

Resilience, Stress, and Burnout

Ben Carpenter

PSYC 324 - ORGANIZATIONAL PSYCHOLOGY

Sharon Raz

March 10, 2021

“The need for personal resilience, especially in the workplace, has never been greater”

(Robertson et. al., 2015, p. 534)

Global recession and cutbacks have increased the workload on employees and thus the stress they are under in the workplace. “Global recession work-related stress soared by 40% and absentee rates increased by 25%” (Houdmont, Kerr, & Addley, 2012 as cited in Robertson et al. 2015, p. 534). Organizations, to improve employee wellness, engagement, and overall productivity, have a vested interest in understanding if resilience training has a positive effect. Further, organizations may want to know if resiliency moderates the effect of work stress to protect employees from burnout. Some important questions might include: Can training courses increase resiliency? Can work stress be moderated by a high resiliency? Can an employee's higher resiliency protect them from burnout?

SYSTEMATIC REVIEW

In 2015, Robertson et. al. were motivated to do a systematic review of studies on resilience. They originally set the selection of studies by four criteria: 1) published in an English language journal, 2) included a resilience-based intervention; 3) followed a randomized controlled study design; and 4) focussed on subjects 18 years of age or older and had to be work-based. The studies that met all four criteria were so few that the randomized controlled study criteria were dropped. Only 14 studies qualified to be included in the systematic review given the remaining criteria.

The occupations comprised of sales managers from an industrial organization, police officers, administrative staff from a university, US Armed Forces personnel, executives and senior

managers from a public health service agency, public school teachers, civil servants, employees of a resource sector company, human service professionals from a not-for-profit hospital unit, public sector middle-managers, and physicians (Robertson et al., 2015). In 12 of the studies where the gender split was provided, there appeared to be a bias to either predominantly male or predominantly female participants (Robertson et al., 2015).

There were 800 subjects throughout all the studies. The sample size in many of the studies was small. As well, given the methodologies used for random selection, double-blind assessment, incomplete or selective outcome reporting, there was a high to an unclear chance of bias in the results. Thus, Robertson et al (2015) summarized that “overall, the risk of bias in the reviewed studies was typically high” (p. 551). Keeping these limitations in mind some general trends were documented.

Two of the studies used the Penn Resiliency Program (PRP) which attempts to enhance optimism, problem-solving self-efficacy, self-regulation emotional awareness, flexibility, empathy, and strong relationships (Robertson et al., 2015). Three of the studies focussed on mindfulness and compassion-based practices. Two instituted executive coaching principles that were highly structured. Whether utilizing PRP, coaching-related principles, mindfulness and compassion-based practices, or self-regulation of stress responses, the resilience training, although varied, focused on cognitive behavioural approaches (Robertson et al., 2015,).

Actual training times varied considerably. They included one 90-minute session, three to thirteen weekly sessions, and a 2 ½ day workshop (Robertson et al., 2015,). The design and implementation were so varied between studies that it is difficult to make conclusive comparisons as to the most effective content or format for resilience training.

Robertson et al. (2015)" preferred definition of resilience suggests that resilience represents a constellation of characteristics that protect individuals from the potential negative effect of stressors. In turn, resilience would act as a mediating variable, such that an increase in resilience would lead to improvements in other outcomes" (p. 554).

Keeping with Robertson's parameters that resilience is seen as changeable and thus open to being altered by a training program, the studies included had to investigate the impact of resilience training on personal resilience in respect to one or more of the following dependent variables 1. mental health and subjective well-being outcomes. 2. psychosocial outcomes 3. physical/biological outcomes and 4. performance outcomes. They purposefully excluded studies that focussed on personality traits such as hardiness, recovery, and coping (Robertson et al., 2015). This will be an important point later in the current trend's discussion of this paper.

Mental Health and Subjective Well-Being Outcomes:

Mental health and subjective well-being outcomes attempted to measure some of the following: depression, anxiety, stress, quality of life, happiness, negative mood, autonomy, mastery, growth, positive relations, purpose, self-acceptance, positive affect, subjective well-being, negative affect, vigor, distress, anger, sadness, negative emotion, vitality, life satisfaction, quality of life, and purpose. Each study measured at least two of these mental health outcomes. Mental health outcomes were the most studied category of the four dependent variables.

Chart 1.1 condenses the information cited in Robertson et al. (2015) and identifies which occupations were focussed on, mental health, and subjective well-being outcomes that showed an improvement. Only those that were significant or had large to moderate non-significant change are presented. Overall, “stress, depression, anxiety, and negative mood/affect/emotion which appear particularly sensitive to resilience training” (p. 553).

Chart 1.1 Mental Health and Subjective Well-being Outcomes				
STUDY	OCCUPATION	PARTICIPANTS	OUTCOME	POSITIVE OUTCOME
Arnetz et al	Police Officers	18	Negative Mood Stress	Significant Decrease Large Decrease ¹
Burton et al.	Administration Staff	16	Stress Autonomy Growth Mastery Positive Affect Self-Acceptance	Significant Decrease Significant Increase Significant Increase Significant Increase Significant Increase Significant Increase
Grant et al.	Senior Managers	41	Depression Well-being	Significant Decrease Significant Increase
Jennings et al.	Public School Teachers	50	Depression	Moderate Decrease ¹
Liossis et al	Civil Servants & University Alumni ²	64	Vigour Well-being	Significant Increase Large Increase ¹
McCarty & Atkinson	Police Officers	65	Depression Distress Neg. Emotion Vitality	Significant Decrease Significant Decrease Significant Decrease Moderate Increase ¹
Miller et al.	Resource Sector Employees & University Alumni ²	50	Stress	Significant Decrease
Pipe et al.	Nurses	29	Anxiety Depression	Significant Decrease Significant Decrease

			Stress	Significant Decrease
Sood et al.	Physicians	32	Anxiety Quality of Life Stress	Significant Decrease Significant Increase Significant Decrease

All studies as cited in Robertson et al. (2015)

1 non-significant

2 University Alumni used as a control group

Psychosocial Outcomes:

Nine studies included measurements of psychosocial outcomes like mindfulness, optimism, work satisfaction, and social skills, among others. Twelve of the fourteen studies included an investigation into at least one of these psychosocial outcomes. They “were generally in the direction of a beneficial effect, but most of the effect sizes were too small to reach statistical significance” (Robertson et al., 2015, p. 553).

Physical/Biological Outcomes:

Seven of the studies measured one or more physical/biological outcomes, such as cortisol levels, heart rate, fasting blood glucose, BMI, cortisol, exhaustion, fatigue, and others. Few provided statistically significant effects. The exceptions were a significantly large reduction in fatigue in the Pipe et al. (2012) study and a significantly large increase in antithrombin (an anti-blood-clotting enzyme helpful in preventing large vein blood clots) in the Arnetz et al.

(2012) study; “cortisol (a large but not statistically significant effect) also suggests further benefits for resilience training” (as cited in Robertson et al., 2015, p. 553).

Performance Outcomes:

From an organization's productivity standpoint, only six studies attempted to measure some type of performance outcome, and five of those only measured one performance outcome. Observed performance and goal attainment showed positive trends, with a large effect for both variables (Robertson et al., 2015). Regarding productivity, as cited in Robertson et al. (2015) the Pipe et al. study (2012) they found resilience training resulted in significantly higher levels of productivity; however, McCraty and Atkinson (2012) study found the training resulted in (non-significant) moderately lower levels of production. Gross margin and product sold performance outcomes showed no indication of any effect (Robertson et al., 2015).

Summary of Results:

The one study where resilience went down was with the US Army personnel. Robertson et al hypothesized that the commanders may have been skeptical of a resilience training program providing any benefits. Carr et al (2013), the authors of the original study (as cited in Robertson et al., 2015, p. 551), suggested that expectations for the training programs need to be positive at the outset or it could diminish any positive effects.

As stated previously, the structure, duration, and delivery methods were so varied that conclusions about best practices are not available. However, the review of the current studies

“does not suggest that longer programs produce better results.” (Robertson et al., 2015, p. 555). They did note that the one study that used an online delivery method was one of the two studies to produce no positive results (Robertson et al., 2015,). In this Abbot et al. (2009) study, the researchers reported: “that a high proportion of their sample did not complete the training, and this may go some way to explain the lack of effects for their intervention.” (as cited in Robertson et al., 2015, p. 556).

Robertson et al. (2015) summarized that,

“In general, the studies offer support for the positive impact in resilience training. In 13 of the 14 reviewed studies, there was a statistically significant change in at least one of the dependent variables. Furthermore, in 12 of the 14 studies, the direction of the results is in favor of a beneficial effect for the training. On the other hand, there is no single dependent variable that shows a statistically significant effect across all of the studies in which it was investigated.” (p. 551)

Robertson et al. (2015) suggested future research should try to increase uniformity in the type of training, the delivery method, and duration of training in an attempt for better direct comparisons. A methodology that includes randomized controlled designs using a control group would also reduce the possible bias. Larger numbers of subjects would also be of benefit for reaching statistical significance to provide more confidence in the findings. Also, to increase the follow-up on outcomes (dependent variables) to see if the positive effects are sustainable over a longer period. Robertson et al. (2015) also suggest it “would be interesting to explore whether some people might benefit more/less from resilience training particularly with regard to personality variables” (p. 557).

CURRENT TRENDS

Rees et al. (2015), counter to Robertson et al. (2015) above, makes the case for international collaboration on defining workforce resilience that presents psychological resilience as a multidimensional construct. They suggest a model of resilience that includes “both stable traits as well as more malleable intrapersonal factors” (Rees et al, 2015, p. 1). Examining some recent studies, to be discussed below, there was less emphasis on attempting to parcel out personality traits vs trainable qualities, and more focus on a general measure of resiliency that may show the relationship between stress, resilience, and burnout. One such study was conducted by Van Der Feltz-Cornelis et al. in 2020.

Tragically, Covid-19 has created the “perfect storm” to study resilience in a large group of people experiencing the same stressor. Van Der Feltz-Cornelis et al. (2020) undertook a study to explore the stress responses in staff and students at the University of York, in the United Kingdom Overall, 98% of the staff and 78% of the students surveyed had to work or study remotely due to restrictions set in response to the COVID-19 pandemic (p. 5).

From May to June of 2020, the staff and students were invited to fill out an anonymous survey that attempted to measure their self-reported perceived stress, mental health, physical health (including physical symptoms and chronic medical conditions), presenteeism, and absenteeism. This included demographic factors such as age, gender, ethnicity, nationality, education level, work situation, relationship status, and living arrangements, including self-isolation (self-isolating due to possible or known COVID-19 exposure).

Absenteeism is not attending work or classes. Presenteeism is attending but working with difficulty to do the task at hand (Van Der Feltz-Cornelis et al., 2020). 26% of the staff and 40% of the students, who responded to the survey, reported problems doing their work or studying in response to the lockdown (Van Der Feltz-Cornelis et al., 2020). This was tabulated as the resilience factor. There was no attempt in this study to parcel out whether, or to what degree, resiliency itself was a personality trait.

Resilience was defined here as “the ability to overcome adversity, which can be shown as experiencing no impact or positive impact on stress levels due to COVID-19 and functioning well in terms of work or study i.e., without presenteeism or absenteeism” (Van Der Feltz-Cornelis et al., 2020, p. 2). They asked the subjects directly how they were coping with stress due to the COVID-19 crisis. This response was used as the resilience measure. Subsequently, students and staff were further split into two groups depending on their response: neutral/positive or negative to the COVID-19 stressor. Some subjects had reported that not having to commute and being able to work from home was less stressful than their regular work/study arrangements.

Limitations of the Study

Before a discussion of results, it should be noted that only 5.1% of the student body responded to the survey, whereas 22.5% of the staff responded (Van Der Feltz-Cornelis et al., 2020). The sample of staff was found to be representative of the staff. This provided confidence in the finding concerning both demographics and that a large enough sample was included (Van Der Feltz-Cornelis et al., 2020). The student response level was so low that

confidence in the results is called into question. The low response level could mean that students with possible varying responses might be underrepresented.

Predictors of Psychological Distress

A composite measure combining depression, anxiety, and perceived stress into an overall level of psychological distress was created. The predictors for psychological distress in staff were having lower age (below 30), more functional somatic syndromes, lessened current exercise level, and having children living at home. For students, the predictors for increased psychological distress were lower age (below 30), more functional somatic syndromes, and lessened current exercise level. These were the same as staff except for having children at home. However, students also showed predictors for increased psychological distress if they had social isolation, female gender, living in an urban environment, and not being of Asian descent (Van Der Feltz-Cornelis et al., 2020). Chinese students made up almost half of the Asian subjects in that study and the remainder came from a variety of countries in Asia.

Predictors of Resilience

Van Der Feltz-Cornelis et al. (2020) were focused on exploring the predictors of resilience. Those counted as non-resilient or vulnerable indicated that the COVID-19 was having a negative impact on them. Staff who were non-resilient were younger (under 30), had children, reported social isolation, and reported a low current exercise level. Also, students were more vulnerable if they had children, were socially isolated, had low current exercise levels, and were female (p. 11).

Predictors of Presenteeism and Absenteeism

The correlation between psychological distress and presenteeism was much higher than the correlations between psychological distress and absenteeism.” (Van Der Feltz-Cornelis et al., 2020, p. 9) Staff was much more likely to have presenteeism if they had a lower resilience, but no significant difference was found with absenteeism. There was no statistically significant finding for students between resilience and absenteeism or presenteeism. “The non-binary gender group had the highest distress score and seemed less resilient, but this was not statistically significant. However, that might have to do with their low numbers in the study” (Van Der Feltz-Cornelis et al., 2020, p. 12).

Overall, resilience occurred much more often in students than in staff, although psychological distress was much higher in students. Being female, having children, and having to self-isolate contributed to vulnerability, whereas exercise contributed to resilience.

Van Der Fletz-Cornelis et al. (2020) in the opening remarks to their study, discussed how economically reliant UK universities were on international fees from mostly Chinese students. In 2019 there were around 90,000 a year attending UK universities. “As many Chinese students were confronted with hostility from UK residents in the wake of the COVID-19 outbreak, with at least 267 offenses recorded in the first three months of 2020, and due to the uncertainty on how teaching would commence again the beginning of the new academic year, many Chinese students refrained from enrolling in UK Universities” (Van Der Feltz-Cornelis et al., 2020, p. 2). They found it remarkable that Asian students, as compared to other students, were more vulnerable to presenteeism but less prone to report

psychological distress (Van Der Feltz-Cornelis et al., 2020). As this was an unexpected finding, cross-cultural comparison between Western and Chinese societies seems truly relevant.

CROSS-CULTURAL COMPARISON

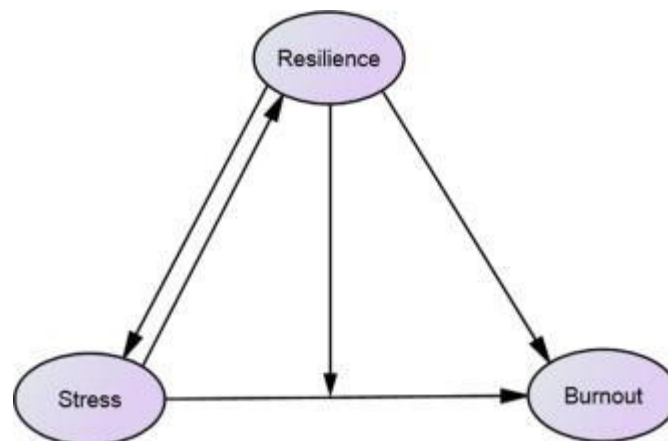
In the Hao et al. (2015) study, researchers attempted to explore the relationship between resilience, stress, and burnout in civil servants of Beijing, China. Three scales were used. The Resilient Trait Scale for Chinese Adults- Revised (RTSCA-R) “consists of 29 items and four dimensions: optimism, acceptance, controllability, and supportiveness.” (Hao et al., 2015, Section 2.2.1) Items are scored on a 4-point Likert scale. The Civil Servants Stress Scale (CSSS) attempts to assess stress in six dimensions: management and development; life relationships; working relationships; health and responsibility, economic stress relationships; and working load (Hao et al., 2015). This scale was further divided into two subscales: work stress; and life and health stress. The Chinese version of the Maslach Burnout Inventory-General Survey (MBI-GS) was used to measure burnout. The 15-item scale has three subscales: emotional exhaustion, cynicism, and professional efficacy (Hao et al., 2015).

In this study, resilience was conceptualized “that resilience as a personality trait is stable, but not unchangeable.” (Hao et al., 2015, Section 4). This is in comparison to the systematic review of western cultural studies reviewed at the beginning of this paper where researchers needed to factor out stable personality traits from changeable resiliency measures.

Two main results of the study were (i) “that work stress rather than life and health stress could significantly predict burnout,” but also, (ii) “the burnout symptoms of the low

resilience group were more severe than those of the high resilience group” (Hao et al., 2015, Section 3.6). Not only were high resilient individuals less likely to develop burnout symptoms but also there appears to be a mediating effect of resilience on the amount of work stress they were reportedly experiencing. In other words, resiliency includes not only the ability for higher resilient individuals to mediate the effect of work stress on burnout but moderates the amount of work stress one experiences.

Figure 1 from Hao et al. (2015, Section 1) *Mediation and moderation model of resilience, stress, and burnout* shows the interactions between stress and burnout, stress and resilience, resilience and burnout, and resilience between stress and burnout.



“One possible explanation for this phenomenon is that (sic *high resilient*) individuals can actively find and solve problems, and actively adapt to the complex natural and social environment. These individuals will not always possibly wait for the presence of stress but have the initiative to find and solve problems that might bring pressure and eliminate stress in advance. Therefore, high resilient individuals are capable of taking some relatively active measures to reduce work stress and to decrease the possibility of developing burnout symptoms.” (Hao, et al., 2015, Section 4)

Van Der Feltz-Cornelis et al. (2020) in the COVID-19 study in the previous section, found it important to note that Asian students were much more vulnerable to presenteeism but less prone to report psychological distress (p. 11). In the Hao et al. (2015) study, “Work stress had a significant impact on burnout, but life and health stress had no significant impact on burnout” (Section 3.3). This is a curious result given Van Der Feltz-Cornelis et al finding that Chinese students were less likely to report mental health issues. This raises the question: Are the results with the lack of correlation between life and health stress and burnout suppressed because there is a reluctance to report these stressors by Chinese Civil Servants, as seen with Chinese International Students? Although the stress scale itself and specific results per item were not included in the report, it would be interesting to see if the questions on depression and anxiety fell into the life and health subscale. An attempt to access the scale itself was unsuccessful.

“The literature suggests that there may be cultural differences in how Chinese people communicate distress, compared to, for example, people from western cultures. Chinese people have been suggested to report physical symptoms rather than psychological symptoms such as depression and anxiety. Also, more in general, stigma related to mental disorders might play a role in the tendency to under-report psychological distress” (Van Der Feltz-Cornelis et al, 2020, p. 11).

SUMMARY AND CONCLUSION

The study of the relationship between stress, resiliency, and burnout, as shown through this paper, is especially important given the rising rates of work stress and burnout. The importance of this topic requires a more unified approach to be able to compare types, format, and duration of resilience training. It may be beneficial to incorporate the different conceptualization of resilience to include both stable personality traits and changeable qualities. In the current research there appeared to be a more complicated relationship on how resiliency mediated and moderated, burnout and work stress, respectively. Also, these studies need to be culturally aware of the possible stigma attached to reporting mental health stressors such as depression and anxiety in Asians and possibly other cultures. In summary, resilience may be a trainable quality that could lead to better outcomes for reducing work stress and burnout.

REFERENCES

- Hao, S., Hong, W., Xu, H., Zhou, L., Xie, Z. (2015). Relationship between resilience, stress and burnout among civil servants in Beijing, China: Mediating and moderating effect analysis. *Personality and Individual Differences*, 83, 65–71. https://sbctclwtech.primo.exlibrisgroup.com/permalink/01STATEWA_LWTC/117qsl/cdi_gale_infotracacademiconefile_A418493486
- Rees, C. S., Breen, L.J., Cusack, L., Hegney, D. (2015). Understanding individual resilience in the workplace: The international collaboration of workforce resilience (ICWR) model. *Frontiers in Psychology*, 6(73), 1-7. <https://doi.org/10.3389/fpsyg.2015.00073>
- Robertson, I.T., Cooper, C. L., Sarkar, M., Curran, T. (2015). Resilience training in the

workplace from 2003 to 2014: A systematic review. *Journal of Occupational and Organizational Psychology*, 88(3), 533–562.

https://sbctclwtech.primo.exlibrisgroup.com/permalink/01STATEWA_LWTC/117qsl/e/cdi_gale_infotracacademiconefile_A443443545

Van Der Feltz-Cornelis, C. M., Varley, D., Allgar, V.L., de Beurs, E. (2020). Workplace stress, presenteeism, absenteeism, and resilience amongst university staff and students in the COVID-19 lockdown. *Frontiers in Psychiatry*, 11(588803).

<https://doi.org/10.3389/fpsy.2020.588803>