell & Paulhus, 2012). Agentic values are related to self-advancement and include factors such as achievement, competence, wealth, and pleasure (Trapnell & Paulhus, 2012). Because values can be differentiated on the basis of this framework, and because events are thought to be stressful when they threaten valued resources (Hobfoll, 1989), we argue that the communal–agentic framework is useful for understanding how stressful situations elicit coping responses. Stressors may differ in the extent to which they pose threats to communion and agency, and coping responses to these stressors are implemented because of their potential to maintain the resources under threat. In the current study, we examine coping strategies that are most relevant to the communal–agentic distinction: empathic responding, support seeking, confrontation, and problem solving.

Communal and agentic coping responses

Empathic responding, support seeking, confrontation, and problem solving were examined in this study because these coping strategies are assimilative rather than accommodative in nature (Brandstädter, 1989; Brandstädter & Rothermund, 2002). That is, the focus is on changing the stressful situation itself, rather than on changing one's own perception of the situation (Brandstädter & Rothermund, 2002). Additionally, each of these coping strategies are expected to differ in the extent to which they are used to maintain communion versus agency. Empathic responding, support seeking, and confrontation are all coping strategies that involve other individuals. However, they may differ in their underlying motivations. *Empathic responding* has been theorized to involve putting the needs of others ahead of personal needs (O'Brien, DeLongis, Pomaki, Puterman, & Zwicker, 2009) and is therefore likely to be used when communion is threatened, but not when agency is threatened. On the other hand, *support seeking* and *confrontation* may be used to maintain both communion and agency. Support seeking may be used to maintain relationships and to affiliate with others (Taylor, 2006); it may also be employed to fulfill personal needs by eliciting help from others (O'Brien et al., 2009). Similarly, individuals may engage in confrontation in order to work through relationship difficulties; they may also confront others to fulfill personal needs by aggressively attempting to make others understand and provide help. Overall, despite the interpersonal nature of all three coping strategies, we expected support seeking and confrontation to be used to maintain relationships and to advance self-interest, whereas we expected empathic responding to be primarily used to support and connect with others. *Problem solving* is a coping strategy that does not necessarily involve other individuals and is characterized by planning and action to alter the stressful situation (Folkman et al., 1986b). It has been considered a coping response that is largely implemented by individuals to maintain personal resources (Hobfoll, 1989). We expected that problem solving would be more often employed when stressors threaten personal needs, as opposed to when they threaten the needs of other individuals or relationships with others.

Within a given situation, individuals may have limited resources to direct toward helping themselves while also maintaining relationships, rendering goals for communion and agency in competition at the behavioral level (Trapnell & Paulhus, 2012). Given this, when stressors are more threatening to communion, individuals may be less likely to engage in coping efforts that are primarily directed toward helping themselves, relative to when they appraise stressors as being less threatening to communion. Therefore, stressful situations in which communion is threatened may be accompanied by lower levels of problem solving. When stressors are more threatening to agency, individuals may be less likely to engage in efforts that are directed toward maintaining relationships and helping others, compared to times when stressors are less threatening to agency. Thus, stressful situations in which agency is threatened may be associated with lower levels of empathic responding.

Testing links between stressors and coping responses

To our knowledge, only one study has used the communal–agentic framework to understand the links between stressful events and coping responses (O'Brien & DeLongis, 1996). In this study, participants' open-ended reports of the worst stressor of the week were categorized depending upon whether they were related to social interactions or to personal achievement. Individuals who experienced stressors in the previous week that involved social interactions tended to report greater use of empathic responding, support seeking, and confrontation, compared to individuals who reported work or school achievement-related stressors. We also found that a number of coping strategies, including problem solving, positive reappraisal, and accepting responsibility, were more common among those who experienced achievement stressors, as compared to those who experienced social stressors. An important limitation of this study was that we only examined stressor type as it was related to coping responses. Individuals' perceptions regarding the extent to which communion and agency were threatened were not examined. However, cognitive appraisals of stressors have been found to explain substantial variability in coping strategy use (Walker, Smith, Garber, & Claar, 2005). Additionally, stressors that individuals experience may have distinct meanings that may not be fully captured by dichotomizing them as either social or achievement stressors.

This study

In the current study we sought to overcome this limitation by examining whether appraisals of threat to communion and agency mediate the relationship between stressors and coping responses. To meet this goal, participants provided reports of the most serious stressor of each half-day, their appraisals of those stressors, and their coping responses twice daily across one week. Previous research indicates that appraisals of stressor seriousness and controllability are important components of the stress process and are linked to coping responses (e.g. Walker et al., 2005). Thus, we examined whether communal and agentic threat appraisals mediated the effects of stressor type on coping even when including these variables as control variables. We hypothesized that situations in which social stressors were reported would be associated with higher levels of empathic responding, support seeking, and confrontation, as well as to lower levels of problem solving, compared to situations in which other stressors were reported (H1a). We also expected that communal threat would mediate the relationship between social stressors and coping responses. More specifically, we expected that social stressors would be related to higher levels of communal threat than would other stressors. In turn, communal threat was expected to be associated with higher levels of empathic responding, support seeking, and confrontation, as well as lower levels of problem solving (H1b). In contrast, we expected that situations in which individuals reported achievement stressors would be associated with lower levels of empathic responding, support seeking, and confrontation, as well as to higher levels of problem solving, as compared to situations in which they reported other stressors (H2a). Our final hypothesis was that agentic threat would mediate the relations between achievement stressors and coping responses. Achievement stressors were expected to be related to higher levels of agentic threat compared to all other stressors. In turn, agentic threat was expected to be related to higher levels of support seeking, confrontation, and problem solving, as well as lower levels of empathic responding (H2b).

Methods

Procedure

Participants were recruited from the undergraduate subject pool of the Department of Psychology at the University of British Columbia. Participants provided written informed consent as well as demographic information in the laboratory. Participants received course credit for participation, which was

voluntary and confidential. Then participants completed daily diaries through a web-based questionnaire twice per day (midday and evening) for seven consecutive days. This study was approved by the Behavioural Research Ethics Board at The University of British Columbia.

Of the initial sample of 412 individuals, 62 were excluded in these analyses because of missing data ($n = 55$), or because they submitted more than two days' worth of entries at the same time ($n = 7$). The final sample consisted of 350 participants (70% female). Mean age was 20.54 years ($SD = 5.12$) and mean years in college were 2.14 ($SD = 1.11$). Participants identified as being of Asian heritage ($n = 177$; 51%), European heritage ($n = 113$; 32%), other heritage ($n = 36$; 10%), mixed heritage ($n = 13$; 4%), and some did not report their heritage ($n = 11$; 3%), reflecting the demographic profile of students at the University of British Columbia. Analyses of demographic data suggested no differences between those included and excluded in the study.¹ Adherence was confirmed by a time and date stamp of all diary entries. Only time logs entered at midday and evening were included in the final analysis. Of the possible 4900 diary entries across all participants, there were 3867 entries completed on time, which is a completion rate of 79%.

Measures

Stressor type was assessed with an open-ended question that read,

Please describe briefly the most bothersome event or problem you had since your last entry. It may have been about an exam or a conflict with a friend. Whatever your most serious issue was since your last entry (no matter how minor or trivial it may seem to you), please describe it here.

Categories were developed based on responses and were consistent with past studies (Bolger, DeLongis, Kessler, & Schilling, 1989; Lee-Baggley, Preece, & DeLongis, 2005). Categories included: achievement stressors (43%), social stressors (25%), health/fatigue (11%), work-life balance (2%), multiple stressors (1%), and miscellaneous hassles (18%; e.g. finances and commuting). Two coders independently rated each event and achieved a high interrater reliability ($\kappa = .86$). Discrepancies were resolved by the second author. The two most frequent categories (social and achievement stressors) were kept as separate categories and other stressor types were combined to create a third category ("other stressor"). Social and achievement stressors were further coded for descriptive purposes. Social stressors included being wronged by another person (e.g. "my boyfriend cheated on me"; $n = 150$; 39%), inter-personal conflict (e.g. "had a fight with my mom"; $n = 116$; 30%), a stressor impacting someone else ("my friend has family problems"; $n = 85$; 22%), or doing wrong to another person (e.g. "I lied to my good friend"; $n = 31$; 8%). Achievement stressors were related to academics (e.g. "I did poorly on an assignment"; $n = 485$; 87%), work (e.g. "want a better job for the summer"; $n = 19$; 3%), extracurricular activities and hobbies, (e.g. "I was annoyed with my performance at the driving range"; $n = 19$; 3%), or other ($n = 36$; 6%).

Threat appraisals were assessed based on our previously developed measure of appraisal (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986a). Participants were asked to assess stressor seriousness, controllability, and threat on a 5-point Likert scale ("none/not at all" = 1; "a lot" = 5). Stressor seriousness was assessed with a single item that asked, "How serious was this for you?" and controllability was assessed with a single item that asked, "With this event, how much control or influence did you feel you had over it or its handling?" Threat appraisals were assessed using seven items, which were in reference to the question, "to what extent would you say each of the following was of concern to you in this situation?" (Folkman et al., 1986a). Four items were used to measure communal threat (e.g. "harm to a loved ones well-being") and three items were used to measure agentic threat (e.g. "losing your self-respect"). The within-person reliabilities (R_C) for communal and agentic threat were .74 and .49 (respectively) and the between-person reliabilities (R_{KF}) for communal and agentic threat were .96 and .94 (respectively; Shrout & Lane, 2012). Coping responses were assessed using subscales consisting of 22 items from a revised version of the Brief

Ways of Coping Questionnaire, which was specifically developed to measure coping with daily stressors (Lee-Bagglely et al., 2005). Participants reported the degree to which they used a variety of coping strategies in response to the problem they described on a 3-point Likert scale ranging from “not at all” to “a lot”. Example items include, “tried to understand how the other person felt” (empathic responding; $R_C = .90$; $R_{KF} = .98$), “talked to someone about the problem” (support seeking; $R_C = .86$; $R_{KF} = .98$), “expressed anger to the person who caused the problem” (confrontation; $R_C = .68$; $R_{KF} = .96$), and “concentrated on what I had to do next to solve the problem” (problem solving; $R_C = .70$; $R_{KF} = .96$). See supplementary material for a principle components analysis for threat appraisals and coping responses.

Analytic strategy

To examine the relations between stressor type, threat appraisals, and coping responses, we conducted multilevel regression analysis using Hierarchical Linear Modeling 6.0 (HLM; Raudenbush, Bryk, Cheong, & Congdon, 2004). Two-level mediational analyses were conducted using the analytic strategy proposed by Bauer, Preacher, and Gil (2006), with daily experiences (Level 1) nested within individuals (Level 2). The models were run to examine whether the effects of social stressors (social stressors = 1; other stressors = 0) on coping strategy use was mediated through within-person differences in communal threat. Separate models were run to examine whether the effects of achievement stressors (achievement stressors = 1; other stressors = 0) on coping strategy use was mediated through within-person differences in agentic threat. Communal and agentic threats were centred on the mean for each person. In order to adjust for overall levels of perceived threat, models included the other threat variable as a control variable. All mediation models were run to estimate effects for the average participant as well as to estimate the extent to which effects varied across participants (random effects). Confidence intervals and inferences for indirect and total effects were made using the normal approximation method (Bauer et al., 2006). All hypotheses were tested when controlling for appraised seriousness, appraised controllability, gender, and ethnicity (European, Asian, or other heritage) in turn. Given these factors did not substantively change results they were dropped from the final models. The percent of within-person variance in coping responses that was accounted for by stressor type and threat appraisals was obtained using procedures outlined by Snijders and Bosker (1999).^{2,3}

Results

Overview

In this section, we begin by describing bivariate analyses. Following this, we describe protocol compliance. Then we provide a description of hypothesis testing. For our description of hypothesis testing, we include estimates of fixed effects, estimates of random effects, and p -values. Additional statistics are included in our online supplementary file.

Preliminary analyses

Table 1 presents descriptives, proportions of variance, and correlations for study variables. Gender and ethnicity were related to the proportion of stressors falling into the social category. Gender was also related to agentic threat, support seeking, and problem solving. Reporting a greater number of social stressors was related to significantly higher levels of threat to communion, empathic responding, support seeking, and confrontation, as well as to lower levels of controllability, seriousness, agentic threat, and problem solving. Reporting a greater number of achievement stressors was related to significantly higher seriousness, controllability, agentic threat, and problem solving, as well as to lower levels of communal threat, empathic responding, support seeking, and confrontation.

Table 1. Descriptive statistics, proportions of variance, and correlations of study variables at within- and between-person levels.

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Social stressor	–	–.55***	–.05	–.25***	.31***	–.10	.35***	.19***	.22***	–.08	.14**	–.18**	.16**
2. Achievement stressor	–.46***	–	.28***	.37***	–.04	.32***	–.14*	.00	–.02	.22***	.01	.14*	–.16*
3. Seriousness	–.01*	.21***	–	.23***	.39***	.61***	.24***	.36***	.31***	.46***	.09	.09	–.10
4. Controllability	–.17***	.28***	.09***	–	.05	.28***	.10	.03	.05	.37***	.04	.08	–.14**
5. Communal threat	.43***	–.26***	.21***	–.07*	–	.51***	.73***	.56***	.73***	.31***	.01	.07	–.07
6. Agentic threat	–.21***	.42***	.47***	.22***	.12***	–	.30***	.36***	.36***	.51***	.13*	–.01	–.01
7. Empathic responding	.50***	–.31***	.06*	–.09***	.56***	–.12***	–	.61***	.76***	.42***	.03	.04	–.04
8. Support seeking	.15***	–.05*	.27***	–.06*	.29***	.15***	.26***	–	.58***	.48***	.18*	.06	–.00
9. Confrontation	.44***	–.28***	.08*	–.09***	.44***	–.01	.45***	.24***	–	.33***	.03	.08	–.09
10. Problem solving	–.21***	.34***	.28***	.33***	–.05*	.40***	–.02	.15***	–.06*	–	.17*	–.01	–.03
11. Gender											–	.11*	–.06
12. Asian heritage												–	–.70***
13. European heritage													–
Descriptives													
Mean	0.25 ^a	0.42 ^a	2.21	1.95	0.55	1.65	1.27	1.36	1.22	1.77			
SD	0.20	0.24	0.79	0.67	0.53	0.70	0.26	0.33	0.23	0.37			
Proportion of Variance													
Within-person	.88	.86	.68	.83	.68	.68	.75	.67	.73	.72			
Between-person	.12	.14	.32	.17	.32	.32	.25	.33	.27	.28			

Note: $N = 350$ at the between-person level and $N = 3827\text{--}3847$ at the within-person level. For correlational analyses, missing data were handled using pairwise deletion. Between-person correlations are presented above the diagonal and within-person correlations are presented below the diagonal. Social stressor = social stressor (1), other stressor (0); Achievement stressor = achievement stressor (1), other stressor (0). Gender = Female (1), Male (0). Asian heritage = Asian heritage (1), other heritage (0). European heritage = European heritage (1), other heritage (0).

^aThese values represent the proportion of entries classified as being social stressors or achievement stressors.

*** $p < .001$.

** $p < .010$.

* $p < .050$.

⁺ $p < .100$.

Stressor seriousness was linked to higher levels of communal threat, agentic threat, controllability, empathic responding, support seeking, confrontation, and problem solving. Higher perceived control was linked to higher levels of agentic threat and problem solving, as well as to lower levels of communal threat, empathic responding, support seeking, and confrontation. Threat to communion was associated with higher levels of agentic threat, empathic responding, support seeking, and confrontation, as well as to lower levels of problem solving. Threat to agency was linked to higher levels of problem solving and support seeking, as well as to lower levels of empathic responding. Threat to agency was not significantly associated with confrontation.

Protocol compliance was examined in preliminary analyses. On average, participants completed 11 diary entries. Eighty-six percent of participants completed at least 50% of the diary entries and 28% of participants completed all diary entries. Individuals who identified as being of Asian heritage tended to complete a higher number of diary entries ($M = 11.39$, $SD = 2.79$) compared to those who were of European heritage ($M = 10.59$, $SD = 3.04$), $t(228) = 2.29$, $p = .023$, 95% CI = [0.11, 1.48].

Hypothesis testing

Mediation models of the effects of social stressor type on coping responses through communal threat are displayed in Figure 1. The total effects of social stressors on coping responses were in full support of Hypothesis 1A. Compared to other stressors, social stressors were related to higher levels of empathic responding (Total effect: 0.48, $p < .001$, Variance = 0.10), support seeking (Total effect: 0.18, $p < .001$, Variance = 0.06), and confrontation (Total effect: 0.34, $p < .001$, Variance = 0.08). Social stressors were also related to lower levels of problem solving compared to other stressors (Total effect: -0.17 , $p < .001$, Variance = 0.06).

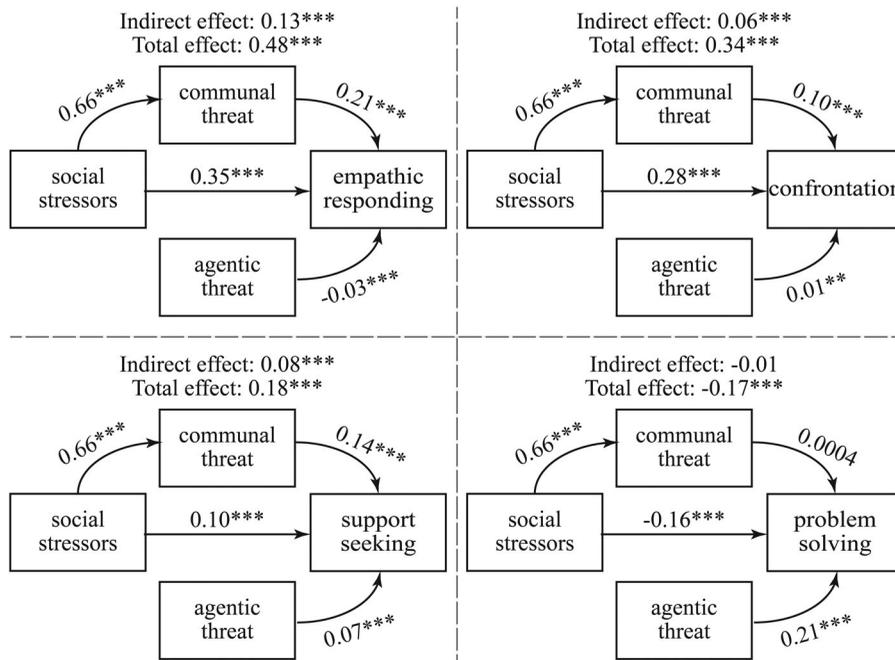


Figure 1. Direct and indirect effects of social stressors on coping responses through communal threat. Unstandardized parameter estimates and variance components are shown for the effects of social stressor type on communal threat appraisal, social stressor type on coping responses while controlling for communal and agentic threat appraisals, and communal threat appraisal on coping responses while controlling for stressor type and agentic threat appraisal. Unstandardized parameter estimates and variance components for indirect and total effects are presented above each model. *** $p < .001$, ** $p < .010$, * $p < .050$, + $p < .100$.

We found partial support for hypothesis 1B. Social stressors were significantly related to higher levels of threat to communion ($a = 0.66, p < .001, \text{Variance} = 0.19, p < .001$) compared to other stressors.⁴ In turn, higher levels of threat to communion were associated with higher levels of empathic responding ($b = 0.21, p < .001, \text{Variance} = 0.02, p < .001$), support seeking ($b = 0.14, p < .001, \text{Variance} = 0.02, p < .001$), and confrontation ($b = 0.10, p < .001, \text{Variance} = 0.01, p < .001$). However, contrary to expectations, threat to communion was not significantly associated with lower levels of problem solving ($b = 0.0004, p = .979, \text{Variance} = 0.01, p = .023$).

Formal tests revealed significant indirect effects of stressor type through communal threat on empathic responding (Indirect effect: 0.13, $p < .001, \text{Variance} = 0.02$), support seeking, (Indirect effect: 0.08, $p < .001, \text{Variance} = 0.02$) and confrontation (Indirect effect: 0.06, $p < .001, \text{Variance} = 0.01$). However, the indirect effect of stressor type through communal threat to predict problem solving was not significant (Indirect effect: $-0.01, p = .427, \text{Variance} = 0.01$).

When including communal threat in models predicting coping responses, social stressors were significantly linked to higher levels of empathic responding ($c' = 0.35, p < .001, \text{Variance} = 0.10, p < .001$), support seeking, ($c' = 0.10, p < .001, \text{Variance} = 0.04, p < .001$), and confrontation ($c' = 0.28, p < .001, \text{Variance} = 0.08, p < .001$). When including threats to communion in the model, social stressors were also associated with lower levels of problem solving compared to other stressors ($c' = -0.16, p < .001, \text{Variance} = 0.04, p = .024$). Overall, threat to communion mediated relations between social stressors and empathic responding, support seeking, and confrontation, but did not mediate the link between social stressors and problem solving.

Mediation models of the effects of achievement stressor type on coping responses through agentic threat are displayed in Figure 2. The total effects of achievement stressors on coping responses were in partial support of Hypothesis 2A. As expected, achievement stressors were

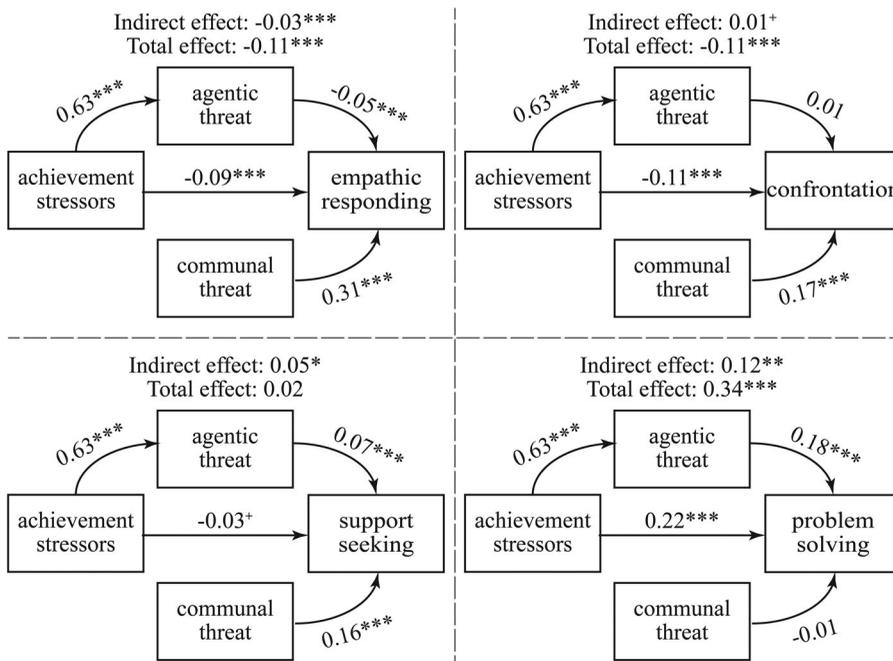


Figure 2. Direct and indirect effects of achievement stressors on coping responses through agentic threat. Unstandardized parameter estimates and variance components are shown for the effects of achievement stressor type on agentic threat appraisal, achievement stressor type on coping responses while controlling for communal and agentic threat appraisals, and agentic threat appraisal on coping responses while controlling for achievement stressor type and communal threat appraisal. Unstandardized parameter estimates and variance components for indirect and total effects are presented above each model. $^{***} p < .001$, $^{**} p < .010$, $^* p < .050$, $^+ p < .100$.

related to lower levels of empathic responding (Total effect: $-0.11, p < .001, \text{Variance} = 0.01$) and confrontation (Total effect: $-0.11, p < .001, \text{Variance} = 0.01$). Achievement stressors were also related to higher levels of problem solving (Total effect: $0.34, p < .001, \text{Variance} = 0.06$). However, achievement stressor type had a non-significant total effect on support seeking (Total effect $0.02, p = .449, \text{Variance} = 0.005$).

Mediation models also provided partial support for hypothesis 2B. Achievement stressors were significantly related to higher levels of threat to agency compared to other stressors ($a = 0.63, p < .001, \text{Variance} = 0.16, p < .001$). In turn, higher levels of threat to agency were associated with lower levels of empathic responding ($b = -0.05, p < .001, \text{Variance} = 0.01, p < .001$) as well as with higher levels of support seeking ($b = 0.07, p < .001, \text{Variance} = 0.01, p = .051$) and problem solving ($b = 0.18, p < .001, \text{Variance} = 0.01, p < .001$). However, higher levels of threat to agency were not significantly associated with confrontation ($b = 0.01, p = .208, \text{Variance} = 0.001, p > .500$).

Formal tests revealed a statistically significant and negative indirect effect of achievement stressor type through agentic threat on empathic responding (Indirect effect: $-0.03, p < .001, \text{Variance} = 0.003$). Additionally, although achievement stressor type did not have a significant total effect on support seeking, it did have a significant positive indirect effect on support seeking through threat to agency (Indirect effect: $0.05, p = .029, \text{Variance} = 0.01$). As expected, achievement stressor type also had a significant indirect effect on problem solving through threat to agency (Indirect effect: $0.12, p = .002, \text{Variance} = 0.01$). However, the indirect effect of achievement stressor type on confrontation through threat to agency was only marginally significant ($0.01, p = .059, \text{Variance} = 0.001$).

When including threat to agency in the models, there was still a significant direct effect of achievement stressor type on empathic responding ($c' = -0.09, p < .001, \text{Variance} = 0.01, p = .001$), confrontation ($c' = -0.11, p < .001, \text{Variance} = 0.01, p = .450$), and problem solving ($c' = 0.22, p < .001, \text{Variance} = 0.05, p < .001$). With the addition of threat to agency in the models, there was a marginally significant effect on support seeking ($c' = -0.03, p = .089, \text{Variance} = 0.01, p = .094$). Overall, these results indicate that threat to agency mediated the effect of achievement stressor type on empathic responding, support seeking, and problem solving. There was also a trend indicating that threat to agency partially mediated the effect of achievement stressor type on confrontation.^{5,6}

Discussion

This study found support for a communal–agentic framework in understanding how stress appraisals are related to stressors and coping responses. This study replicated past research indicating that stressor types necessitate specific patterns of coping (O'Brien & DeLongis, 1996). Findings here also went beyond previous research by indicating that threats to fundamental human values – namely, communion and agency – mediate the relations between the types of stressors experienced and the ways that people cope.

The roles of stressor type and threat appraisals in predicting empathic responding were consistent with expectations. Social stressors were associated with higher levels of communal threat compared to other stressors, and achievement stressors were associated with higher levels of agentic threat compared to other stressors. In turn, communal threats were associated with higher levels of empathic responding, whereas agentic threats were associated with lower levels of empathic responding. This lends support to previous arguments that communion and agency are at competition at the behavioral level (Trapnell & Paulhus, 2012), with threat to communion provoking and threat to agency inhibiting stress responses that are primarily meant to affiliate with others.

Within-person variability in communal and agentic threat also mediated associations between stressor type and support seeking. The results indicate that individuals increase their use of support seeking above their own typical levels in the face of either communal or agentic threat. This suggests that support seeking may be used to affiliate with others (Taylor, 2006) and also to fulfill personal needs with the help of others. Importantly, these results show that agentic threat has the opposite effect on support seeking compared to achievement stressor type. That is, the

effect of achievement stressors on support seeking was non-significant and negative in direction. However, achievement stressor type had a significant and positive indirect effect through agentic threat. These data provide support for the notion that stressor type and threat appraisals represent separate aspects of the stress process (Folkman et al., 1986b; Walker et al., 2005).

As expected, confrontation tended to be higher during stressful social situations compared to other stressors, and part of this relation was explained by heightened levels of threat to communion. On the other hand, the role of threat to agency in the use of confrontation is not clear from the current data. The effect of threat to agency on confrontation was positive as had been expected, but the effect was not statistically significant when tested as a mediator of the effects of achievement stressor type on confrontation. Additionally, achievement stressors were linked to lower levels of confrontation as had been expected, but the indirect effect of achievement stressor type on confrontation through threat to agency was only marginally significant. Interestingly, the effect of threat to agency on confrontation did reach statistical significance when it was included as a control variable in the model testing the effects of social stressor type on confrontation through threat to communion. Overall, these findings indicate that individuals tend to use confrontation in order to maintain communion but there was weaker evidence that confrontation is used to maintain agency. More research is needed to clarify the nature of this relation.

Our hypotheses with regard to the roles of communion and agency in mediating links between stressor type and problem solving were partially supported in this study. As expected, achievement stressors were linked to higher levels of problem solving compared to other stressors, and this effect was partially mediated by higher levels of threat to agency. We had also expected that social stressors would be linked to lower levels of problem solving through threat to communion. However, communal threat was only linked to problem solving in bivariate analysis. It was not significantly related to problem solving when accounting for the influence of stressor type and agentic threat and it did not mediate associations between social stressor type and problem solving. However, our findings suggest that individuals have a tendency to use problem solving in order to maintain agency.

Results suggest that stressor type and threat appraisals are important components in facilitating specific patterns of coping. Preliminary analyses indicated that the within-person bivariate correlations of stressor type and threat appraisals with coping responses were similar in size to the within-person correlations of perceived stressor seriousness and controllability with coping responses. This is noteworthy because previous research has emphasized the importance of stressor seriousness and controllability (Zwicker & DeLongis, 2010). Mediation analyses also indicated that stressor type and threat appraisals together accounted for a substantial proportion of the variance in all coping responses (12–43%; see supplemental file).

Limitations and future directions

This study focused on the within-person relations between stressor type, threat appraisals, and coping responses using a homogeneous sample reporting relatively minor daily stressors. The study did not examine stable factors that might impact the stress process. This is important because despite the homogeneity of the sample, the majority of the relations examined were accompanied by statistically significant variance components. This indicates that there might be substantive differences between individuals in the effects of stressor type on threat appraisals and coping responses, and in the effects of threat appraisals on coping responses. For example, although the average participant tended not to be any more or less likely to engage in problem solving when experiencing threat to communion, the variance component was significant, indicating that individuals may differ in the extent to which they use problem solving in the face of communal threat. The variability in how stressor type, threat appraisals, and coping responses were related across individuals could be explained by a number of factors, including stable contextual or personality differences. Future research examining these associations in other populations experiencing other types of

stressors is important. This research could also examine stable factors that moderate the associations between these variables.

Testing within-person associations limits the possibility that stable characteristics acted as third variable confounds. Further, although results were not changed when controlling for perceived stressor seriousness and controllability, other situation-specific variables, such as the quality of relationships with other individuals involved in the stressful situation, may have had an impact on the results (Lopes, Salovey, Côté, Beers, & Petty, 2005). Another possibility is that other individuals may be involved who share the responsibility of coping with the stressor (Lyons, Mickelson, Sullivan, & Coyne, 1998). Future research on agentic and communal threat appraisals should include multiple network members to investigate how one individual's coping efforts impact and are impacted by others.

Because we did not examine time-lagged associations between the variables, a potential explanation for the findings is that cognitive appraisals and coping determined the choice of which stressor to report as most stressful. For example, the use of confrontation to cope may have worsened the stressful situation, or even which stressors were experienced. Future research could employ event-contingent daily diary designs in which participants report all stressors and coping as they occur. This may allow for a better understanding of the timeline over which coping unfolds. However, the burden on participants would have to be balanced with such a method.

The current study measured stressor type by coding participants' open-ended reports of the most serious stressor of the day. Stressors that were expected to be pertinent to inter-personal relationships or the well-being of others were coded as "social stressors"; stressors that were considered to be pertinent to personal achievement were coded as "achievement stressors", and all other stressors were combined to create an "other stressors" category. These general categories are consistent with previous research (e.g. Lee-Baggley et al., 2005) and explained substantial variability in coping responses in the current study. However, there could be other ways to categorize stressor types, potentially by examining more specific subcategories of social or achievement stressors.

It is noteworthy that the reliability estimates for communal and agentic threat appraisals were high at the between-person level, but low at the within-person level. Reliability estimates at the within-person level may have been low because communion and agency are broad constructs (Trappnell & Paulhus, 2012). This could also indicate multidimensionality of the constructs at the situation level. Indeed, it seems reasonable that not all aspects of communion or agency may be threatened by the same stressor. For example, situations that threaten the well-being of a loved one may not necessarily threaten the person's relationship with them. However, individuals would be expected to cope using empathic responding in both situations. Future studies should increase the number of items measuring threat appraisals in order to increase the within-person reliability of the measures.

In sum, the findings suggest the usefulness of a communal–agentic framework for understanding the stress process. This framework might further our understanding of the stress process beyond linking stressors with this limited set of coping responses. For example, the communal–agentic framework may be useful in furthering our understanding of biological processes of stress. Measures of perceived stress tend to be only loosely correlated with salivary cortisol responses to laboratory stressors (Dickerson & Kemeny, 2004). However, there are reliable differences in the types of stressors that elicit elevated cortisol responses. In particular, stressors high in social-evaluative threat tend to elicit the highest cortisol responses compared to other stressors (Dickerson & Kemeny, 2004). It is possible that these stressors tend to elicit the highest cortisol responses because they pose threats to communion and agency simultaneously. Future research could examine whether perceptions of threat to communion and agency play a role in biological stress responses.

Conclusions

Researchers have typically examined coping from an individualistic perspective, assuming that what makes events stressful is that they threaten the self, and what motivates coping is to maintain

personal resources. However, this study provides support for critics (Coyne & Gottlieb, 1996) who argue that coping should not be defined so narrowly. Our findings suggest that individuals do not always cope for the purpose of maintaining personal resources or decreasing personal distress. Rather, it adds to the accumulating body of work suggesting that enhancing one's emotional well-being is not the sole, or perhaps even the primary, motive of coping efforts (O'Brien et al., 2009). Social motives clearly also exist, where the focus is on relationship maintenance and the well-being of others (Lyons et al., 1998). The importance of both communion and agency in human life have long been discussed (e.g. Bakan, 1966), and examining them together may further understanding of the process of experiencing and coping with stress.

Notes

1. Personality dimensions were also measured. Analyses revealed that participants included in analyses were higher on agreeableness than those excluded $t(373) = 2.50, p < .05$.
2. The autocorrelation in threat and coping variables was calculated. A low average autocorrelation value was found across coping measures ($-.07$). Consistent with past research (e.g. Bolger & Zuckerman, 1995), a homogeneous variance for the error structure was used.
3. Correlations of coping scales were of a similar size to those reported in other research (Folkman et al., 1986a). Multicollinearity statistics were examined and indicated the degree of intercorrelation was acceptable for multivariate modeling (Tabachnick & Fidell, 2001).
4. Results shown are for mediation models testing effects of stressor type on threat to communion and threat to agency for the models with empathic responding as the distal outcome variable. However, the effects of stressor type on threats to communion and agency were not substantively different for models with support seeking, confrontation, and problem solving as distal outcome variables.
5. Results did not substantively change when effects were assessed separately for noon and before bed reports.
6. We also examined models testing the effects of social stressor type through agentic threat on coping responses and models testing the effects of achievement stressor type through communal threat. Agentic threat was a significant mediator of the links between social stressor type and empathic responding and support seeking. Communal threat was a significant mediator of the links between achievement stressor type and empathic responding, support seeking, and confrontation. Tabulated results are included in the online supplementary file.

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Supplemental data

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