

EXTERNAL RESOURCES: DO RESILIENT EMPLOYEES USE OF EXTERNAL
RESOURCES INFLUENCE PERCEPTIONS OF THEIR JOB?

by

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A thesis submitted to the faculty of
The University of North Carolina at Charlotte
in partial fulfillment of the requirements
for the degree of Master of Arts in
Industrial/Organizational Psychology

Charlotte

2018

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ABSTRACT

ELIZABETH DIANE CLAYTON. External resources: Do resilient employees use of external resources influence perceptions of their job? (Under the direction of DR. JAIME BOCHANTIN)

Conservation of Resources Theory (COR) argues that both psychological and external factors serve as resources to buffer the effects of stress, which in turn influence people's perception of their work environments. Risk and Resilience Theory (RRT) posits that external factors which provide resources to buffer stress are accessing social support, having positive relationships, and engaging in restorative activities provides resilient people use to buffer stress are. By integrating COR and RRT, this study seeks to understand how employees' levels of resilience and stress interact to influence external resources and, in turn, perception of their job characteristics. Using secondary data, this pilot study examines if psychologically resilient people report greater levels of external resources under stress; and whether external resources mediate the relationship between resilience's interaction with stress and perceptions of three job characteristics: job autonomy, use of skills and knowledge at work, and job demand. Findings suggest that resilient employees do perceive more positive interpersonal connections, but external resources do not buffer the effects of stress concerning undesirable perceptions of job characteristics.

ACKNOWLEDGEMENT

I am grateful to my advisor, Dr. Jaime Bochantin, and my committee, Dr. Amy Canevello and Dr. Eric Heggstad, for helping me develop this paper by reading and commenting on earlier drafts and providing guidance regarding analyses.

The data used for the current study was collected by the Laboratory for the Study of Stress, Immunity, and Disease at Carnegie Mellon University – under the directorship of Sheldon Cohen, PhD; and accessed via the Common Cold Project website (www.commoncoldproject.com). This data is publically available through the National Center for Complementary and Integrative Health grant (AT006694); and supported by the National Heart, Lung and Blood Institute (HL65111; HL65112); secondary support was given by the National Cancer Institute Cancer Support Center Grant (P30CA047904); and supplemental funding was provided by the John D. Catherine T. MacArthur Foundation Research Network on Socioeconomic Status and Health.

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INTRODUCTION

Highly stressed employees cost organizations \$24.2 billion annually in productivity due to absenteeism and reduced effectiveness at work (Fogler, 2013; Maslach, Schaufeli, & Leiter, 2001). Stress signals to employees that valuable *resources* are in danger of being depleted such as physical and cognitive energies, objects, or circumstances (Hobfoll, 1989; Hobfoll, 2011; House & French, 1980). They tend to perceive their jobs as more demanding and with less job autonomy (Maslach, Schaufeli, & Leiter, 2001). Employees, however, respond differently to stress, depending on their level of psychological resilience (Schaufeli & Taris, 2014). Psychologically resilient people believe in their ability to control present and future circumstances and to enact positive changes in their life, making them more likely to endure, recover from, and resist disruption from stress than their less resilient counterparts (Britt, Shen, Sinclair, Grossman, & Klieger, 2016; Connor & Davidson, 2003; Kossek & Perrigino, 2016; London, 1983; Richardson, 2002). Hobfoll (2011) also suggested that environmental/contextual factors (i.e., external resources) determine resilience to stress. He called for research that examines the interplay between internal psychological processes and external resources, as well as how this relationship influences how employees perceive their environments. The current study answers this call by empirically examining how both resilience and the perceived availability to external resources (i.e., positive relationships, social support, and restorative activities) influence employees' perceptions of their job characteristics in times of high stress (see Figure 1).

According to Conservation of Resources Theory, internal processes and external resources mitigate the negative effects of stress (Hobfoll, 2011). This occurs because both resilience and external resources influence how employees perceive and adapt to the workplace (e.g., job demand, and lack of job autonomy; see Schaufeli & Taris, 2014, for a review). Resilience predicts better psychological coping with and recovery from stress and situations that threaten resource depletion (Hobfoll, 1989; Hobfoll, 2011). It also predicts physiological recovery to stress, such as a quicker return to a person's resting heart rate following stressful events (Kossek & Perrigino, 2016; Luthans, 2002; Pearlin & Schooler, 1978; Youssef & Luthans, 2007). At work, resilience buffers work-related stress more than specific coping responses to occupational stressors (e.g., using positive comparisons, controlled reflectiveness, and self-assertion to adapt to stressful events/circumstances; Pearlin & Schooler, 1978). Resilient people also access external resources (e.g., social support and positive relationships) to manage stress (Hobfoll, 2011).

Risk and Resilience Theory suggests that resilient people engage in self-protective behaviors when under high stress, which allows them to reduce their overall vulnerability to resource loss and enhance their adaptability to stressors (Greene, 2008; Rutter, 1987). Self-protective behaviors refer to actions taken by people to access tangible and/or psychological resources for the purpose of managing or reducing the negative effects of stress (Rutter, 1987). Thus, when resilient people access external resources under stress, they perceive them as more available than their less resilient counterparts. External resources shown to offer tangible and/or psychological resources help manage stress include social support, positive relationships, and restorative activities (Jackson et al.,

2007; Pow, King, Stephenson, DeLongis, 2017; Robertson et al., 2013). *Social support* refers to the perceived availability of appraisal, tangible assistance, and a sense of belonging from one's social network (Cohen & Willis, 1985). When accessed, social support serves as a protective factor, permitting people to distribute resource demands throughout their social networks via tangible assistance (i.e., receiving physical assistance in times of need) or appraisal (i.e., communicating one's burdens to others) (Cohen, Mermelstein, Kamarck, & Hoberman, 1985). *Positive relationships* refers to interpersonal connections in which feelings of warmth, concern, trust and reciprocity are mutual (Ryff, 1989). Connecting with these close relationships protects an individual from resource loss by reinforcing self-esteem and self-efficacy, helping individuals reframe difficult circumstances and thus making stressful events appear more manageable and solutions more achievable (Denovan, Crust, & Clough, 2016). *Restorative activities* are enjoyable voluntary activities (e.g., hobbies, sports, socializing, time in nature) people engage in when free from work and personal demands and responsibilities (Pressman et al., 2009). Sports activities and hobbies require sustained focus and effort, which builds determination and patience. Increased time doing restorative activities mitigates general feelings of burnout (Melamed et al., 1995) by helping people to prioritize what is meaningful and intrinsically valuable, while building determination and patience; all are important skills in reducing the influence of stressful events/circumstances (Greene et al., 2004). Consistent with Conservation of Resources Theory and Risk and Resilience Theory, I posit that these external resources provide the necessary energies and/or conditions to manage stress.

Resilience → External Resources (Moderated by Stress)

Risk and Resilience Theory goes further, stating that resilient individuals are more likely to access these external factors in times of stress than their counterparts (Greene, 2008; Rutter, 1987). Stress signals the threat of resource depletion, which subsequently signals resilient people to access their external resources (See Trait Activation Theory; Tett & Burnett, 2003; Tett & Gutterman, 2000). People who access and/or take stock of their external resources when stressed should perceive greater availability of those resources because they are more salient in their minds than their counterparts. Alternatively, less resilient people will perceive fewer external resources in times of stress.

By integrating Conservation of Resources and Risk and Resilience Theory, I thus posit that resilience interacts with stress to predict perceptions of available external resources, such that resilience positively relates to external resources only under conditions of high stress. Under high stress, resilient people perceive greater access to external resources to buffer the effects of stress. When stress is low, there is no threat of resource depletion: thus, resilience is not activated and no relationship is present. Highly stressed, *less* resilient people, however, do not benefit from this resilience activation and thus do not perceive their relationships to be positive, feel socially supported, or take time to decompress. (See Figure 2).

Hypothesis 1a: Stress moderates the relationship between resilience and the perceived availability of social support, such that as stress increases, the relationship between resilience and social support becomes more positive.

Hypothesis 1b: Stress moderates the relationship between resilience and positive relationships, such that as stress increases, the relationship between resilience and positive relationships becomes more positive.

Hypothesis 1c: Stress moderates the relationship between resilience and the perceived engagement in enjoyable/restorative activities, such that as stress increases, the relationship between resilience and engagement in enjoyable/restorative activities becomes more positive.

External Resources → Perceptions of Job Characteristics

While previous research reports that resilience and external resources assist employees in managing stress (Jackson et al., 2007; Robertson et al., 2013), only resilience has been empirically linked to perceptions of job characteristics (e.g., high workplace autonomy, low job demand; and the use of skills and knowledge; Matos, Neushotz, Griffin, & Fitzpatrick, 2010; McDonald, Jackson, Wilkes, & Vickers, 2012; Pickering, Hammermeister, Ohlson, Holliday, & Ulmer, 2010; Tian et al., 2014). These perceptions are important to organizations because they enhance the likelihood of positive job outcomes, including employee role breadth, performance, effectiveness, reduced burnout, innovative behavior; and work dedication (Langfred & Moye, 2004; McDonald et al., 2012; Maslach & Leiter, 1997; Morgeson et al., 2005; Salanova, Agut, & Peiró, 2005; Spiegelare, Gyes, & Hootegem, 2016; and Ventura, Salanova, & Llorens, 2015).

Conservation of Resources Theory states that, in addition to psychological processes, external resources contribute to an environment that influences an employee's potential to resist stress (Hobfoll, 1989; Hobfoll, 2011). Specifically, people with greater

external resources perceive less threats to their other resources (Hobfoll, 2001). Previous research examining resilience's influence on job perceptions fails to incorporate how external resources such as social support, positive relationships, and restorative activities provide energies and conditions to improve perceptions of one's job (Fergus & Zimmerman, 2005, Greene, 2008). The current study examines how employees' external resources influence perceptions of job characteristics: job autonomy, job demand, and ability to use skills and knowledge in the workplace (See Figure 2).

Job autonomy. Social support, positive relationships, and restorative activities can improve perceptions of job autonomy. Perceived support from organizations, supervisors, and coworkers concerning both work and family life positively relate to a sense of job autonomy (Thompson and Prottas, 2006). Supported people feel an enhanced sense of control (Oh, Ozkaya, & LaRose, 2014), which may extend to the workplace. For example, employees who feel support in general may believe they are supported in doing their job the best way they see fit. Also, external resources such as positive relationships may have a similar result as social support. Having positive relationships varies slightly from general social support in that they offer a deeper interpersonal connection that can encourage an employee to secure more autonomy; while social support offers tangible and/or instrumental assistance as to how to control aspects of the job (Cohen, Mermelstein, et al., 1985; Ryff, 1989). Another potential contributor, engaging in restorative activities could influence perceptions of job autonomy. These activities increase determination, which may help an employee to assert more control at work (Greene, Galambos, & Lee, 2004). The current study expands our understanding of

Conservation of Resources Theory by providing empirical support for external resources influencing how employees view job autonomy.

Hypothesis 2: External resources – availability of social support (*a*), having positive relationships respectively (*b*), and engaging in enjoyable/restorative activities (*c*) – are positively related to perceptions job autonomy.

Job demand. The objective nature of a job and the resources available to employees influence their job perceptions (Bakker, Demerouti, & Euwema, 2005). Hobfoll (2011) argued that access to external resources also influences perceptions of job demand. The current study examines how the perceived availability of three external resources – social support, positive relationships, and restorative activities – influence general perceptions of job demand.

Social support, positive relationships, and restorative activities' protective abilities reduce job demand perceptions in different ways. Feeling socially supported sustains feelings of competence and control over situations which influence how demanding people perceive their environment (Thoits, 1995). Also, as resilient employees confront the various demands of their job, they access positive relationships to help them reframe or work through a resource-draining work situation, thereby reducing overall perceptions of job demand (Denovan et al., 2016). Engaging in restorative activities reduces a job's time pressure demands through increasing detachment from work (Sonnetag & Bayer, 2005). I expect similar findings regarding restorative activities and general perceptions of job demand (Sonnetag, 2012). As external resources provide valuable energies and conditions to manage stressful circumstances due to job demands, employees with greater external resources will feel better equipped to meet demands and,

thus, perceive their job as less demanding. Accordingly, the current research examines the perceptions of the availability of social support, having positive relationships, and engaging in enjoyable/restorative activities respective influence on perceptions of job demand.

Hypothesis 3: External resources – (a) availability of social support, (b) having positive relationships, and (c) engaging in enjoyable/restorative activities respectively – are negatively related to perceptions of job demand.

Use of skills and knowledge. When employees access external resources, they become more capable, creative, and confident in applying their skills and knowledge in the workplace (Jansen & von Sadowszky, 2004; McDonald et al., 2012; Proctor, White, Robins, Echeverria, Rocskay, 1996). For example, nurses that developed stronger social support at work report feeling more competent in using their skills and knowledge at work; while improved interpersonal connections help them find new ways to use their skills and knowledge (McDonald et al., 2012). Engaging in restorative activities increases executive functioning, mental energy, and refreshment (Jansen & von Sadowszky, 2004). Fatigued employees (i.e., not feeling refreshed) experience decreases in executive functioning resulting in poorer work outcomes (Proctor et al., 1996). Therefore, engaging in restorative activities provides valuable resources such as better executive functioning, mental energy, and refreshment that potentially enhance employees' ability to access their knowledge and actively engage their skills at work. Employees' perceptions of their use of skills and knowledge at work increases with greater access to external resources, which provide the wherewithal to execute them in the workplace.

Hypothesis 4: External resources – (a) availability of social support, (b) having positive relationships, and (c) engaging in enjoyable/restorative activities respectively – are positively related to perceptions of use of job skills and knowledge.

Model of Resilience and External Resources' Influence on Perceptions

Consistent with Conservation of Resources Theory, the current study proposes a model that incorporates how internal resources and environmental/contextual factors influence employee perceptions. Specifically, this model suggests that the contextual factor (stress) activates the internal resource (resilience) which, in turn, influences perceptions of external resources (social support, positive relationships, and restorative activities). Perceptions of greater access to external resources mitigate the negative effects of stress by improving how employees view their job. This comprehensive view of resilience accounts for both how psychological (i.e., resilience) and environmental/contextual factors (i.e., external resources) work together to reduce the negative effects of stress (see Kossek and Perrigino, 2016).

Previous research found that both the perception of resource threat and the availability of resources drive other environmental perceptions (Riad, Norris, & Ruback, 1999; Wethington, & Kessler, 1986). The current model expands previous research by linking perceptions of stress (threat of resource loss), psychological resilience, and availability of external resources to perceptions of specific job characteristics. Specifically, under stress, resilience's influence on environmental perceptions are largely determined by a person's assessment of external resources available to assist in managing and accommodating stress. This view of resilience incorporates how resilient people adapt to stress by using their environment. For example, feelings of stress activate

resilience; resilient employees then take stock of their access to external resources that mitigate the threat of resource loss, thus making these external resources more salient. Therefore, resilient employees perceive greater availability of external resources under stress. As discussed earlier, these resources improve perceptions of employees' job autonomy, job demand, and ability to use of skills and knowledge by making available the necessary energies and condition to manage their environment (See Figure 2).

Hypothesis 5: As stress increases; social support, positive relationships, and restorative activities have mediating relationships between resilience and perceptions of job autonomy (*a*), job demand (*b*), and the use of skills and knowledge at work (*c*).

The current research makes three theoretical and practical contributions. First, it links Conservation of Resources Theory's proposed interaction between internal stable processes and external resources to Risk and Resilience Theory's assumption as to how these internal and external factors function in resilient persons. Integrating these theories provides a richer understanding how stable internal processes like resilience influence perceptions of external resources in times of stress. Second, this research examines the protective ability of resilience and external resources regarding how they influence perceptions of the environment. Specifically, the current study examines if resilient employees' perceptions of external resources in times of stress improve perceptions of their job's characteristics. Third, the current study provides an integrative model of how resilience functions under stress by incorporating external resources and their joint influence on perceptions of the environment.

METHOD

Participants

Participants in the current study were taken from a secondary data set examining people's resilience to the common cold (Cohen & Janicki-Deverts, 2016). Participants were recruited through advertisements, judged to be in good health, and received \$800 upon the primary study's completion.

108 (55 female) out of 193 participants from the primary study met the current study's inclusion criteria of providing information about their work environment. Their ages ranged from 23 to 54 years old with an average age being 37 years old ($SD = 8.8$ years). 60% of participants identified as White/Caucasian; 32% as Black/African American; 8% as other; and 3% identified either as Native American/Eskimo/Aleut, Asian/Pacific Islander, or Hispanic/Latino. 32% reported working full-time and 28% part-time, 13% identified being a homemaker with an additional job, 14% reported their work status as other, and 19% were currently unemployed/underemployed. The participants' subjective assessment of their socio-economic status when compared to the United States residents revealed out of a visual representation of a nine-rung socio-economic ladder, 52% of the sample believed ladder they were on the three middle rungs, 27% reported being on the three lower rungs, and 21% on the upper three rungs. Participant education level varied with 25% reporting a high school degree or lower, 44% having some college up to an Associate's degree, and 31% obtaining at least a Bachelor's degree.

Procedure

All data was from a questionnaire that participants completed at the first time point in the Pittsburgh Mind-Body Common Cold study (Cohen, & Janicki-Deverts, 2016). While multiple measures were collected, the ones used in the current study's analyses were designed to capture basic demographic data, psychological resilience, general subjective stress, perceptions of external resources (social support, positive relationships, and engagement in restorative activities), and perceptions of job characteristics (job autonomy, job demand, and the use of skills and knowledge at work).

Measures

Resilience. Resilience was assessed using Pearson's Mastery scale (Pearlin and Schooler, 1978) which consists of seven items on a 4-point Likert-type scale from 1 (Strongly disagree) to 4 (Strongly agree). Example items include "I can do just about anything I set my mind to do," (Pearlin & Schooler, 1978). Designed to assess a stress coping style, Pearson's Mastery scale reflects resilience by capturing one's belief they have a degree of control over present and future circumstances, is able to resist disruption and manifest change in one's life (Lee, Sudom, & McCreary, 2011; Marshall, & Lang, 1990; Pearlin & Schooler, 1978; Scheier, Carver, & Bridges, 1994). Pearson's Mastery scale has been found to capture the broader facets of resilience and shown to be a superior fit to other scales associated with psychological resilience such as optimism, hardiness, and self-efficacy (See Lee, Sudom, & McCreary, 2011). After reverse coding when appropriate, all items were summed so that a higher number reflects greater resilience ($M = 22.03$, $SD = 3.03$).

Stress. The Perceived Stress Scale (PSS-10) was used to capture people's general assessment as to how stressful one's life is (Cohen & Janicki-Deverts, 2012). Each item in the questionnaire begins with "In the last month, how often have you" and ends with phrases such as "been upset because of something that happened unexpectedly?", or "found that you could not cope with all the things you had to do?" Each of the ten items is recorded on a 5-point Likert-type scale ranging from 0 (Very often) to 4 (Never). An average of all the items was calculated then multiplied by 10 with a lower score reflecting greater stress ($M = 14.18$, $SD = 6.67$).

External resources. External resources hypothesized to mitigate the negative effects of stress and improve perceptions of job characteristics are availability of social support, having positive relationships, and engaging in restorative activities. Each external resource was measured and scored as distinct constructs.

Social support. Conceptualized in the current study as an external resource, the availability of social support was measured with the abbreviated Interpersonal Support Evaluation List (ISEL-12). The ISEL-12 was designed to capture general feelings of being supported in life across relationships (Cohen et al., 1985). The relationship context – such as spouse, coworker, and teammate – is unspecified. The ISEL-12 is a twelve item scale measuring resources gained from relationships such as appraisal, a sense of belonging, and tangible materials on a scale from 0 (Definitely false) to 3 (Definitely true). A sample item is "there is someone I can turn to for advice about handling problems with my family" (Cohen et al., 1985). Scores for each item were summed with higher scores reflecting greater social support ($M = 28.96$, $SD = 5.41$).

Positive relationships. Having access to positive relationships – another external resource – was measured using the Positive Relationships subscale on the Ryff Scales of Psychological Well-Being (PRRW; Ryff, 1989). The PRRW is a nine item Likert-type scale ranging from 1 (Strongly disagree) to 6 (Strongly agree). An example item from the PRRW is “most people see me as loving an affectionate” (Ryff, 1989). A sum score of the item responses reflects the overall feeling that people have intimate, trusting, and loving interpersonal relationships ($M = 43.71$, $SD = 7.16$).

Restorative activities. Engaging in restorative activities was measured using the Pittsburg Enjoyable Activities Test (PEAT) and conceptualized in the current study as an external resource (Pressman et al., 2009). PEAT contains ten items assessing the frequency of engaging in hobbies and leisure activities with responses ranging from 1 (Never) to 5 (Every day), and 6 (Not applicable/do not enjoy). Responses are then given points ranging from “Never” (0 points) to “Every day” (4 points) and “Not applicable/do not enjoy” (0 points). PEAT is scored as the sum of all the points for each item with higher scores meaning greater engagement of enjoyable and restorative activities ($M = 21.7$, $SD = 5.99$).

Perceptions of job characteristics. Employees’ perceptions of their job characteristics are measured with two conceptually distinct subscales from the Job Environment Inventory (JBI; Matthews, Cottington, Talbott, Kuller, & Siegel, 1987) and a question regarding the demanding nature of the job (Cottington, 1983). The JBI subscales used in the current study were designed to capture job autonomy, and the use of skills and knowledge at work.

Job autonomy. Job autonomy was measured using a three-item subscale on the JBI measuring the frequency an employee exerts control over how they accomplish their job ranging from 1 (Every day) to 5 (Hardly ever, I usually do something different every day). An example item is “How often are you the one who decides on the best way to get your particular job done?” The responses of each item were reverse scored then summed with higher scores reflecting greater job autonomy ($M = 12.31$, $SD = 3.31$).

Job demand. One-item was used to assess job demand which asked participants “How much work do you have on the job?” (Cottington, 1983; Matthews et al., 1987). Participants answers ranged from 1 (A great deal) to 4 (Hardly any) with a higher score reflecting less demand ($M = 1.45$, $SD = .55$).

Use of skills and knowledge at work. The ability to use your skills and knowledge in your job was assessed using a three-item subscale in the JBI ranging from 1 (Every day) to 5 (Hardly ever, I usually do something different every day). An example item is “How often does your job let you use the skills and knowledge you learned in school?” Responses were summed with higher scores reflecting greater use of the employees’ skills and knowledge in their job ($M = 9.97$, $SD = 2.93$).

RESULTS

Overview of Analyses

Data analyses occurred in four phases. In Phase 1, I conduct preliminary analysis to examine the relationships between model variables. In Phase 2, using a moderated hierarchical regression, I examine stress' moderating effect on the relationship between resilience and three external resources (social support, positive relationships, and restorative activities, respectively). In Phase 3, I examine whether external resources are associated with perceptions of job characteristics. This is accomplished by examining the correlations between each external resource – social support, positive relationships, and restorative activities – and the indicators of the outcomes – job autonomy, job demand, and use of skills and knowledge. In Phase 4, I test a moderated parallel mediation model for each outcome, in which external resources mediate the relationship between resilience and perceptions of job characteristics, and the relationship between resilience and each external resource is moderated by stress. In moderation analyses, all predictors are centered and the dependent variables were unstandardized (Aiken & West, 1991).

Preliminary Analysis

Descriptive statistics, reliabilities, and zero-order correlations for all study variables are shown in Table 1. As expected, resilience was positively correlated with all external resources – social support ($r = .19, p < .05$), positive relationships ($r = .38, p < .00$), and restorative activities ($r = .24, p < .05$), suggesting that resilient people report greater access to external resources. However, resilience was not significantly correlated with any perceptions of job characteristics.

Among the external resources, positive relationships has a positive correlation with both social support ($r = .35, p < .00$) and restorative activities ($r = .30, p < .00$). However, social support is not significantly correlated with restorative activities ($r = .06, p > .10$). This can be interpreted as people that report having positive relationships also perceive having greater availability to social support and engage in more restorative activities. However, feeling socially supported and engaging in restorative activities do not appear to be directly related.

Regarding perceptions of job characteristics, job autonomy is significantly correlated with the use of skills and knowledge in your job ($r = .28, p < .00$). Meaning, employees reporting greater job autonomy also report being better able to use their skills and knowledge at work. Job demand is not significantly correlated with the other job characteristic perceptions – job autonomy and use of skills and knowledge at work. This may be due to the measure of job demand containing only one item capturing the perceived quantity of work. Also of note, the use of skills and knowledge measure had low internal consistency ($\alpha = .44$). This may be due to this measure capturing both employees' perception that they can use their skills and knowledge at work and their workplace giving them adequate time and ability to do so.

This preliminary analysis reveals that most of the variables associated with being resilient are positively related to each other. It also reveals that the relationship among perceptions of job characteristics vary by the characteristic and are not directly associated with resilience.

Relationship Between Resilience and External Resources as Moderated by Stress

Using moderated hierarchical regression (Aguinis, 1995), I examined the moderating effect of stress on the relationships between resilience and external resources – social support (Hypothesis 1a), restorative activities (Hypothesis 1b), and positive relationships (Hypothesis 1c). To highlight the contribution of the resilience and stress interaction, I proceeded in two steps. In the first step, I regressed each outcome on resilience and stress. In step two, I entered the main effects of resilience and stress followed by resilience by stress interaction. Table 2 presents results from the moderated hierarchical regression tests of hypotheses 1a, 1b, and 1c.

Social support. There were no main effects of resilience or stress on social support, nor was the interaction significant. Therefore, stress was not found to have a moderating effect on the relationship between resilience and social support as there was no statistically significant interaction effect of resilience and stress on social support. Thus, hypothesis 1a is not supported.

Positive relationships. Positive relationships was associated with resilience, stress, and the resilience by stress interaction. Additionally, resilience and stress explained 23% of the variance in positive relationships with the interactive effect explaining an additional 6% [$F(1, 103) = 8.67, R^2 = .29, p < .01$]. Therefore, stress was found to have a modest moderating effect on the relationship between resilience and positive relationships, thus supporting hypothesis 1b. To get a more complete picture of the significant relationship the resilience by stress interaction has on positive relationships, simple slopes per were calculated using Cohen et al.'s (2013) procedure. To accomplish this, centered values that reflect the means at zero and ± 1 SD on both the

resilience and stress were used to construct the simple slopes, while solving calculated regression equations using unstandardized beta weights (see Figure 2). The simple slope at high stress is moderately positive ($b = 1.20$, 95% CI .20 – 1.60), while at low stress it is not significant from zero ($b = .10$, 95% CI -.34, .54). As Figure 2 shows, resilient people maintain their perceptions of having positive relationships under high stress, while less resilient people report their relationships as less positive. This data suggests that stress has a negative influence on how less resilient people view their close relationships.

Restorative activities was associated with resilience and stress, but not significantly associated with the resilience by stress interaction. Therefore, stress was not found to have a moderating effect on the relationship between resilience and restorative activities as there was no statistically significant interaction effect. Thus, hypothesis 1c is not supported. More specifically, those reporting greater resilience also report engaging in more restorative activities. However, reporting greater stress is accompanied by less engagement in restorative activities regardless of their level of resilience. Interestingly, resilience and stress explains 9% of the variance in restorative activities [$F(2, 105) = 5.13$, $R^2 = .09$, $p < .01$]. Meaning, resilience and stress have the potential to predict small changes in employees' engagement in restorative activities in a longitudinal study.

Relationship Between External Resources and Perceptions of Job Characteristics

Concerning hypotheses 2, 3, and 4; Table 1 displays the zero-order correlations among the three external resources – social support, restorative activities, and positive relationships – and perceptions of job characteristics – job autonomy, use of job skills and knowledge, and job demand. Unlike predicted, perceiving greater job autonomy was not significantly related to employees accessibility to social support (hypothesis 2a, $\alpha = -$

.10, $p = .31$), or reporting more positive relationships (hypothesis 2b, $\alpha = -.06$, $p = .55$).

Contrary to what was hypothesized, job autonomy revealed a significant negative relationship with restorative activities (hypothesis 2c, $\alpha = -.27$, $p < .01$). Meaning employees reporting greater job autonomy engaged in less restorative activities.

Therefore, hypotheses 2a, 2b, and 2c were not supported.

How demanding employees' perceived their job also appeared unrelated to perceptions of external resources. Perception of job demand was not significantly related to accessibility to social support (hypothesis 3a, $\alpha = .03$, $p = .74$), having positive relationships (hypothesis 3b, $\alpha = .00$, $p = .98$), or engaging in restorative activities (hypothesis 3c, $\alpha = -.02$, $p = .81$). Therefore, hypotheses 3a, 3b, or 3c were not supported.

Employees' perceptions concerning their ability to use knowledge and skills at work appeared unrelated to perceptions of external resources. The use of skills and knowledge at work was not significantly related to perceptions of accessibility to social support (hypothesis 4a, $\alpha = .04$, $p = .69$), having positive relationships (hypothesis 4b, $\alpha = .03$, $p = .73$), or engaging in restorative activities (hypothesis 4c, $\alpha = .10$, $p = .29$).

Therefore, hypotheses 4a, 4b, or 4c were not supported.

Relationship Between External Resources and Perceptions of Job Characteristics

Based on the results discussed earlier, stress does not moderate the relationship between resilience and social support, or resilience and restorative activities. Therefore, positive relationships is the only potential mediator in the proposed moderated mediation model. However, to establish mediation the independent variable must be correlated with the dependent and mediated variables, the mediator variable must correlate independently and significantly with the dependent variable, and when the independent and mediator

variables are included in the regression equation the independent variable drops in either strength and/or significance (Alfes et al., 2013). Positive relationships is not significantly correlated to any of the perceptions of job characteristics. Therefore, no mediation is present. As such, Hypothesis 5a, 5b, and 5c is not supported.

DISCUSSION

The current study sought to shed light on how stress and resilience influence employees' perceptions of external resources (social support, positive relationships, and restorative activities) which, in turn, influences perceptions of their job characteristics. However, the results suggest that, under stress, resilient employees' perceive having more positive relationships than their counterparts, but not more feelings of being socially supported or engaging in more restorative activities. These findings support the idea that resilient people respond to stress by reaching out to those to whom they feel close and trust thereby perceiving their relationships as being more positive, but not that resilience increases perceptions of greater external resources in general. Additionally, none of the examined perceptions of job characteristics were found to be related to any of the external resources. Consequently, as no relationships were found between the mediators and outcomes, employees' perceptions of job characteristics were not found to be influenced by resilience and external resources in times of stress. This suggests that the interplay between stress, resilience, and external resources is not influential in understanding employees' perceptions of job characteristics.

Resilience → External Resources (Moderated by Stress)

Hypothesis 1 was partially supported as increasing stress strengthened the relationship between resilience and positive relationships but not social support nor restorative activities. Specifically, under stress, resilience influences perceptions of having positive relationships (hypothesis 1b) but not feeling socially supported (hypothesis 1a). This means that as less resilient employees become more stressed they report fewer positive relationships but no difference in how socially supported they feel

compared to those higher in resilience. This suggests that resilience plays a key role in how employees perceive how many close and trusting relationships they have in times of stress.

Additionally, these findings contribute to a growing body of research that distinguishes between feeling socially supported and the perception of having positive relationships (Cohen & Willis, 1985). Social support in the current study is conceptualized as the availability of assistance. This assistance can be tangible, receiving advice on problems, or companionship (Cohen et al., 1985). Positive relationships differs conceptually in that it attempts to reflect how enjoyable, warm, and trusting people believe their interpersonal relationships to be (Ryff, 1989). This distinction is important because Cohen and Willis (1985) found that across a variety of studies social support's relationship with stress varied as a function of how it was measured. Measures of social support that contained a component reflecting the availability of close and warm relationships were influential in how stress was managed. However, the availability of assistance as described earlier did not appear to be linked with how people function under stress. For example, previous research that distinguished between the two found that workplace positive relationships both increase organizational commitment and better work outcomes, while workplace social support did not (Ehrhardt & Raggins, 2018). Therefore, the lack of construct clarity in previous research regarding social support and positive relationships may explain why the findings were different than hypothesized.

While engaging in restorative activities was not found to be activated by stress, as suggested by the lack of a moderating effect of stress between resilience and restorative activities (hypothesis 1c); more engagement in restorative activities was associated with

lower stress levels in general. Specifically, unlike the other external resources, increased stress related to lower engagement in restorative activities regardless of the level of resilience. This could be due to the activities mentioned in the PEAT scale. The activities in the PEAT scale do not inherently have restorative properties. The PEAT scale mentions multiple activities: having fun with friends, quiet time, hobbies, and sports. Some of these activities may appear cumbersome or exhausting to stressed individuals. Another plausible explanation may be that the negative correlation suggests a direct effect between restorative activities and stress. For example, Pressman and colleagues (2009) found that engaging in restorative activities lowers people's overall stress level. This occurs because restorative activities promote detachment from work when employees are off the clock, which in turn negatively relates to stress (Sonnentag, 2012).

External Resources → Perceptions of Job Characteristics

The results suggest that perceptions of social support, positive relationships, or restorative activities (i.e., external resources) do not improve employees' perceptions of job characteristics – job autonomy, job demand, and use of skills and knowledge at work. Specifically, perceptions of access to social support (hypothesis 2a) and having positive relationships (hypothesis 2b) were unrelated to job autonomy, and engaging in restorative activities (hypothesis 2c) had a negative relationship with employees' perception of control over how they did their job. This suggests that having access to assistance (i.e., feeling socially support) in general does not give employees an enhanced sense of control in executing job-related tasks. Concerning positive relationships, previous research found that developing warm and trusting relationships with coworkers helps provide a safe space to air out employees' grievances, and improves employees' ability to cope with and

manage work conflict which in turn led to greater feelings of control at work (Matos et al., 2010). However, the current study found close, trusting, and warm relationships in general does not help employees feel encouraged or supported to secure more autonomy at work. Also, increased perceptions of job autonomy accompanied fewer reports of engaging in restorative activities. This suggests that resources gained from engaging in restorative activities such as increased determination do not improve employees' feeling of control in their job (Greene, Galambos, & Lee, 2004). As job autonomy revealed a negative correlation with restorative activities, it may be that the additional responsibility accompanying jobs with greater autonomy limits employees' time to engage in restorative activities.

The current study examined if external resources known to foster feelings of being rested, a sense of competence, and an ability to reframe a situation would influence employees' perceptions of the demanding nature of their job. In the present study, this was not the case. Employees' perceptions of having greater external resources did not influence perceptions of how demanding their job was. Specifically, employees' perception of job demand was found to be unrelated to access to social support (hypothesis 3a), having positive relationships (hypothesis 3b), and engaging in restorative activities (hypothesis 3c). The lack of findings could be due to the job demand measure not fully capturing the nature of the job but rather if employees felt they had a lot of work to do (Cottington, 1983). When measuring job demand for example, previous research measuring job demand included aspects such as the physical, cognitive and, time intensive nature of an employee's job (Dawson, O'Brien, & Beehr, 2016; Rengamani, & Charith, 2015).

The current study did not find perceiving greater access to social support (hypothesis 4a) or having positive relationships (hypothesis 4b) related to employees' perceptions of their use of skills and knowledge at work. Also, contrary to what was hypothesized, the current study revealed that engaging in restorative activities (hypothesis 4c) negatively related to the extent employees' believe they use their skills and knowledge in their job. Interestingly, job autonomy had a positive correlation with stress. These results combined may reflect that employees that experience greater autonomy are more stressed from the additional control they exert in the workplace and have less time to engage in restorative activities. This brings into question the benefits of having autonomy in the workplace. Additionally, employees with greater job autonomy may carry greater responsibilities in their job limiting their time to engage in restorative activities. Therefore, being able to determine your work-flow may appear more desirable than the reality of it.

Model of Resilience and External Resources' Influence on Perceptions

The current study sought to establish a resilience model that incorporated external resources' influence on employees' perceptions of their job in times of stress. As the results suggested, in times of stress, perceptions of increased resilience and external resources (i.e., social support, positive relationships, and restorative activities) do not influence perceptions of jobs characteristics — job autonomy (hypothesis 5a), job demand (hypothesis 5b), and use of skills and knowledge at work (hypothesis 5c). In other contexts, research suggests resilience and external resources benefit employees benefits employees' perceptions of their job. The results of the current study highlight the limited influence resilience and external resources have on people's perception of their

environment (Riad, Norris, & Ruback, 1999; Wethington, & Kessler, 1986). Specifically, resilience and external resources appear unrelated to employees' perceptions of their job.

Theoretical Implications

Consistent with COR Theory, the current study finds that resilience and positive relationships are related to employees' perceptions of stress (hypothesis 1b). Meaning, regardless of the level of stress, resilient individuals report similar levels of external resources while less resilient people report their relationships to be less positive under greater stress. Resilient people appear better at maintaining a supportive environment in times of high stress. Specifically, stress signals resilient employees to maintain their positive relationships as a means of support (Tett & Burnett, 2003). However, less resilient people burdened by stress do not engage in this behavior and therefore perceive fewer positive interpersonal connections.

The current study also contributes to RRT's development by calling into question the relationship between varying stress levels, resilience, and external resources. While RRT argues that resilient people engage in more external resources the current study only finds a link between resilience and positive relationships under stress (hypothesis 1b). However, the current study finds that restorative activities improve perceptions that employees use their skills and knowledge in their job. Consider sayings such as: 'take a long walk to clear your head' (restorative activity). This activity appears to help employees use their skills and knowledge more effectively at work regardless of how resilient they believed themselves to be.

Practical Contributions

The current study's results inform organizations on what type of external resources best serve their employees in their work and personal lives. Interventions

designed to nurture external resources could reduce employees' general subjective stress. For example, organizations can sponsor employee kickball leagues, require mandatory annual vacation leave, and establish work policies that encourage and support time at the end of the day to unwind, thus reducing employees' general stress levels. Importantly, the current study finds that positive relationships are more important than discrete social support. Meaning, positive relationships offer encouragement, allow individuals to work through potential solutions, or reframe events; while social support provides direct support concerning a problem. Therefore, organizations should take heed in that the type of support they offer employees may not be as influential as nurturing workplace positive relationships. One way to accomplish this is to promote meaningful dialogue among coworkers to help build warm and trusting relationships (Matos et al., 2010).

Regarding specific work outcomes, the current study's results suggest that supporting access to resources in general may not relate to substantial changes in employees' perceptions at work. Also, encouraging job autonomy may induce a mixed bag of results. Thompson and Prottas (2006) found job autonomy's effect on stress was small, when mediated by general perceived control. In their study and this current study, there is a moderate negative correlation with job autonomy and stress suggesting we still do not understand the nuances of the relationship. Therefore, organizations should proceed with caution before assuming job autonomy has overarching benefits for employees.

Limitations and Future Research

As the current study uses secondary data, there are a variety of limitations. The measures collected are cross-sectional and do not reflect causality. Also, perceptions of

people's jobs typically related to stress, like burnout for example, were not included in the model. Finally, the negative effects of stress are more pronounced in high stress occupations. The current study's participants came from a variety of occupations, not all of them known to be high-stress.

Future research should investigate shifting the referent from 'in general' to 'in the workplace' regarding stress and external resources — social support, positive relationships, and restorative activities. General social support did not relate to perceptions of job characteristics. However, changing the referent from general social support to social support at work may reveal an influence on perceptions of employees' job. Thus, the benefits of social support could be heavily segmented. In other words, the social support we receive in our work life may best assist us with work-life problems. For example, mentorship for new police chiefs assists them in avoiding negative outcomes by understanding previous policies and procedures that benefit the organization (Wilder, 2007).

Also, future research should examine what external resources best fit occupational needs. Consider how nurses' needs may differ from police officers or other first responders. For example, nurses' stress levels improve from learning relaxation techniques and therapeutic skills (Edwards & Burnard, 2003). However, it is not clear if therapeutic skills would benefit police officers to the same extent. The emotional displays expected by their clients may differ substantially from police officers to nurses (Bakker & Heuven, 2006). There may be a higher expectation for nurses to exhibit sympathy, but for police officer to exhibit calmness. Discovering which intervention is the most effective in providing salient resources is fruitful ground for future research.

Additionally, restorative activities may still hold promising future directions.

Taking work home refers to one's inability to detach from work thereby increasing their overall stress level (Grzywacz & Marks, 2000; Rothbard & Edwards, 2000). The current study's results suggest restorative activities play an important role in detaching from work thereby decreasing one's overall stress level. For example, taking walks in greenspaces reduces mental fatigue and enhances one's mood (Barton et al., 2009).

Future research should examine if and what type of restorative activities assist employees in decreasing job stress among high stress occupations.

Considering the limitations noted above, the current study offers robust insight into how highly resilient employees are more likely to perceive access to positive relationships. With this information, organizations and researchers can craft policies that promote more meaningful interpersonal connections among their employees.

Table 1

Descriptive Statistics and Zero-order Correlations Among Variables

Model	Min	Max	1	2	3	4	5	6	7	8
1. Resilience	15	28	(-0.68)	-	-	-	-	-	-	-
2. Stress	0	29	-.35 ^c	(-0.89)	-	-	-	-	-	-
3. Social Support	12	36	.19 ^b	-.18 ^a	(-0.79)	-	-	-	-	-
4. Restorative activities	7	36	.24 ^b	-.25 ^b	0.06	(-0.72)	-	-	-	-
5. Positive relationships	26	54	.38 ^c	-.41 ^c	.35 ^c	.30 ^c	(-0.81)	-	-	-
6. Job autonomy	3	15	-0.16	.35 ^c	-0.1	-.27 ^b	-0.06	(-0.76)	-	-
7. Job demand	1	3	0	-0.05	-0.03	-0.02	0	0.1	(-1)	-
8. Skills & knowledge	4	18	0.1	-0.17	0.04	0.1	0.03	.28 ^c	0.07	(-0.44)

Note. ^a = $p < .06$, ^b = $p < .05$, and ^c = $p < .00$. $n = 108$. Skills & knowledge = use of job skills and knowledge.

Table 2
Results of Moderated Hierarchical Regression Analyses

Variables	Social Support				Positive Relationships				Restorative Activities			
	<i>b</i>	<i>SE</i>	β	95% CI	<i>b</i>	<i>SE</i>	β	95% CI	<i>b</i>	<i>SE</i>	β	95% CI
<i>Model 1</i>	29	0.51		27.95, 29.98	43.73	0.61		42.51, 44.95	21.7	0.56		20.60, 22.81
Resilience	0.25	0.18	0.14	-.10, .61	0.63	0.22	.27*	.20, 1.06	0.36	0.2	0.18	-.03, .74
Stress	-0.11	0.08	-0.13	-.27, .06	-0.34	0.1	-.31*	-.53, -.14	-0.17	0.09	-0.18	-.34, .01
<i>Model 2</i>	29.2	0.54		28.12, 30.26	44.33	0.63		43.09, 45.57	21.9	0.89		20.74, 23.07
Resilience	0.26	0.18	0.15	-.10, .62	0.65	0.21	.28*	.24, 1.06	0.36	0.2	0.18	-.03, .75
Stress	-0.12	0.08	-0.15	-.29, -.04	-0.37	0.09	-.35*	-.56, -.18	-0.18	0.09	-.20*	-.36, .00
Res. x Strs.	0.03	0.03	0.12	-.02, .08	0.09	0.03	.25*	.03, .14	0.03	0.03	0.1	-.03, .08

Note. Moderated hierarchical regression results. Resilience and stress interaction term (Res. x Strs). * = $p < .05$, and ** = $p < .00$. $n = 108$. *b* = unstandardized beta weight. *SE* = standard error. β = standardized beta weight. CI = confidence interval of

FIGURE 1

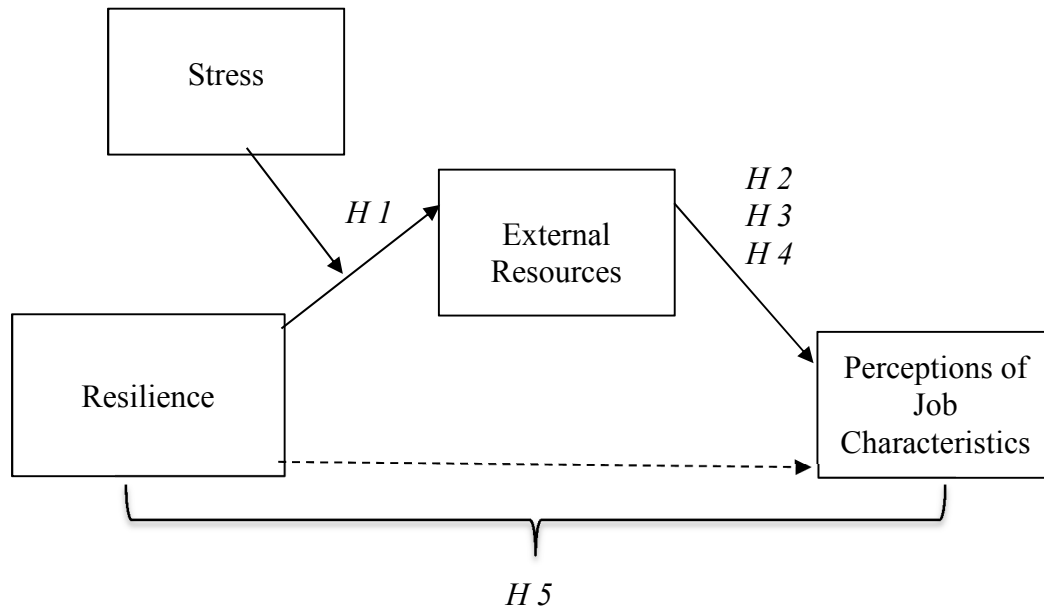


Figure 1. External resources include social support, positive relationships, and restorative activities. Perceptions of job characteristics include job autonomy, job demand, and use of skills and knowledge. The relationship between resilience and external resources—social support (a), positive relationships (b), and restorative activities (c)—strengthens with greater levels of stress (hypotheses 1). External resources—social support (a), positive relationships (b), and restorative activities (c)—are positively related to perceptions of job characteristics—job autonomy (hypothesis 2), job demand (hypothesis 3), and use of skills and knowledge (hypothesis 4), respectively. Resilience’s influence on perceptions of job characteristics—job autonomy (a), use of skills and knowledge (b), and job demand (c)—is moderated by stress then mediated by external resources (hypothesis 5).

FIGURE 2

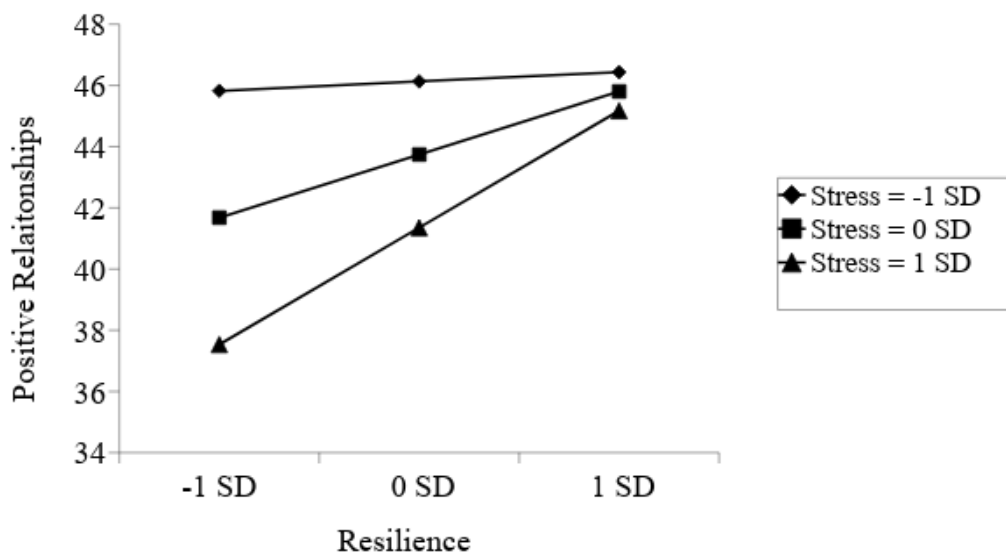


Figure 2. Simple slopes examining hypothesis 1b. The interaction between resilience and stress on positive relationships. $p < .01$.

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