EXPLORING THE ROLE OF JOB RESOURCES IN THE WELL-BEING OF WOMEN ACADEMICS IN THE WORKPLACE

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ABSTRACT

Despite several changes in the workplace, women still face unique challenges with harmful effects on their well-being. Job resources are a crucial buffer between job demands and workplace well-being. The aim of this article is to present the findings of a qualitative study on women academics’ experiences of workplace well-being in relation to job resources. An exploratory and descriptive research design was used to investigate in what ways job resources contribute to women academics’ perceptions of workplace well-being. Purposive sampling was conducted at a top-rated university in South Africa. Data were gathered through twelve semi-structured interviews. Findings revealed that women academics value a variety of job resources associated with psychological, social, physical, and organisational resources. The study also revealed the inherent job resources creating strains on women’s well-being in the workplace. It is recommended that higher education institutions focus on workplace well-being from a practice, organisational, and policy perspective.

Keywords: conservation of resources; job demands-resources model; strengths perspective; South Africa; job resources; well-being; women in academia

INTRODUCTION

Globally, including in post-apartheid South Africa, higher education institutions are struggling with a range of job demands. Examples include the development of individuals, knowledge transfer, student throughput rates, increasing research outputs, and an increasing focus on high-quality research and international publication – as well as issues addressing social relevance (Coldwell, Papageorgiou, Callaghan & Fried, 2016). Nurunnabi, Almusharraf & Aldeghaither
(2020) postulated that the COVID-19 pandemic was exacerbating higher education challenges and that this was having a cumulative effect on existing problem areas and specific struggles (Paterson, 2021). According to Poalses and Bezuidenhout (2018), challenging work becomes stressful when occupational demands outweigh occupational resources, resulting in an exhausted, disengaged workforce. In agreement with this view, Pillay (2016) also reported the adverse effects of high job demands and the prevailing political climate on the well-being of employees at South African universities. Women within higher education are often faced with the double burden of womanhood of having to balance the act between patriarchal structures and family care work, and also leadership issues, challenges in research and publishing, ownership of the workmanship narratives (Maphalala & Mpofu, 2017), heavy teaching loads, role overload, discourse concerning the area of specialisation and lack of access to supportive networks (Zulu, 2013). With regards to the discourse for the area of specialisation, Zulu (2013) explains that women tend to specialise less than men firstly because of the clustering of women in teaching and nurturing professions and because mainstream journals are often not receptive of the kind of scholarship women pursue. Organisations should address these additional stressors to prevent burnout and promote personal and social well-being. Amidst these real-life concerns, adequate job resources often help employees cope with daily work stressors.

Job resources can have a buffering effect between job demands and the burnout process itself (Bakker & Demerouti, 2014). Job resources are the physical, psychological, social or organisational features of the job that help employees attain work goals. Resources also alleviate stressful job demands and the psychological and physiological costs of the job to encourage personal growth and learning (Schaufeli & Bakker, 2004).

**PROBLEM STATEMENT AND AIM OF THE STUDY**

According to the Higher Education South Africa (2014) (HESA), only 24% of the academic staff at the level of professor are women, and 37% are associate professors. Women are well represented in the lower levels at academic institutions, with 51% being lecturers and 55% being junior lecturers (HESA, 2014). Although being employed is regarded as an indicator of well-being (Khumalo, Temane & Wissing, 2012), women are still being under-represented in the work environment, and they face unique challenges that constrain their well-being in the workforce (Johansson, Huang & Lindfors, 2007; Samad, 2006; Towler & Stuhlmacher, 2013). It is evident that the well-being of women academics in the South African context seems not to be optimally supported. Although we cannot deny the spillover of ‘ordinary daily struggles’ such as mental health matters and the work-family relationship on the functioning of women academics (Liu, Kwan, Lee & Hui, 2013), it is argued that adequate job resources could function as a valuable mechanism to contribute to their well-being in the workplace. However, there is a serious paucity of research on this topic in the South African context, especially within the social work field and its fairly recent specialisation in occupational social work as a field of practice, which was particularly important for the authors (Terblanche & Taute, 2014). This study aimed to contribute to scientific knowledge by exploring the particular variables at play in the workplace that either enable or constrain the well-being of women academics in the workplace. In this sense, it is important to mention that while several quantitative studies were conducted in South Africa, this qualitative study was pivotal in developing a sufficient
understanding of this phenomenon. Previous South African research has included studies on levels of well-being (Khumalo et al., 2012), work and well-being (Santavirta, Kovero & Solovieva, 2005), attachment styles and well-being (Towler & Stuhlmacher, 2013), job satisfaction and well-being (Boyles & Shibata, 2009), and workaholism, burnout, work engagement and well-being (Beukes & Botha, 2013; Mitonga-Monga & Mayer, 2020).

The main aim of this qualitative research study was to investigate these matters because a proper understanding of and insight into women academics’ perceptions of workplace well-being and job resources can offer a valuable key to unlocking the effective identification, utilisation and augmenting of these resources.

RESEARCH QUESTION AND OBJECTIVE

The primary research question for this study was: “How do job resources contribute to women academics’ perceptions of workplace well-being?” The direct subjective perceptions of women academics are considered a valid source of knowledge, which needs to be acknowledged and examined. The research aim of this study was to qualitatively explore and describe the perceptions of workplace well-being among women academics on the job. This was achieved by using a qualitative descriptive design at a top-ranking (BRICS ranking) South African university (Collier, 2019).

IMPORTANCE OF JOB RESOURCES

There has been a shift in the discipline of social work from a focus on identifying pathology and symptoms to an alternative model that focuses on strengths within a system (Guo & Tsui, 2010). This strengths-based model (person-in-environment) focuses not only on personal resources, but also on discovering strengths within the environment of the service user (Guo & Tsui, 2010). Work ecosystems refer to those complex systems involving both dynamic human and non-human actors as an interconnected system (Subramony et al., 2018). In other words, in the workplace the interconnected actions of both human actors (for example, application of cognitive skills) and non-human actors (for example, properly functioning office equipment) are part of these work ecosystems. Job resources and personal resources are often interwoven in this ecosystem. Xanthopoulou, Bakker, Demerouti and Schaufeli (2007) found that personal resources mediated the cause-and-effect relationship between job resources and engagement or exhaustion.

Schaufeli and Bakker (2004) explained the effects of job resources on employee well-being in terms of the job demands-resources (JD-R) model. They proposed the JD-R model as a theoretical outline to comprehend the impact of demands and resources on the well-being of employees (Schaufeli & Bakker, 2004). The model is based on the premise that well-being emerges as a consequence of a balance achieved between positive and negative job characteristics. In turn, we understand that adequate job resources lead to positive job characteristics, while excessive job demands lead to negative job characteristics. The model describes two processes: the health impairment process of burnout and the motivational process (Bakker & Demerouti, 2007).
The motivational process encompasses the use of job resources in a way that leads to work engagement and organisational commitment (Schaufeli & Bakker, 2004). Job resources mostly influence motivation when job demands are high (Bakker & Demerouti, 2017). This is demonstrated by Hobfoll’s (2001) Conservation of Resources model, which explains that all types of resources have motivating potential, and these resources become particularly valuable when needed. On an individual level, job resources are mostly focused on aspects such as autonomy, feedback, development opportunities and engagement (Bakker, 2005; Bakker & Demerouti, 2007; Bakker & Demerouti, 2008). The types of job resources at a collective or organisational level in the workplace ecosystem that could predict well-being include collective job resources such as group features, social capital, interactions, leadership, performance management, management style, task clarity, and information sharing between colleagues and supervisors in informal networks (Fagerlind, Gustavsson, Johansson & Ekberg, 2013; Gauche, de Beer & Brink, 2017; Salanova, Bakker & Llorens, 2006). Job resources have positive value and contribute to the broaden-and-build, or positive spiral, effect of the positive emotions that employees experience in the workplace (Fredrickson, 2001; Gauche et al., 2017). A lack of job resources in terms of quantity and quality, however, can increase job strain. In a study conducted by Jonsdottir, Rafnsdottir and Ólafsdóttir (2020), the researchers found that individuals who experience high job strain display a higher risk of emotional exhaustion and ill health.

**Women in higher education: Job demands and resources**

Limited or deficient job resources could result in a negative spiral of resource loss, followed by a health impairment route. For example, a South African study indicated the high probability that women in higher education could be at risk of gastroesophageal reflux disease and other health impairments (Mohammed et al., 2020). The demand for wide-ranging changes in South African universities was accelerated in 2015 when Chumani Maxwele threw faeces over the statue of Cecil John Rhodes in 2015 on the campus of the University of Cape Town. This act was followed by nationwide student protests (Pillay, 2016). Yet the accumulated effect of these protests was much greater than the call for #feesmustfall and changes regarding structural issues. We cannot ignore the severe strain on financial resources and valuable personnel resources because of the demand for higher pass rates and stronger research output (Coldwell et al., 2016). It is also a well-documented fact that women in the workplace, including women in academia, are also exposed to sexual harassment, the double burden of womanhood, a glass ceiling, and issues related to gender inequality such as the conducting of more gender assigned type work. There is also a leadership challenge for women in higher education (De Paola, Ponzo & Scoppa, 2018; Grummell, Devine & Lynch, 2009; Maphalala & Mpofu, 2017).

**METHODOLOGY**

In this qualitative study we used a descriptive, exploratory design to obtain a good understanding of the phenomenon, namely the role of job resources in fostering workplace well-being as experienced by women academics. The research question was formulated in the following way: How do job resources contribute to women academics’ perceptions of workplace well-being?
This study aimed to qualitatively explore and describe the perception of women academics about job resources and workplace well-being. This aim was to be achieved through a qualitative descriptive design (using semi-structured interviews) at a top-ranking (BRICS ranking) South African university (Collier, 2019).

The researchers used a descriptive, exploratory design to present a clear description of workplace well-being and particularly the role of job resources as experienced by women academics (Sandelowski, 2010).

A top university, according to the Bricks rankings, was identified, and the subsequent research process was followed to obtain the required ethical approval, goodwill permission and gatekeeper assistance. The study employed non-probability purposive sampling (Dowding, 2013) to achieve high representativeness or comparability (Teddlie & Yu, 2007).

An independently appointed mediator contacted potential participants, and once they indicated their willingness to participate in the research study, they each completed and signed an informed consent form. After the submission of their informed consent forms, appointments were made for the semi-structured interviews.

The sample inclusion criteria were: (i) a woman academic employed at the selected higher education institution and promoted within the preceding five years; (ii) job levels ranging from senior lecturer to professor; (iii) employed either in the health science or science faculty. The participants were 12 women academics who met the inclusion criteria, and all voluntarily agreed to participate in the study.

The 12 participants completed a demographic questionnaire followed by a personal semi-structured interview set out in an interview protocol. Semi-structured interviewing with open-ended questions was used to provide the interviewer with a degree of freedom for participants to elaborate on their thoughts and comments. The questions in the interview guide were:

- What are your perceptions of aspects in the workplace (job resources) that contribute (past and present) to your well-being in the workplace?
- What are your perceptions of those aspects linked to your personal resources that contribute (past and present) to your well-being in the workplace?
- What are your perception about the job demands that women experience in your workplace? (Probe for past and present).
- What are your perceptions about the obstacles that you encountered in your career that could have hampered your performance/advancement?
- What are your perceptions about the resources (personal and job resources) which enable you as a woman to manage your job demands? (Probe for past and present)
- Is there anything else you feel that I left out that you want to mention?

Fieldnotes were also made during and after the interviews to assist the process of data analysis and the steps of validation.
The semi-structured interviews were recorded and then transcribed by the researcher to enhance dependability and confirmability, because they would be the textual data. The textual versions of the data and the written field notes were read rigorously. To ensure rigour and trustworthiness, we paid attention to the criteria indicated by Lincoln and Guba (1985), who referred to truth value, applicability, consistency, and neutrality. The four-point criteria for naturalist inquiries posited by Lincoln and Guba (1985), namely credibility, transferability, dependability, and conformability, were also used to ensure the trustworthiness of the qualitative study. Credibility was ensured by using a co-coder, triangulation, ethical interviewing techniques and reflexivity. During the analysis process, the researcher discussed the codes with a competent co-coder and study leader. Facilitation techniques such as probing, active listening and questioning were used as interviewing techniques, and the terms were defined for the participants to elicit credible responses.

The transferability of the study to the South African workplace context would infer women who are employed in academia only. Field notes provided detailed descriptions of all information obtained during the interviews. To ensure dependability, the researcher conducted member checking, triangulation of data sources, peer debriefing, and an audit trail.

Collected data were organised and the process of qualitative data analysis (QDA) were undertaken using Atlas.ti version 8.0. Data were coded through an inductive process and then consolidated into separate themes and sub-themes. The coder and co-coder compared and aligned codes after a rigorous discussion. The next step was to identify sub-themes. Braun and Clarke (2006) suggested six phases of thematic analysis to identify connections across emergent themes.

Ethics approval had been obtained from the Health Research Ethics committee of the North-West University and the Humanities Faculty Research Ethics Committee of the participating university. These approval references are NWU-00017-17-S1 and HS/16/8/15, respectively. This study was rated as medium risk as study participants were adults employed in an organisation. The ethical considerations are always intended to minimise harm to participants. Two participants experienced emotional discomfort, which was mitigated by the fact that they were using emotional support resources available to them. Confidentiality was maintained by password-protecting recordings, removing all identifying details from interview scripts, conducting interviews in private offices, and storing all data in a locked cabinet.

**RESULTS AND DISCUSSION OF THE FINDINGS**

The study findings are presented as themes that emerged from the diligent process of data analysis of the personal semi-structured interviews. Using an inductive approach proved fruitful and this section discusses the findings in the light of current scientific literature and illustrated through participants’ verbatim comments.

The identified themes and sub-themes for job resources were grouped as psychological, social, organisational and physical resources as the core components of the job resources, which provided a representation of women academics’ perceptions of well-being. They are presented in Table 1.1. The identified themes and sub-themes for job and personal demands were grouped under mental health strains, academia as a profession, home-work interface, job demands,
organisational culture and lack of job resources, physical strains, and dynamics of work. The participants in this study classified most job and personal demands under these themes, and they were also incorporated into this study because of the important nature of the information. Some of the participants also identified job strains within the specified job resources (see Table 1.1).

**Job resources**

*Table 1.1: Job resources*

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-Theme</th>
<th>Descriptive words</th>
<th>Inherent job resource strains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological resources</td>
<td>Inherent job aspects</td>
<td>Job feedback, Job-specific skills, Job difficulty level, Experience, Job autonomy</td>
<td>Life events impacting on choices, Spillover effect, Variety of roles, Increased demands, Lack of family-friendly environment, Lack of work-life balance, Treatment in academia, Men controlling content, Nature of work not recognised, Multitasking, Self-imposed job demand, Challenging demands, Emotional demands, Job strains, Cynicism</td>
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<tr>
<td>Social resources</td>
<td>Colleagues’ support</td>
<td>Treatment at work, Other women academics, Expertise amongst colleagues, Teamwork</td>
<td>Need for women-friendly resources, Low team morale, Lack of social support</td>
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<td></td>
<td>Management as a resource</td>
<td>Authentic leadership, Management support, Leadership skills, Supervisor support</td>
<td>Lack of support for leadership style, Lack of mentorship, Lack of leadership</td>
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<td>Job-related interaction</td>
<td>Collaboration opportunities</td>
<td>Fear of expressing oneself</td>
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<td>Network building</td>
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<td>Mentorship</td>
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<td>Professional and support staff support</td>
<td>Human resources support</td>
<td>Human resource strain</td>
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<td>Change in organisation</td>
<td>Psychosocial health strain</td>
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<td>Library resources</td>
<td>Lack of mental health support</td>
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<td>Organisation as a resource</td>
<td>Development opportunities</td>
<td>Privilege linked to gender</td>
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<td>Career pathing</td>
<td>Lack of women-friendly HR policies</td>
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<td>Attending conferences</td>
<td>Perceived gender role difference</td>
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<td>Meeting criteria</td>
<td>Perceived discrimination</td>
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<td>Career planning</td>
<td>Perceived systemic gender bias</td>
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<td>Non-gender-friendly workplace</td>
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<td>Inequality between support and academic staff</td>
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<td>Sexual harassment</td>
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<td>Mental health strain</td>
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<td>Seeking alternative employment</td>
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<td>Time and workload</td>
<td>Balanced workload</td>
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<td>Reduced working hours</td>
<td>Non-equal division of work</td>
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<td>Flexible working hours</td>
<td>Constant performance</td>
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<td>Taking time off</td>
<td>High job demands</td>
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<td>Size of classes</td>
<td>Unbalanced task focus</td>
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<td>Time made available for managing workload optimally</td>
<td>Lack of workplace support in terms of childcare</td>
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<td>Time to apply for funding</td>
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<td>Lack of time</td>
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<td>Childcare responsibilities</td>
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<td>Impact of childcare on work</td>
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<td>Lack of parent-friendly working hours</td>
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<td>Job-related aspects</td>
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<td>Job design</td>
<td>Perceived bias in the promotional system</td>
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<td>Job content revision</td>
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<td>The mental health of students</td>
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<td>Student demands</td>
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<td>Financial support</td>
<td>Job insecurity</td>
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Key job resources were identified and categorised under four main themes: (i) psychological, (ii) social, (iii) organisational and (iv) physical resources with several sub-themes. The sub-themes that identified psychological resources were inherent job aspects and affective job aspects.

**Theme 1: Psychological resources**

*Sub-theme: Inherent job aspects*

Participants perceived certain inherent job aspects such as job-specific skills, job difficulty level, experience, job autonomy and job feedback as important sources of their psychological functioning in the workplace. In terms of job feedback, participants expressed the sentiments below.

*My job offers me opportunities to find out how well I do my work. I receive sufficient information about the results of my work.*

With regards to job-specific skills as psychological resources, participants’ views are indicated below.

*The teaching you know, you are lucky if you are a good teacher, which some people are and some people are less good.*

*I am very good at what I do. I’m very competent in my various roles. I think my ability to express myself in both written and spoken word has got me really far in life. I was really a good student, both undergraduate and postgraduate.*

Participants also indicated that job autonomy is a tremendous psychological resource for the job and in the workplace. This is depicted in the following statement.

*I have control over how my work is carried out. I can participate in decision-making regarding my work. I can decide on my own how I go about doing my work.*

Autonomy is positively associated with employee job satisfaction (Demircioglu, 2020). Demircioglu (2020) even stated that individuals strive to satisfy three psychological needs, the first being autonomy, and the other two competence and relatedness. Competence denotes a person’s ability to achieve desired goals and complex tasks, autonomy refers to the need for self-determination and relatedness signifies satisfying mutual respect, connectedness and desire for social relationships (Demircioglu, 2020). Job autonomy is considered crucial for organisational success and greater job satisfaction (Gözükara & Çolakoğlu, 2016). Employees’ positive behaviours correlate positively with job autonomy contributing to pro-organisational behaviour (Loi, Ngo, Zhang & Lau, 2011).

Several participants identified experience as a psychological component of job resources within the workplace.

*Social Work/Maatskaplike Werk, 2023: 59(3)*
I think for 25 years on, and off, I’ve learnt how to navigate the system and being able to navigate the administrative and support system I think releases resources for yourself to be able to do your job well.

I think, and this comes from some of my experience in this mentorship program, you know you have to take the knocks, you know you have to put in five grant applications to maybe get one funded.

Brewer and Shapard (2004) found that there is a small negative correlation between years of experience and emotional exhaustion, which was confirmed in a study by Knani (2013). However, according to the participants of this study, it seems that experience in years assists in managing resources better, which led to job resource creation and acquiring of new resources. This is in line with the conservation of resources theory, which recognises that much of human behaviour is based on the evolutionary need to acquire and preserve resources for survival (Hobfoll, Halbesleben, Neveu & Westman, 2018). Seminal research conducted by Bakker and Demerouti (2007) confirmed that sound job resources buffer the impact of job demands on strain and burnout, which is a motivational process leading to employee engagement, organisational commitment, and employee wellbeing. Whereas lack of job resources and poorly designed jobs or chronic job demands can lead to a health impairment process and a depletion of energy (Bakker & Demerouti, 2007).

An interesting observation was that participants also referred to strains and their potential negative influence on a job, namely, psychological resources and, particularly, those aspects inherent to the job. These strains were described as life events impacting on choices, spillover effects, the increasing demands of various roles, a lack of interaction with family and friends (environment), absence of work-life balance, poor social interaction and a lack of respectful treatment in academia, men controlling content, nature of work not recognised, multitasking (e.g. managing student supervision and applying for grants), self-imposed job demands such as taking on too many postgraduate students, and personal cynicism.

Sub-theme: Affective job aspects

Participants also spoke about their experiences that could be categorised as affective job aspects that were psychological resources in the workplace. This sub-theme included experiences such as the importance of ‘being heard’ in formal and informal meetings, promotion of independence, affirmation, satisfying work, client satisfaction, job satisfaction, meaningful work and a sense of realism.

He allows you to I think to handle the aspects that you are responsible for in a way that you see fit. [Promotion of independence]

That [is] a real source of job satisfaction for me... And I think job satisfaction is important. [Job satisfaction]

You know I am talking about honours, Masters and PhD students who are these bright young people you know and helping them make their future. [Satisfying work]
Doing research is the driving force, I mean in terms of being able to go from one rank to the next we need to have a robust research profile. [Realism]

Yes that is all nice and good when it comes, but that’s never been my primary motivation; so my motivation has always been to try and work towards things are actually for societal good. So even if I am primarily working for my content work, which is child health, and in my teaching environment, which is teaching for health managers leadership in the broader health system, and it gives me, I think, it gives me that satisfaction that I am contributing to something for a broader purpose for a greater good. And as all of those aspects are for me the positive resources. [Meaningful work]

Dominguez, Chambel and Carvalho (2020) concur and state that affective commitment might act as a moderator in the relationship between job stressors and employees’ psychological tensions. Skill usage, job autonomy, job satisfaction and meaningful work has been associated with engagement and commitment (Allan, Batz-Barbarich, Sterling & Tay, 2019; Bakker, Veldhoven & Xanthopoulou, 2010; Christian, Garza & Slaughter, 2011; Steger, Dik & Duffy, 2012). Stankovska, Angelkoska, Osmani and Grncarovska (2017) found that staff motivation is affected by job satisfaction. showing a positive correlation with high productivity in the organisation.

Various strains were identified that might hold a potential threat to psychological resources in terms of well-being and healthy functioning. In terms of affective job aspects, participants identified strains such as the need to transform, gender-based violence, lack of trust in the institution, lack of staff consultation, too little acknowledgement, staff apathy, imposter syndrome, resistance to change, academic bullying, professional demands affecting confidence (for example, negative reviews by peers), lack of job satisfaction, student protests, death of a colleague, lack of appreciation, lack of a sense of belonging, emotional demands, and the need to prove oneself.

Despite these resources identified by participants, they also perceived specific strains to the psychological resources namely inherent job aspects and affective job aspects. This can be explained in terms of Hobfoll’s (1989) conservation of resources theory, which argues that strains experienced by individuals can be understood in relation to the potential or actual loss of resources. Although participants experienced a lack of appreciation, suffered the loss of a colleague and experienced academic bullying, they were still able to conserve resources. Psychological resources such as these relate positively to an extensive array of both work-related outcomes and overall well-being (Lo Presti, Törnroos & Pluviano, 2020).

**Theme 2: Social resources**

Social resources refer to those non-tangible resources that an individual gains from colleagues, peers and management through relationship building and communication. The sub-themes for social resources are colleague support, management as a resource, professional and support staff support, and other job-related interactions.
**Sub-theme: Colleague support**

Some participants described vividly how their teams served as a resource to them.

_“Team where we all understand the demands that they make upon one another, therefore, trying to be reasonable... and I think the demands made on one another is really critical part of that, I think. In the university setting I work with people on different, multiple levels – both the I think the division in which I work I think I work with a really incredible team and the head of the division is a very supportive person, and I think she tries as far as possible to support one, regardless of work circumstances we may be facing, and that’s really important.”_

_My strength comes from my support team._

Colleague support was also identified as a crucial resource regarding mothering.

_“I also have the vast majority of my colleagues, many of them are also moms are incredibly supportive and um make plans, and we cover for each other, and that’s within this department and ...secretary who is amazing.”_

In agreement with this, a participant mentioned:

_“Working with colleagues who are supportive and engaging... Colleagues I can relate to on an academic level and also related to aspects of work if I am studying or having a particular difficulty with a particular work-related aspect, teaching, research or whatever that I can go to and ask.”_

Various participants indicated that their direct line manager served as a massive resource to them (supervisor support).

_“So, there is within our division within a school there is support if I was to reach out there will be people willing to listen I suppose.”_

_“My immediate supervisory and my colleagues that I work closer with [are valued as positive resources].”_

Breevaart and Tims (2019) pointed out the benefits when employees acquire social resources that enable them to cope more effectively at work. They found that employees craft social job resources when they are exhausted (Breevaart & Tims, 2019). Further social support at work also has an additive effect on affective commitment (Rousseau & Aubé, 2010). Social support as a resource results in positive well-being outcomes for employees.

**Sub-theme: Management as a resource**

Participants indicated that they experienced authentic leadership, management support, leadership skills, supervisor support and management style in terms of management resources as valuable.

_“My direct line manager is sort of able to pick up gaps when necessary and is willing to help.”_
The dean is another good support system.

Valuable resource for me was my head of department, who is also a mentor and someone who I really respect and look up to.

So the overall head of the school it is also someone that is pretty supportive when I started my current position, which was 2015 has been really supportive in a variety of ways he draws into entities that he feels would be beneficial to your career, but it also allows you to innovate and to do things that it pushes the boundaries he doesn’t he is not a micromanager.

My current head of division is very much involved.

I’ve got one head of division who are really, I think she is incredibly supportive.

This finding is supported by Semedo, Coelho and Ribeiro (2016), showing that authentic leadership does influence employees’ affective commitment and job resourcefulness. In addition to this, leadership style plays a critical role in job satisfaction, performance, well-being, and effectiveness (Alonderiene & Majauskaite, 2016; Inceoglu et al., 2018; Strömberg, 2020; Sudha, Shahnavaz & Farhat, 2016).

Sub-theme: Job-related interaction

One of the sub-themes for social resources is the type of job-related interactions that participants experience in the workplace. These job-related interactions were described in terms of collaboration opportunities, coaching, network building and mentorship. Participants positively identified coaching by either a professional coach or direct line manager as a supportive resource.

She’s paid for me to go on one-on-one coaching as well, which she offered to anyone who was interested.

When I sat with my CV with the head of department or the head of the school he interestingly looked at my CV and pointed out academic merits of my CV, which myself was blind to at that time.

Mentorship was another job-related interaction that the participants identified as a positive contributor to their work functioning, including career planning, exposure to new experiences, direct academic mentorship, and personal growth. Participants experienced this as a tremendous positive resource.

I would never have done a PhD if he have not suggested it in the first place and provided mentorship at that point.

Valuable resource for me was my head of department, who is also a mentor and someone who I really respect and look up to.

Women academics were clear about the positive impact of mentorship on their career growth and even with ordinary tasks.
I guess having a mentor here at the university who would help with compiling my CV and just helps with generally talking about research direction and problems with students and all sorts of things.

Network building is another job-related interaction that participants identified as being crucial to a female academic.

You should really build really good relationships and networks over time. …and I think when I came back from my PhD you know when I went out of the country for a while, I actually realise how important it was to build up those relationships and networks that I did have. I have relatively extensive international network and collaborations.

Job-related interactions such as mentorship can help tackle complex human resource challenges (Yanow, 2020). Lunsford, Crisp, Dolan and Wuetherick (2017) and Muschallik and Pull (2016) acknowledged that these interactions are valuable resources and are embedded in the educational process of higher education. Mentoring can support a sense of belonging in the institution and a discipline, and increase self-efficacy and improved identity (Lunsford et al., 2017). Although mentorship contributes positively to productivity (Muschallik & Pull, 2016), it was also found that not all benefit from mentorship. Coaching, on the other hand, has a positive impact on creativity, autonomy, performance, and motivation (Achi & Sleilati, 2016). Job-related interactions were a valued resource for participants.

Sub-theme: Professional and staff support

As depicted in Table 1-1, professional and support staff, indicated as a sub-theme, are underpinned by human resource support, change in the organisation, well-being and library resources. Most participants experienced various types of human resources support within their working environment as encouraging. This is reflected in these responses:

Secretary who is amazing. So my administration team, my sort of second in charge also, so a huge army of supportive people are very facilitatory.

I have always enjoyed good support with regards to support services, and I think because I’ve been in the institution for so long.

Job resources that makes my work easier is when we employ specific people for project management to deal with the university system.

IT is generally responsive in terms of our computer issues, so I think from that point of view I think there is a structure that is visible, and that is comprehensible in terms of knowing how and what access it.

Participants also indicated that the mental health services they receive from the workplace are helpful resources.

I guess something like mental health resources comes to mind and two years ago, when I really needed counselling for mental health reasons, I was referred to ICAS.
So, at the time of the student protest and things, it floored me, and I spoke to a counsellor about that how students’ attitudes and colleagues and stuff was really. And that was also, funnily enough, a work resource because it is ICAS [Independent Counselling and Advisory Services].

Some participants, however, did not regard the wellness interventions as sufficient during times of adversity:

So we have a head of department who decided to, after a colleague’s suicide, decided to probably take it quite to heart now they are these wellness seminars, but I think they have fizzled out now. They were these wellness seminars how to cope with stress and whatever and whatever. I think the intent behind them is good, but it’s almost like, it is not a solution for the stress.

Strains: Social resources

Specific strains associated with colleague and professional support were described as:

(i) Strains regarding colleague support: Participants perceived low team morale and lack of social support in certain instances as contributing negatively to their well-being;

(ii) Strains regarding management as a resource: Participants experienced a need for more coaching. In addition, there was a perceived lack of supportive leadership style, mentorship, leadership skills, management support, interpersonal relationships at work, formal workplace support, and authentic leadership. All these were strains negatively affecting their well-being;

(iii) Strains regarding job-related interaction: Participants experienced the fear of expressing themselves as a strain on their workplace well-being;

(iv) Strains regarding professional and support staff: Participants experienced a human resource strain in terms of lack of human resources and lack of quality human resources.

Even though some employees indicated that they use the mental health resources provided by the institution, some participants indicated they experience psychosocial health strains and a lack of mental health support.

Other professional support and support staff services also seemed to have a positive impact on participants. A study conducted by Albrecht, Breidahl and Marty (2018) confirmed that organisational resources such as human resource practices, clear organisational goals, strategic alignment, and organisational autonomy are directly and indirectly linked to positive engagement. Participants also indicated that they used the organisation’s Employee Assistance Programme (EAP). EAPs in organisations have been associated with successfully addressing the psychosocial concerns of employees (Milot & Borkenhagen, 2018; Nunes, Richmond, Pampel & Wood, 2018). EAPs are well known for enhancing employee well-being (Joseph, Walker & Fuller-Tyszkiewicz, 2018; Nunes et al., 2018; Richmond, Pampel, Wood & Nunes, 2018).
Van Droogenbroeck, Spruyt and Vanroelen (2014) confirmed that relationships with colleagues could act as a buffer against burnout. However, poor relationships can also, unfortunately, be directly related to emotional exhaustion and cynical depersonalisation.

**Theme 3: Organisation as a resource**

Participants spoke about certain aspects inherent to the organisation as a resource to them. This theme is about growth opportunities, time and workload and job-related aspects.

*Sub-theme: Growth opportunities*

Participants professed that growth opportunities within the workplace contributed positively to their perceptions of available job resources. This is reflected in comments such as:

*And because he gave me the opportunity to be the convener of a postgraduate diploma that she used to be in, I think my teaching skills came to the fore and I love teaching, and I think I didn’t know how much I’m going to enjoy it and I think I’m good at it.*

Organisational resources are directly linked to employee engagement (Albrecht *et al.*, 2018). Both talent management and career development affect employee engagement and organisational effectiveness (Ali, Bashir & Mehreen, 2019). The presence of development and learning opportunities within an organisation is proven to contribute positively to job satisfaction (Hanaysha, 2016). Thriving employees are committed to organisations because they are continuously learning and flourishing at work (Abid, 2016). Abid (2016) stated that learning at the workplace is crucial for enhancing expertise, which also lays the groundwork for developing constructive voice behaviour. Constructive voice behaviour occurs when employees are thriving at work and they recognise problems, voice new ideas and provide input (Abid, 2016). These research findings are also congruent with the findings of Biron and Eshed (2017) showing the relationship between career paths and lower burnout levels.

*Sub-theme: Time and workload*

The second sub-theme is time and workload, which participants delineated in terms of balanced workload, reduced working hours, flexible working hours, taking time off, size of classes and time provided to them. Some participants expressed their balanced workload through these sentiments:

*I do not teach very much, I do the occasional lecture here and there, and I have research students which is teaching, of course.*

Flexible working hours seemed to support work-life balance as participants expressed the following:

*But my hours are a lot more personal life and mom-friendly than my colleagues.*

*Within the workplace, I think that the big bonus here is the flexibility.*

*Find that the university is amenable to the kind of work-life balance that women often need because you must be able to fetch your child from school and I find that to be a recent thing.*

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Participants also indicated that they considered small manageable class sizes as a resource as well as time made available through various resources like funding or management support.

And then one of the line items, or budget items you can put it is called teaching relief so I was responsible for teaching neuro rehab to undergrad students and I teach four hours a week for five weeks for a particular module and so what I could do is that I could cost that out and say get somebody from a private practice or a therapist who would like to be interested in teaching.

I have an eight-to-four job, so I do not do calls.

Although South African universities are challenged with increasing workloads (Botha & Swanepoel, 2015), some participants indicated that manageable class sizes, buying in of teaching relief, low amount of teaching, and not having after-hours work contributed to their well-being. Agha, Azmi and Irfan (2017) noted the positive impact of work-life policies such as having flexi-time options, job sharing and working from home affect the well-being of employees.

Sub-theme: Job-related aspects

Participants perceived job-related aspects like performance management, job design and job content revision as job resources. Examples of job-related aspects were discussed in terms of their contribution to well-being.

So my motivation has always been to try and work towards things are actually for societal good. I think, it gives me that satisfaction that I am contributing to something for a broader purpose for a greater good. And as all of those aspects are for me the positive resources.

One respondent indicated that she had more flexibility after redesigning her job.

I do clinics, but my hours are a lot more personal life and mom-friendly than my colleagues.

Wolter et al., (2019) discovered that it is crucial to promote job resources, for example, a supportive and fair organisational climate to improve and protect employee well-being. This finding also shows that the impact of employees’ ability to control the outcomes (pertaining to job resources) also contributes to their well-being.

Strains: Organisational resources

The following strains and challenges impeded participants’ growth opportunities: (i) privilege linked to gender; (ii) lack of women-friendly HR policies; (iii) perceived gender role difference; (iv) perceived discrimination; (v) perceived systemic gender bias; (vi) non-gender-friendly workplace; (vii) inequality between support and academic staff; (viii) sexual harassment; (ix) mental health strain; (x) change resistance fatigue; (xi) seeking alternative employment; and (xii) need for women-friendly resources.

Participants experienced the following strains specific to time and workload: (i) high workload; (ii) non-equal division of work; (iii) demand of constant performance; (iv) high job demands;

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Strains regarding job-related aspects were expressed as participants’ experience of a discrepancy in the performance review processes and the promotional system. Participants also identified the following as strains: (i) job content strain; (ii) control of job demand; (iii) lack of student university readiness; (iv) needs of students; (v) mental health of students; (vi) student demands; (vii) time constraint; (viii) long working hours. These strains can lead to the emotional exhaustion of employees (van Droogenbroeck et al., 2014).

**Theme 4: Physical resources**

The final theme comprises those aspects of physical resources (relevant to job resources for workplace well-being), namely financial support and office and technical support.

**Sub-theme: Financial support**

Participants experienced that grant funding, access to resources, financial resources and their salaries as valuable job resources that contributed to their well-being in the workplace.

*My sense is that I always had to provide most of my own resources so even my computer I’ve purchased through grants that I have gotten.*

Financial support also assisted with career-building, as a participant mentioned:

*I got a partial PhD bursary.*

Salary was also identified as a resource.

*Having sufficient money. So I can pay for things. I can pay for somebody to clean my house; I can pay for somebody to deal with stuff for me when I have to spend all my days at work to get whatever done.*

Having access to funding is considered crucial to be successful in academia, as the following respondent stated:

*For a robust research profile, you obviously need money, grant applications and students.*

Physical job resources, such as financial support, may have long-term effects on engagement and ability to work (Airila et al., 2014). Some participants, however, indicated that they have to generate their own resources, which puts a strain on them. Nevertheless, other participants indicated they received financial support, which was a great job resource for them. Job resources, whether tangible or intangible, have been proven to have a buffering effect on burnout (Bakker & Demerouti, 2017). Hence, in the workplace, the provision of financial support is imperative.
Sub-theme: Office and technical support

Participants also perceived having their own offices and someone to clean the office as a job resource. Various participants found being able to work from a remote location as a job resource, as expressed in these statements:

*The fact that I can work at home occasionally that also helped when I needed to be working at home.*

*The positive for an academic is that you can be flexible, go get the child, go get them to their nanny, or work from home, or work in the evening from home.*

Participants identified technical support like having functional Wi-Fi, computers, printers, stationery, good internet connection, and an office (particularly a nice office) as valuable physical resources. These are basic resources needed to perform tasks as an academic, and participants indicated that having them contributes positively to their well-being. However, a participant did indicate that one of their buildings seems to have sick building syndrome, and it is proven that sick building syndrome can affect physical health in various ways (Ghaffarianhoseini *et al.*, 2018).

Strains: Physical resources

Strains linked to financial support were mostly expressed by participants employed through grant funding and their experience of job insecurity as a major impediment. Strains for achieving well-being in the workplace were linked to the office and technical support as the participants’ experiences of the physical environment, ‘sick building’ and lack of space.

Findings indicated that women academics perceive psychological, social, organisational and physical job resources or workplace strengths as core components of workplace well-being. It was shown that women academics view specific aspects like job feedback, job-specific skills, job difficulty level, experience, and autonomy as central psychological resources for attaining well-being within the workplace. Participants also referred to the disabling effect of strains, such as lack of work-and-life balance.

This information should not be ignored, since studies have shown that job strain is a predictor of both physical ill-health and psychological health concerns (Jonsdottir *et al.*, 2020). Workplace social support can be a buffer against job strain, job demands and psychological stress (Jonsdottir *et al.*, 2020). The implications of this finding are far-reaching. When strains are present in the job resources that are supposed to be a buffer between job demands and overall workplace well-being, then the presence of job resources facilitating goal achievement and reducing those job demands comes at a high psychological and physiological cost (Bakker & Demerouti, 2007; Bakker, 2011).

Job resources can present themselves in the psychological, physical, social or organisational sphere. Their main purpose is to help people cope with job demands and stimulate growth, learning and development (Bakker & Demerouti, 2017). It is also clear that job resources instigate a motivational process (Bakker & Demerouti, 2017), and they also act as a buffer against the negative impact of job demands (Bakker & Demerouti, 2017; Xanthopoulou,
As shown by Hobfoll, Johnson, Ennis and Jackson (2003), job resources gain their motivating potential and are highly valuable. So we should be mindful that job demands and lack of resources are associated with disengagement and psychological ill-health of employees (Barkhuizen, Rothmann & van de Vijver, 2014). Psychological resources were also designated as affective job aspects and encompass aspects such as being heard, promoting independence, affirmation, client satisfaction, job satisfaction, meaningful work and realism. A South African study conducted by De Beer, Rothmann and Pienaar (2012) confirmed the buffeting effect of job resources to prevent burnout. Job resources and especially quality job resources, help employees cope better with job demands and contribute positively to employee well-being (Gauche et al., 2017). Women academics expressed their experiences of particular workplace strains relating to affective aspects in the workplace as transformation needs, gender-based violence, lack of trust, lack of staff consultation, staff apathy, imposter syndrome, resistance to change, academic bullying, nature of the academic profession-affecting self-confidence, absence of job satisfaction, student protests, death of a colleague, lack of appreciation and lack of sense of belonging. The positive association between job engagement and the presence of job resources is clear (Schaufeli & Bakker, 2004). It is also clear that there is a negative association between employee well-being and the absence or lack of job resources (Bakker, Hakanen, Demerouti & Xanthopoulou, 2007). Findings also indicated the social aspect of job resources as being colleague support, sound management, job-related interactions, and professional and support staff support. Various strains associated with the social functioning of job resources include, for example, social interaction at work, social cohesion, physical resources, development opportunities, job advancement, appreciation, financial rewards, goal and task clarity, performance management, leadership, management style, and networking (Gauche et al., 2017). In terms of strength-based practices, environments have a variety of strengths and resources that should be drawn on purposefully (Pulla, 2017). Lam (2019) identified social support as a primary component of healthy psychology, and strain in the social aspects of interpersonal connections with colleagues, management support and job-related interaction are predictive of destructive outcomes on well-being at work (Lam, 2019).

Women academics view the organisation as an important job resource that can contribute to their well-being as it makes growth opportunities available. Existing research supports the notion that job strains have a negative impact on women academics’ well-being within the workplace (Pecino et al., 2019). In contrast, positive organisational climates could lower negative stress and burnout and improve employee well-being (Pecino et al., 2019).

Physical resources are also pertinent in dealing with job demands and have a clear link to promoting the well-being of women academics. These resources are associated with vital healthy functioning. The provision and mindful implementation of these resources and addressing their associated strains is imperative to facilitate the well-being of women in the workplace because physical workspaces predict employee engagement specifically with regard to cognitive, emotional and physical well-being (Gabriel & Asawo, 2017).

The facilitating role of job resources to achieve goals and reduce job demands cannot be overstated (Bakker, 2011; Bakker & Demerouti, 2007).
organisational domains of job resources are integral to the well-being of women academics. While we cannot overlook the important function of job resources to reduce the impact of job demands, the determining role of job resources is to instigate a motivational process (Bakker & Demerouti, 2017) while safeguarding against the negative impact of job demands (Bakker & Demerouti, 2017; Xanthopoulou et al., 2009). Job resources are most helpful when they are needed, as shown by Hobfoll et al. (2003), because this is when they gain their motivating potential. Job demands and lack of resources are associated with employee disengagement and psychological ill-health (Barkhuizen et al., 2014). A constant attentiveness in the workplace is vital to draw on the necessary job resources to sustain and enhance the well-being of women academics toward achieving desirable workplace outcomes.

PRACTICAL IMPLICATIONS

The study findings revealed that psychological, social, organisational, and physical resources are the main types of job resources valued by women academics for workplace well-being. This study also highlights the dire need for research about the strains which women academics experience within the South African higher education fraternity. There is a need to understand how the person-in-environment relates to workplace well-being from a social work perspective. This study also identified organisational strengths and job-specific related strengths which higher education institutions can build on. Leaders within the South African higher education sector should be made aware of both the internal and external resources needed to enhance and sustain the well-being of women academics in the workplace and the necessity to mainstream well-being practices throughout their organisations. However, most South African higher education institutions will need to reckon with the challenges of operationalising such interventions on a micro and macro level in order to enhance employee well-being.

CONCLUSION AND RECOMMENDATIONS

This study aimed to explore how job resources contribute to women academics’ perceptions of workplace well-being. The findings revealed that job resources can serve a dual purpose for the well-being and work engagement of women academics. While job resources can be perceived as helpful for personal gain, they do not exclude organisational benefits. Thus, we can empower both individuals and organisations by better understanding how the psychological, social, organisational, and physical aspects that constitute job resources impact on the well-being of women academics in the workplace. Evidently, the constructive management of known and identified strains is important for women academics to thrive within higher education. Since the workplace as an ecosystem offers a valuable contribution to employee wellbeing, social work should continuously seek a deeper understanding of these forces at work. Social work interventions should be engaged in structures which address both life challenges and an encouragement of workplace well-being (Ornellas, Spolander, and Engelbrecht, 2018).

The study reveals many strengths that manifest in the workplace, and therefore, the following recommendations can be made for future studies, practice, and policy:

**Future studies:** Future research is needed about the interplay of women academics’ ‘external’ and job resources (such as their social resources) and their impact on workplace well-being. It
is recommended that future studies should also include the workplace well-being experience of men to explore the variables of well-being from a job resource perspective – with specific reference to the South African context. Ultimately, we recommend that the findings of the current research be used as an impetus for similar research at other African higher education institutions toward achieving higher levels of workplace well-being.

**Practice:** Social workers who work within workplace well-being settings should assess the strengths and resources of their staff and their environments. Sustainable efforts to actively promote and enhance these strengths and resources are central to workplace well-being. Higher education institutions should mainstream well-being within all the operational aspects of the business, not only on wellness days, workshops etc., but also in their recruitment processes, onboarding, and the entire lifecycle of an employee within an organisation. Social workers within the workplace setting should develop holistic programmes that take the ecosystem and the employee into consideration. Opportunities for women academics to use their strengths should be allowed, created, and promoted. The psychological job resources that were identified must be implemented and enhanced to sustain and create a flourishing workplace environment. It is also evident that the strains on well-being identified should be constructively managed within the organisation to create a working environment that promotes thriving and flourishing in culture-sensitive ways.

**Policy:** Gender-friendly policies should be implemented within the workplace. Work-life-balance-friendly policies and strategies should be developed and implemented within the higher education sector, which will promote the equal status of women within the sector and promote their well-being. Many participants indicated that they need to source their own job resources, from paying their own salaries to buying their own computers. With a drive for higher education to be more accessible and equitable for all genders, financial models should be adapted to provide women with access to higher education, employment, and the promotion of well-being. This recommendation is made as many women indicated that their positions are externally funded.

**REFERENCES**


