Employee Resilience Scale (EmpRes) Measurement Properties

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August 2015

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About the Resilient Organisations Research Programme

"Building more resilient organisations, able to survive and thrive in a world of uncertainty, through research and practice"

Organisations today need to navigate increasingly complex and challenging environments. Resilient organisations are those that are able to not only survive, but thrive in this world of uncertainty. Resilience integrates the concepts of Risk, Crisis Management, Business Continuity Planning, and Organisational Leadership to provide a platform for developing more robust and agile organisations.

Who we are:
The Resilient Organisations (ResOrgs) is a multi-disciplinary team of researchers and practitioners. We are proudly New Zealand based with global reach. ResOrgs is a collaboration between top New Zealand research Universities, particularly the University of Canterbury and University of Auckland, funded by the Natural Hazards Research Platform and supported by a diverse group of industry partners and advisors. The research group represents a synthesis of engineering disciplines and experts in management, organisational psychology and sociology and business leadership. Our work is aimed at transforming organisations so they can successfully survive major disruptions, avoid chronic dysfunction, build robust partnerships, and prosper.
We are committed to making organisations more resilient in the face of hazards in the natural, built, and economic environments. Resilient organisations are able to rebound from adversity and find opportunities in times of distress. They are better employers, contribute to community resilience, and foster a culture of self-reliance and effective collaboration.

What we do:
ResOrgs delivers a programme of public-good research with significant impacts on policy and practice. The group, in existence since 2004, contributes to the global resilience conversation through regular speaking engagements, open-source resources and peer-reviewed academic articles. Resilient Organisations researchers are working directly with businesses, industry groups, and policy makers to effect real change. Resilient Organisations has been actively involved in supporting the city of Christchurch (NZ) in its journey to become more resilient following its earthquakes, supporting their successful bid to become a member of the Rockefeller Foundation's 100 Resilient Cities Challenge. ResOrgs also has a growing number of productive collaborative relationships across Asia, Australia, Canada, the US, and the UK.
Activities and outputs of the group inform and focus debate in areas such as emergency management, post-disaster recovery, reconstruction following disasters, and the resilience of critical infrastructure sectors. We have developed a unique set of tools for resilience assessment, capability building, and benchmarking, including the Resilience Benchmark Tool (http://brt.resorgs.org.nz/). We also produce practical frameworks and guides to help organisations develop and implement resilience strategies suitable to their environment.

Why we do it:
In an increasingly volatile and uncertain world, one of the greatest assets an organisation can have is the agility to survive unexpected crisis, to find opportunity, and thrive in the face of potentially terminal events. We believe such resilience makes the most of the human capital that characterises the modern organisation and offers one of the greatest prospects for differentiating the successful organisation on the world stage. This resilience is typified by world class organisational culture and leadership, strong and diverse networks that can be drawn on for support when needed, and an attitude and strategic positioning that is change-ready. More resilient organisations lead to more resilient communities and provide the honed human capital to address some of our most intractable societal challenges. For more information see our website: www.resorgs.org.nz.

About the Employee Resilience Research Group

The Employee Resilience Research Group combines qualitative and quantitative methodologies to investigate and understand resilience from the standpoint of the employee, and of the organisation at large. Our team consists of researchers and postgraduate students from Psychology as well as Management. We collaborate closely with the Leading and Managing Resilient Organisations research group (LORE), Resilient Organisations (ResOrgs), as well as Joint Centre for Disaster Research (JCDR) to create a dynamic, multidisciplinary research team that aims to advance knowledge of the factors contributing to worker resilience, and of the key outcomes for organisations committed to developing resilient workers, namely engagement, high performance and wellbeing.

The Employee Resilience Research Group defines employee resilience as an ability to thrive in a changing environment. This ability is facilitated by the organisational context, including leadership and organisational culture. This means that organisations play a key role in how well their employees are able to adjust and perform under pressure. An added benefit of employee resilience concerns the positive spillover effects – resilient employees will also be better equipped to handle challenges outside or work, and by facilitating employee resilience, organisations can also strengthen community resilience.

We integrate employee-level information with specific organisational initiatives to create a deeper understanding of whether the practices currently in place effectively support resilience among employees. In addition, we identify areas of intervention and change to address in order to facilitate employee resilience. The goal of our research and collaboration with practitioners is to enhance the resilience of employees, who are healthy and active contributors in their organisation, as well as in their community.

Resilience in organisations and among employees is relevant in any context which introduces challenges and change, and transcends a post-disaster context. We therefore couple rigorous scientific methodologies with practitioner expertise to encourage organisations to capitalise on employee resilience, and guide the process of increasing organisational resilience and performance through staff capabilities.

For more information see our website: www.psyc.canterbury.ac.nz/research/empres

1 Introduction

Research suggests that individuals who are more resilient cope better with change. However, an employee-centric measure of resilience to enable the empirical investigation of resilience on the employee level has only recently been developed. The present report presents the revised version of the Employee Resilience (EmpRes) scale developed by Näswall, Kuntz, Hodliffe, and Malinen in 2013. The purpose of this scale is for organisations to use the scale to monitor resilience levels in their staff, and identify areas contributing to the development of employee resilience. The scale can also be used by researchers examining links between employee resilience and other theoretically and practically relevant constructs.

1.1 Employee Resilience Defined

As outlined in Näswall et al. (2013) the definition of employee resilience builds on the definition of organisational resilience, defined as "a function of an organization's overall situation awareness, management of keystone vulnerabilities, and adaptive capacity in a complex, dynamic, and interconnected environment" (McManus, Seville, Vargo, & Brunsdon, 2008, p. 82). This involves effective management and overcoming of adversity or crisis by operating in sometimes unfamiliar territory in order to fulfil organisational objectives (Seville, Brunsdon, Dantas, Le Masurier, Wilkinson, & Vargo, 2006). According to the organisational resilience literature, resilience allows organisations to go beyond merely scraping through times of organisational instability and adversity, and instead thrive and capitalise on change and uncertainty (Youssef & Luthans, 2007).

Employee resilience is conceptualised as an *"employee capability, facilitated and supported by the organisation, to utilize resources to continually adapt and flourish at work, even if/when faced with challenging circumstances."* This definition incorporates Luthans' (2002) description of resilience as being a "developable capacity" rather than a stable personality trait as suggested in earlier theorisations (cf. Wagnild & Young, 1993). Preliminary empirical testing shows that our behavioural measure of employee resilience represents and captures something different from individual trait resilience. Our definition of employee resilience is in line with the contemporary view of resilience as a transformational process in which individuals not only cope and successfully deal with change but also learn from it and adapt accordingly to thrive in the new environment (Lengnick-Hall et al., 2011; Richardson, 2002; Baird et al., 2013). The development of this capacity means that employees can utilise past experiences with change and adversity to be more flexible and adaptable in the future (Avey, Luthans & Jensen, 2009; Tugade & Fredrickson, 2004), which in turn facilitates successful negotiation of challenges. Our focus on resilience as something that can be developed, rather than a stable trait, also suggests that the organisational environment influences the level of employee resilience through the provision of enabling factors. We propose that a supportive, collaborative and learning-oriented work environment fosters employee resilience. Based on this premise, the organisational context is pivotal to the development of employee resilience.

Unlike the majority of definitions of resilience, and scales measuring resilience which assess innate qualities (Hystad, Eid, Johnsen, Laberg, & Bartone, 2010), the employee resilience measure taps into employees' behaviours. It is theorised that a supportive, learning-oriented and cooperative environment enables employees to behave in a resilient manner (Näswall et al., 2013), which can be captured by the scale presented in this report.

The definition and aspects of the construct presented above served as a basis for the scale development presented in this report, and in Näswall et al. (2013), where the development of the first iteration of the scale is described in detail in. In this report, we describe the further refinement of the scale, after testing it in several samples and relating it to other key variables. These tests indicated that some items were less suitable for measuring employee resilience, and also that the scale was also unnecessarily long. In addition to this, since the employee resilience construct had been further refined to focus on resilient behaviors that employees engage in, rather than trait-like capacities, some of the items had to be adjusted, and the result of this is presented in this report. In addition, to better reflect the behavioural focus the response scale anchors were altered to range from "Never" to "Always."

The new measure has been tested in several samples, in relation to other constructs, and compared to the original scale.

2 Method

The scale revision procedure is described below. This includes a description of the revision of items, and the presentation of the measurement properties of the new 9-item scale.

2.1 Scale revision and evaluation

On inspection of the scale presented in Näswall et al. (2013), a few of the items are not worded to appropriately reflect the behavioural focus on of the employee resilience construct. Also, the two correlated factors was a concern and prompted further refinement of the scale. The authors examined item wording and took into account comments from colleagues using the scale. Taken together, this suggested that a few items be removed, and a few re-worded slightly. The resulting scale is presented in Table 1, and its measurement properties examined.

2.1.1 Participants and Procedure

The scale was tested in the sample of white-collar employees, employed in the same organisation as the original scale was tested in, with offices all over New Zealand. The online survey was sent to all 363 employees, out of which 302 responded for a response rate of 83%. After listwise deletion the effective sample was 295. The revised employee resilience scale in Table 1 was used. The participants were asked to rate how often they engaged in the resilient behaviors in the items, using seven-point Likert-type scale, ranging from 1 (Never) to 7 (Almost always).

2.1.2 Results

The revised 9-item scale was subjected to an exploratory factor analysis (principal axis factoring) with oblique (direct oblimin) rotation to examine the dimensional structure of the scale. The criterion used for retaining an item within the scale was a loading of above 0.3 and no cross-loadings in any other factors. As is shown in Table 2, only one factor was extracted, accounting for 54% of the variance in the items. All factor loadings were well above the cut-off in the factor.

The reliability for the revised scale was .91.

Table 1. Factor loadings and eigenvalue for the revised EmpRes scale.

	Items	Factor 1
01	I effectively collaborate with others to handle unexpected challenges at work	.80
02	I successfully manage a high workload for long periods of time	.63
03	I resolve crises competently at work	.76
04	I learn from mistakes at work and improve the way I do my job"	.81
05	I re-evaluate my performance and continually improve the way I do my work	.78
06	I effectively respond to feedback at work, even criticism"	.65
07	I seek assistance to work when I need specific resources	.68
08	I approach managers when I need their support	.70
09	I use change at work as an opportunity for growth	.78
Eigenvalue		4.87
Variance explained		54.07

2.2   Permission to use the scale

For anyone wanting to use the scale, we ask that you cite the current report and also that you please provide us with anonymised data so that we can continue to improve the scale. Please contact one of the authors for more information on this (katharina.naswall@canterbury.ac.nz, joana.kuntz@canterbury.ac.nz; or sanna.malinen@canterbury.ac.nz. For further information please see http://www.psyc.canterbury.ac.nz/research/empres/).

Please cite this report as:

Näswall, K., Kuntz, J., and Malinen, S. (2015) *Employee Resilience Scale (EmpRes): Technical Report.* Resilient Organisations Research Report 2015/04. ISSN 1178-7279.

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