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Positive interaction between work and home, and psychological availability on women's work engagement: A 'shortitudinal' study

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Orientation: Women's work engagement is affected by how well they balance their work and personal life, and their level of confidence in their capability at work.

Research purpose: Determine whether women's daily psychological availability mediates daily positive work-home interaction and daily positive home-work interaction on daily work engagement.

Motivation for the study: Research into negative work–home and home–work interaction is in abundance. Limited studies focus on the positive effects on women's experiences at work (i.e. work engagement). Little is known about women's psychological availability and how it affects their work. Furthermore, little research provides us insights into the day-level experiences of women at work.

Research approach/design and method: A quantitative, shortitudinal design was used. Data analyses accounted for multilevel structure in the data (within-person vs. between-person differences). Female employees (n = 60) from various industries in Gauteng, completed electronic diaries in the form of a survey for 10 consecutive working days.

Main findings: Daily psychological availability mediates between daily positive work-home interaction and daily work engagement. Daily positive home-work interaction did not predict daily work engagement, but had a significant effect on daily psychological availability.

Practical/managerial implications: Examining systems and structures that promote opportunities for women to become more psychologically available at work impacts their sustainable retention.

Contribution/value-add: This study found significant relationships between day-level uses of personal resources and spillover effects of home-work and work-home on day-level work engagement. The study further contributes to the literature on positive work–home and home–work interaction.

Introduction

Only half of South Africa's employees are engaged at work (Gallup, 2013; Steelcase Inc., 2016). Positive behavioural outcomes, such as work commitment, job performance and productivity, have been associated with engaged individuals (Saks, 2006), and the consequences of disengagement have been shown to adversely impact companies (Bates, 2004). Women often personally experience workplace barriers, such as lack of fit (Freedman, 2010), low wages (Freedman, 2010) and internal states, (i.e. family) affecting career progression (Swanson, Daniels, & Tokar, 1996). Women's careers are influenced by their responsibilities at home, which are of equal importance to them (Harpaz & Fu, 2002). Furthermore, when women start a family, they do more unpaid work than men (Organisation for Economic Co-operation and Development [OECD], 2015), which further distracts them from work. Women disengage or opt out entirely from work when they perceive their homecare roles (as wife and/or mother) as incompatible with their work role (OECD, 2015). In addition, the retention strategies of women have become questionable (Jacobs & Schain, 2009).

To address the problem women are experiencing with managing multiple roles, the Southern African development communities' protocol (2008) highlighted the need for organisations to consider women's multiple roles in order to provide them with fair opportunities to contribute to the world of work. This is particularly important for South African women, as the country has one of the highest levels of households headed by a single woman in Africa, where the woman alone

takes responsibility of her family's needs (Statistics South Africa, 2008). Next follows a description about the background and aim of this study, to deliberate on potential predictors that could assist in retaining and developing women in the workplace.

Background and aim of the study

Being mindful of women's choice between their homecare roles and their role in the workplace, it is important to understand what influences the engagement levels of women, as it is a contemporary issue for many organisations (Lockwood, 2007; Pitt-Catsouphes & Matz-Costa, 2009).

Women with multiple roles show less stress when compared to women with singular roles (Jacobs & Schain, 2009). However, when these roles are in conflict, the women's ability to cope with fulfilling multiple roles is affected (Jacobs & Schain, 2009). To fulfil their many responsibilities at home and at work, women often have to deal with daily difficulties related to role incompatibility (cf. Janssen, Peeters, De Jonge, Houkes, & Tummers, 2004). When organisations fail to respond to work–family needs, consequences such as absenteeism, accidents, reduced level of attachment to the organisation and loss of productivity have been noted (Allen, 2001; Grover & Crooker, 1995; Lewis & Cooper, 1995). Promoting daily positive work–home interaction and daily positive home–work interaction initiatives have assisted employees in managing their many roles and responsibilities (Beauregard, 2011; Kossek, Baltes & Matthews, 2011), which highlights the importance of examining the positive effects that work and home could have on each other. More specifically, to observe the effect of positive work-home and home-work spillover on individual and workplace outcomes, such as better stress tolerance when dealing with workplace pressures (Gattiker & Larwood, 1990), creating energy (Marks, 1977; Geurts & Demerouti, 2003), improved health and well-being (Montgomery, Panagopoulou, Peeters, & Schaufeli, 2005) and reduced turnover (O'Neil et al., 2009).

Limited research has been conducted on daily positive work–home interaction and daily positive home–work interaction in the South African context (see De Klerk, Koekemoer, & Nel, 2012), specifically on a daily level. Employees are starting to question whether work-home initiatives actually serve them (Clay, 2011; Shellenbarger, 2008), as certain norms prevail in workplace practices that hinder women from fulfilling multiple roles. Lewis (1999), for example, relates the culture of long hours as diminishing the sense of being able to structure one's work responsibilities such that it would promote a balance with home responsibilities. As women are still predominantly responsible for the care responsibilities at home (Statistics South Africa, 2008), the culture of working long hours would make them more susceptible to work–home conflict (Campbell Clark, 2001) and job exhaustion (Erickson, Nichols, & Ritter, 2000). Additionally, Carlson, Kacmar, Wayne and Grzywacz (2006) point out that the resources people acquire in, for example, the home environment may have a positive effect in other roles, such as the work role, while Amatea, Cross, Clark and Bobby (1986) posit that the value people attach to work and life roles assist them in dealing with the stressors of these roles. Therefore, organisations might benefit from understanding the daily positive effects, rather than managing the consequences of work-home conflict. A positive interaction between home and work has been found to have positive outcomes for work (e.g. engagement) (Mostert, 2006), which may improve women's level of confidence to participate in the workplace.

Another factor is psychological availability, 'the belief of having the physical, emotional, or psychological resources to personally engage at a particular moment' (Kahn, 1990, p. 714). Psychological availability is hindered by the belief that women need to work harder than their male colleagues and continually surpass performance expectations to be regarded as successful in their job (Ragins, Townsend, & Mattis, 1998). Male norms are viewed as the standard for workplace behaviour, as they are built into the structure of organisations (Acker, 1990). One such norm is the expectation that an employee should be completely available at all times (Burke, 1999), which conflicts directly with the multiple roles that women need to fulfil.

A study by Kay and Shipman (2014) found that women, more than men, lack the belief that they are capable of taking on the roles and responsibilities of their job. Positive outcomes of psychological availability include employees who tend to engage with their environment (Kahn, 1990; May, Gilson, & Harter, 2004) and invest more effort in their work (Lockwood, 2007). Employees who are engaged in their work have important effects on organisational outcomes (Robertson & Cooper, 2009).

The absence of the belief in one's capability to perform the required job tasks (psychological availability), causes estrangement and alienation from work (Nelson & Sutton, 1990). As such, investigating the contribution that psychological availability could make to women's work engagement may clarify the underlying dynamics of women's career choices.

The aim of this study was to investigate the interrelationships between women's daily psychological availability, daily positive work-home interaction, daily positive home-work interaction and work engagement. Specifically, the study was directed at determining the indirect effects of women's daily psychological availability on the relationship of daily positive work-home interaction and daily positive home-work interaction, respectively with daily work engagement. A discussion on the constructs related to this study follows.

Psychological availability

Research into employee behaviour was concentrated on need or content theories (i.e. focusing on the individual) in the 1960s and 1970s (Chalofsky & Krishna, 2009). This then shifted to reinforcement and person–environment interaction theories of the 1970s through to the 1990s, where the attention turned more towards performance, organisational systems

and productivity (Chalofsky & Krishna, 2009). The recent literature has seen the emphasis shift back to the individual, more specifically, the intrinsic factors such as engagement (Lockwood, 2007). Personal engagement is on the forefront for career women and society, as they may perceive their roles as wife and mother with their roles of being employed as incompatible (Shipley & Coats, 1992; Vosloo, 2000). This incompatibility leads to women disengaging from one or both life roles (OECD, 2015).

Psychological availability as a concept has received minimal empirical backing from a scientific perspective (Jacobs, 2013). Documented benefits include an employee who tends to engage with their environment (Kahn, 1990; May et al., 2004) and invests more effort into their work (Lockwood, 2007). Both psychological availability and work engagement infer that engagement is experienced by the person. The distinction to be made is that psychological availability implies engagement that is derived from the self, while work engagement is derived from one's job (Kahn, 1990; Lewis, 2011). Psychological availability is viewed as 'the physical, cognitive, or emotional expression of self during role performance', whereby 'the core of engagement is the individual as a person rather than as a worker or employee' (Kahn & Heaphy, 2014, p. 83). The focus is on the individual's own perception regarding whether he or she is ready and willing to engage in work (Li & Tan, 2013).

Work engagement

Two viewpoints characterise work engagement: the first viewpoint is where work engagement is seen as being opposite to burnout (Maslach & Leiter, 1997). Hence, it suggests that a person low on burnout would be work engaged and vice versa, whereby individuals low on work engagement would be considered to have burnout. The second viewpoint identifies work engagement as a construct in its own right, where it is adversely related to burnout (Schaufeli & Bakker, 2004). Hence, work engagement is studied in relation to other factors, which may also include burnout.

Followers of the second viewpoint focus separately on the characteristics that define work engagement. Schaufeli and Bakker (2003), hence, provided the following definition:

> Engagement is a positive, fulfilling, work related state of mind that is characterized by vigour, dedication, and absorption ... Vigour is characterised by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. Dedication refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. Absorption, is characterized by being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work. (p. 5)

Macey and Schneider (2008) added a different perspective to work engagement, by classifying it as trait, state and behavioural engagement. Bakker, Demerouti and Xanthopoulou (2012) added that trait-like work engagement differentiates between why one person feels engaged and the other person does not. Sonnentag (2003) challenged the viewpoint by introducing state-like work engagement. State-like engagement is experiencing affective energy, being organised and feeling immersed. State engagement is an enduring condition of absorption, attachment and enthusiasm with one's work (Macey & Schneider, 2008). Bakker et al. (2012) elaborated by referring to state-like work engagement as the difference in experiences of work engagement from one day (moment) to the next day (moment). The third conceptualisation, behavioural engagement, refers to the observable action that workers exert at work (Macey & Schneider, 2008).

Day-level studies are used to demonstrate fluctuations in constructs such as work engagement between individuals, which supports the state-like view (Bakker et al., 2012). The benefit of this longitudinal method is that it examines the predictors of change at both the between- and within-person level (Bolger & Laurenceau, 2013). Whereas the cross-sectional method only observes between-persons (Rindfleisch, Malter, Ganesan, & Moorman, 2007). This study utilised the state-like work engagement, as individual patterns of change are expected for each woman across multiple time points. Behavioural engagement was not utilised within this study, as the focus was on the participant's experience of work engagement and not on the researcher observing the women's behaviour at work.

Daily positive work–home interaction and daily positive home–work interaction

Unlike a few decades ago, when the work and family life were seen as separate spheres, in recent times, work and family life are viewed as directly influencing each other in both directions (Frone, Russell, & Cooper, 1992), where mothers need to balance work and family responsibilities in their daily lives (Van der Lippe, Jager, & Kops, 2006). Work-home interaction refers to the responsibilities at home (or at work) that hinder the individual from fulfilling the required responsibilities at work (or home) (Gutek, Searle & Klepa, 1991). Guest (2002) is of the opinion that work demands have grown excessively as globalisation and increasing competitive pressures on businesses lead to more exhaustion and work–home conflict. The increasing need of earning two incomes, combined with the growing need to remain employable, makes it difficult to balance multiple responsibilities from both domains (Forrier, Sels & Steyn, 2009; Musson & Tietze, 2009).

Understanding the interaction between work and home is important when researching employee well-being. The predominant focus has been on the adverse consequences of work–home and home–work interactions, while little research has focused on the constructive aspect (Frone, 2003). Similarly, De Klerk et al. (2012) advocate the need for more South African studies to be conducted on the positive interaction between the work and home environments. Positive behavioural outcomes have been observed by Barnett and Hyde (2001) who advocate participation in multiple roles. Gattiker and

Larwood (1990), for example, associated daily positive home-work interaction with better stress tolerance when handling workplace pressures. Daily positive home-work interaction studies also found that women with children experience more positive interactions between the home and work environments (Demerouti, Geurts, & Kompier, 2004). Furthermore, both men and women report the positive experiences of home-work more so than the negative ones (Grzywacz & Marks, 2000). In relating to daily positive work–home interaction, Demerouti et al. (2004) similarly found stronger associations for daily positive work–home interaction, as less negative work–home interaction was experienced.

Hypotheses following the literature review

H_1: Daily positive work-home interaction and daily positive home-work interaction positively relates to daily psychological availability.

Psychological availability is influenced by four types of distractions (Kahn, 1990): 'depletion of physical energy, depletion of emotional energy, individual insecurity, and outside lives' (p.705). For women, in particular, distractions in their outside lives would refer to caring for children, elder care and household responsibilities (OECD, 2015). Being occupied by situations in their non-work lives influences the amount of energy a woman can invest herself in role performance at work. Workplace demands can, for example, include having to adapt to workplace changes, innovate useful products and service solutions (Baer & Frese, 2003; Martins & Terblanche, 2003; Pink, 2009) to stay competitive. To accommodate these demands means that women need to process and adjust their behaviour to the organisation's continually changing environment. This infers that physical, emotional and cognitive resources need to be in place so that the woman is able to meet her employer and family's needs (Danner-Vlaardingerbroek, Kluwer, Steenberg & Van der Lippe, 2013).

Involvement in multiple roles received support from Van Steenbergen, Kluwer and Karney (2011), as their study proved that the home environment benefits from the partner being an active participant in the workplace. When employees feel that they can engage at work, their physical health and psychological well-being are positively influenced (Crabtree, 2005), and a positive spillover effect in their home environment is experienced (Grzywacz & Marks, 2000).

Greenhaus and Powell (2006) mention that when the employee experiences a transfer of resources between the work and home, the outcome is that both domains are enriched as a result. Participation in meaningful roles catalyses the transfer of resources from work to home environment and from home to work environment (Barnett & Hyde, 2001), which results in positive behavioural outcomes. A South African study on working women (Van Aarde & Mostert, 2008) provided support for the positive effects of home–work interaction. Their study found that with:

> ... high levels of support at home (despite also experiencing high levels of pressure at home), women learn more skills that create feelings of accomplishment (which positively influences her mood) which in turn spill over into her work environment. (p. 8)

H_2: Daily psychological availability positively relates to daily work engagement.

Schaufeli and Salanova (2007), when deliberating on the implication of work engagement for organisations, demonstrated that work engagement was a strong indicator of psychological availability. Studies conducted in South Africa also found psychological availability to predict work engagement (Olivier & Rothmann, 2007; Rothmann & Rothmann, 2010; Chikoko, Buitendach & Kanengoni, 2014; Rothmann & Buys, 2011), where the relationship was found to be stronger for women than for men (Łaba & Geldenhuys, 2016). All these studies are, however, cross-sectional in nature, and after conducting extensive literature searches utilising various search engines – such as EBSCO: PsycARTICLES; GALE CENGAGE Learning: Psychology – no longitudinal studies relating to the relationship between psychological availability and work engagement were found.

Despite the significant findings, longitudinal (as opposed to cross-sectional) studies are able to identify the differences that occur for each construct (psychological availability and work engagement) within each subject (Bolger & Laurenceau, 2013). Employees, however, may experience psychological availability with varying degrees of engagement (Saks, 2006). Some employees may withdraw from work when they feel that they do not have the personal capacity to engage when they experience, for example, work overload (Ganster & Schaubroeck, 1991), while other employees are able to employ their personal resources to effectively deal with workplace demands (e.g. resilience). In addition, psychological availability was attributed to confidence as related to aptitudes and seniority, as well as to the ability of concentrating on getting the job done, as opposed to giving attention to the angst that is experienced (Kahn, 1990).

The social exchange theory (SET) offers an alternative perspective in understanding the role of psychological availability. The theory suggests an interdependent relationship between any two parties, where commitments are made and reciprocated in various encounters with colleagues, supervisors and clients (Saks, 2006). Workers feel obliged to engage as a way of repayment for the resources they are given by the organisation. Employees would then be likely to disengage from their roles if the organisation fails to provide these resources.

Based on H_1 and H_2, the psychological availability construct is assumed to mediate the relationship between daily positive work-home interaction, daily positive home-work interaction and daily work engagement. Hypothesis 3 was thus suggested.

H_3: Daily psychological availability mediates the relationship of daily positive work-home interaction and daily positive home-work interaction with daily work engagement.

Method

Research design, setting and respondents

The study followed a quantitative, 'shortitudinal' design (Dormann & Griffin, 2015). A multilevel research approach was followed, where data pertaining to a daily diary survey were collected. A non-probability sample of $N = 100$ women was invited to participate in the study. Multilevel research is characterised by data that have a hierarchical or clustered structure, which can also define time or panel data with responses participant captured over time (i.e. daily, weekly, monthly) (see Steele, 2008).

The survey was completed in full by 60 women in professional and business work environments. The final sample, thus, consisted of 600 observations (60 × 10 days) of women. Many researchers have advocated the use of diary-based methods (Bolger & Zuckerman, 1995; Reis & Gable, 2000; Stone & Shiffman, 2002; Wheeler & Reis, 1991), as responses to changes in life events or behaviours over time can be examined to compare both within- and between-person differences. On level 1, within-person differences can be described as time-level (e.g. day-level) phenomena, whereas level 2, between-person differences are described as individual level (e.g. gender) differences (Nezlek, 2000; Hoffman & Stawski, 2009).

The criteria for participation included a minimum of one year's work experience, a sufficient command of English and working full-time. The demographics of the group, as depicted in Table 1, indicated that the average woman was married, English-speaking, white, held a postgraduate level of education and had one child.

The sample consisted of 60% married women and 15% single or divorced women, and 10% were in a relationship. Furthermore, 13.30% were black African people, 78.30% were white people, 5% were Indian people and 3.3% were mixed race people. Almost half the group was English-speaking (48.3%), followed by Afrikaans (38.3%) and other African languages (13.3%). Most of the sample held a tertiary education—20% had a bachelor's and/or B.Tech and/or diploma degree and 71.7% had a postgraduate degree; 6.7% of the sample had a Grade-12 qualification. Regarding seniority, 46.7% held positions of medium seniority within organisations, 40% held positions of none to low levels of seniority and 13.3% had high seniority. Of the 60 women, 29 (48.3%) indicated that they had no children, 18 (30%) had one child, 7 (11.7%) had two children and 6 (10%) had three or more children.

TABLE 1: Demographic composition for female sample ($n = 60$).

Item	Category	Frequency	%
Ethnicity	Black people	8	13.30
	White people	47	78.30
	Indian people	3	5.00
	Mixed race people	2	3.30
Marital status	Single	9	15.00
	Married and/or living with partner	36	60.00
	In a relationship	6	10.00
	Divorced	9	15.00
Qualification	Matric	4	6.700
	Bachelors and/or B. Tech and/or diploma	12	20.00
	Honours degree and/or postgraduate	16	26.70
	Master's degree	24	40.00
	Doctorate degree	3	5.000
	Other	59	98.30
	Missing	1	1.700
Position in organisation	None – low seniority	24	40.00
	Medium seniority	28	46.70
	High seniority	8	13.30
Home language	Afrikaans	23	38.30
	IsiXhosa	1	1.700
	English	29	48.30
	IsiZulu	2	3.300
	Setswana	1	1.700
	Other	4	6.70
Number of children	No children	29	48.30
	One child	18	30.00
	Two children	7	11.70
	Three children	6	10.00
	Four children	0	0.00
	Five children	0	0.00
	Six children	0	0.00

Measuring instruments

A biographical questionnaire was included in the survey to collect information regarding the race, age, marital status, etc., of the women.

Daily positive work-home interaction was measured using the 21-item Survey Work-Home Interaction—Nijmegen (SWING) (Geurts et al., 2005), with items rated on a 5-point frequency scale ranging from 1 (never) to 5 (always). The items related to daily positive work-home interaction and daily positive home-work interaction were used, for example, 'You have greater self-confidence at work because you have your home life well organised' (Geurts et al., 2005). The SWING is specifically useful as it measures the direction as well as the intensity of work-home relationships. A previous South African study indicated a reliability score of 0.79 for daily positive work-home interaction and 0.76 for daily positive home-work interaction (Marais, Mostert, Geurts & Taris, 2009). The present study found a reliability score of 0.84 for daily positive work-home interaction and 0.62 for daily positive home-work interaction. For the constructs combined, $\alpha = 0.80$ was found.

Daily psychological availability was measured with the Psychological Conditions Scale (PCS), with items rated on a five-point Likert scale ranging from 1 (never) to 5 (always). An example of an item is: 'I am confident in my ability to handle competing demands at work' (May et al., 2004). In a South African study, Rothmann and Rothmann (2010) obtained a satisfactory Cronbach's α coefficient of 0.84 for psychological availability. The Cronbach's coefficient obtained in the present study was $\alpha = 0.90$.

Work engagement was measured with the Utrecht Work Engagement Scale (UWES), with items rated on a 5-point

Likert scale ranging from 1 (never) to 5 (always). An example of an item is: 'At my work, I feel that I am bursting with energy' (Schaufeli & Bakker, 2003). Recent South African studies have excluded the absorption construct from the scale, as they found it to be more of a consequence of work engagement (De Beer, Rothmann, & Mostert, 2016; Demerouti, Mostert & Bakker, 2010). The absorption factor loaded satisfactorily, and was, hence, included in the total score of daily work engagement in the present study. De Beer et al. (2016) found a reliability score of $\alpha = 0.92$ for the total score of work engagement. The present study reported a reliability score of $\alpha = 0.91$.

Research procedure

An online daily diary was provided to the participating women. A letter accompanied the survey, whereby each respondent was informed of the purpose of the study. Consent was obtained prior to commencement of the diary. All ethical principles were adhered to throughout the process of the study, that is, those of confidentiality and voluntary participation.

Data analysis

The data were analysed using R 3.2.0 (R Development Core Team, 2015), as it is able to accommodate multilevel modelling (Culpepper & Aguinis, 2011). Linear mixed-effects regression (LMER) method was applied to observe the individual patterns of change of work engagement across multiple time points. Maximum likelihood (ML) estimated the variance in parameters (Kreft & De Leeuw, 1998). The intra-class correlation coefficient (ICC) was obtained for each time-varying construct, as this is an important prerequisite for conducting multilevel analyses (Field, Miles & Field, 2012). Group mean centring was used, as differences between individuals were observed (Holmes Finch, Bolin & Kelley, 2014).

As suggested by Kenny, Korchmaros and Bolger (2003), a series of steps was conducted to calculate each path specified by the multilevel mediation model. Because of the multilevel nature of the data, we tested two models for each step of the multilevel mediation analysis: (1) an intercept model and (2) intercept and slope model. Thus, for each path set in every mediation step, an intercept-only model was tested (Null Model), followed by an intercept and slope model (Model 1) with daily positive work-home interaction and daily positive home-work interaction as the independent variables, daily psychological availability as the mediator and daily work engagement as the dependent variable were tested. For the pre-analysis (step 1), we determined whether the independent (daily positive work–home interaction and daily positive home–work interaction) variables predicted the dependent (work engagement) variable first by determining an intercept-only model (Null Model) and an intercept and slope model using work engagement.

To test H_1, an intercept-only model (Null Model) and an intercept and slope model with daily positive work-home interaction and daily positive home-work interaction predicting daily psychological availability (Model 1) were tested (see Table 3). Then H_2 was tested following the same principle to test the daily psychological availability as a predictor of daily work engagement (see Table 4). To test H_3, the same approach was followed to test the mediation model, with the Null Model being the intercept model and Model 1 specified as the intercept and slope model, with daily positive work-home and home-work interactions as the independent variables, daily psychological availability as the mediator and daily work engagement as the dependent variable (Kenny et al., 2003).

Fit indices used to determine model fit were the Akaike information criterion (AIC), Schwartz's Bayesian information criterion (BIC), the chi-square likelihood ratio test (-2LL) and *p*-value. The AIC, BIC and -2LL (-2 X LogLik) were compared with their equivalent values in the other models. As such, the values denoted by the AIC, BIC and -2LL are not meaningful in and of themselves, unless there is another model with which to compare the values (Field et al., 2012). Lower-fit indices indicate a better fit, therefore, in all cases, smaller values mean better-fitting models (Field et al., 2012). The chi-square value (χ^2) ranges from zero to infinity, with larger values indicating superior fit (Long, 2012).

The *p*-value statistic ($p < 0.05$), standard deviation, *t*-score and variance statistic were determined to test the significance of the effects of the regression models. The variance reported specifies the estimated variances of the random effects (random intercept and random slope) and random error (Holmes Finch et al., 2014). A large variance indicates that numbers in the set are far from the mean and each other, while a small variance indicates the opposite (where χ is close to the expected mean). The *t*-score estimate is quantified by the ratio of the estimated parameter (*b*) to its estimated standard error (SE) (Long, 2012). The *t*-ratio makes judgements about the predictive ability of different static predictors in the same model (Long, 2012). Values higher than 1.9 are preferable (Long, 2012).

Results

Descriptive statistics

The ICC reported for each time-varying construct was as follows: work engagement = 29%, daily positive work-home interaction = 24%, daily positive home-work interaction = 55% and psychological availability = 26%. Table 2 shows further descriptive statistics and correlation coefficients.

Table 2 shows that daily work engagement was related to daily psychological availability, daily positive work-home interaction and daily positive home-work interaction. Daily psychological availability was related to daily positive work-home interaction and daily positive home-work interaction. Lastly, daily positive work-home interaction was related to daily positive home-work interaction.

TABLE 2: Descriptive statistics for each day-level demographic, predictor and outcome construct.

Variables	Mean	SD	Person	Time (day)	Work engagement	Psychological availability	Positive work–home
Person	30.50	17.33	-	-	-	-	-
Time (day)	4.50	2.87	-0.02	-	-	-	-
Work engagement	3.42	0.78	-0.00	0.06	-	-	-
Psychological availability	3.65	0.82	0.00	0.08	0.67*	-	-
Positive WHI	3.25	0.80	-0.00	-0.01	0.21*	0.17*	-
Positive HWI	3.30	0.83	0.00	0.02	0.18*	0.17*	0.55*

Positive WHI, positive work–home interaction; Positive HWI, positive home–work interaction; SD, Standard deviation.
*, All correlations are significant at $p < 0.01$ (two-tailed).

Predicting work engagement from daily positive work–home interaction, daily positive home–work interaction and psychological availability

To test the mediation model, we conducted a pre-analysis step 1 to determine the relationship of daily work-home interaction and daily home-work interaction, respectively, with daily work engagement. The result from the intercept and slope model indicated that daily positive work-home interaction ($\gamma = 0.114$; $p < 0.001$; $t > 2.0$) significantly predicted daily work engagement, indicating that a 0.114 unit increase occurred over time in daily work engagement. However, daily positive home-work interaction did not predict daily work engagement. Tables 3, 4 and 5 present the relationships for the mediation model tested.

Table 3 shows the effects of daily positive work-home interaction and daily positive home-work interaction on daily psychological availability. The model fit indices demonstrated that Model 1 was significant. The results indicated that daily positive work-home interaction ($\gamma = 0.132$; $p < 0.001$; $t > 2.0$) and daily positive home-work interaction ($\gamma = 0.155$; $p < 0.001$; $t > 2.0$) significantly predicted daily psychological availability. Daily positive work-home interaction caused a 0.133 unit increase over time in psychological availability and daily positive home-work interaction caused a 0.155 unit increase in psychological availability over time. The significant change in the χ^2 coefficient ($\Delta\chi^2 = 34.3$; $p < 0.001$) indicated an improvement in Model 1 over the intercept-only model. Furthermore, AIC and BIC statistics were lower for Model 1, thus confirming that Model 1 fits the data best. Thus, H_1 is confirmed.

Table 4 shows the effects of daily psychological availability on daily work engagement. The model fit indices demonstrated that Model 1 was significant. The results showed that positive work-home interaction ($\gamma = 0.63$; $p < 0.001$; $t > 2.0$) significantly predicted daily work engagement, indicating that a 0.114-unit increase occurred over time in daily work engagement. The significant change in the χ^2 coefficient ($\Delta\chi^2 = 16.5$; $p < 0.001$) indicated an improvement in Model 1 over the intercept-only model. Additionally, AIC and BIC values for Model 1 were lower. Thus, H_2 is confirmed.

Table 5 shows the mediating effect of daily psychological availability on the relationship of daily positive work-home interaction and daily positive home-work interaction with daily work engagement. The model fit indices demonstrated that Model 1 was significant. The results showed that daily positive work-home interaction ($\gamma = 0.085$; $p < 0.001$; $t > 2.0$) significantly predicted daily work engagement, indicating that a 0.085-unit increase occurred over time in daily work engagement. Additionally, daily psychological availability ($\gamma = 0.609$; $p < 0.001$; $t > 2.0$) significantly predicted daily work engagement. No significant effect was found for daily positive home-work interaction on daily work engagement. The significant finding for daily positive work-home interaction implied a partial mediating effect of the variable on daily work engagement through daily psychological availability. The significant change in the χ^2 coefficient ($\Delta\chi^2 = 20.3$; $p < 0.001$) indicated an improvement in Model 1 over the intercept-only model. In addition, AIC and BIC values for Model 1 were lower.

TABLE 3: Daily regression predicting pychological avialability from positive work–home and postitive home–work interactions.

Variable	Null model: Intercept only		Model 1: Intercept and slope	
	Est	SE	Est	SE
Constant	-0.002	0.027	0.001	0.026
Positive WHI	-	-	0.132*	0.06
Positive HWI	-	-	0.155*	0.08
AIC	-	1057.1	-	1032.8
BIC	-	1078.5	-	1075.6
LogLik	-	-523.5	-	-506.4
χ^2 (deviance)	-	1047.1	-	1012.8
$\Delta\chi^2$	-	-	-	34.3**
df	-	-	-	2.0
Variance	0.417	0.646	0.350	0.590

Est, Estimate; SE, Standard error; Positive WHI, Positive work–home interaction; Positive HWI, Positive home–work interaction; AIC, Akaike information criterion; BIC, Bayesian information criterion; Loglik, Log-likelihood ratio test; *df*, degrees of freedom.
*, $t < 2.0$/z score < 1.9; **, $p > 0.001$.

TABLE 4: Daily regression predicting work engagement from psychological avialability.

Variable	Null model: Intercept only		Model 1: Intercept and slope	
	Est	SE	Est	SE
Constant	0.003	0.019	0.003	0.018
Psychological availability	-	-	0.633*	0.042
AIC	-	733.9	-	721.4
BIC	-	751.2	-	747.4
LogLik	-	-362.9	-	-354.7
χ^2 (deviance)	-	725.9	-	709.4
$\Delta\chi^2$	-	-	-	16.5**
df	-	-	-	2.0
Variances	0.213	0.461	0.038	0.195

Est, Estimate; SE, Standard error; AIC, Akaike information criterion; BIC, Bayesian information criterion; Loglik, Log-likelihood ratio test; *df*, degrees of freedom.
*, $t > 2.00$/z score > 1.9; **, $p < 0.001$.

TABLE 5: The indirect effects of daily postive work–home interaction and daily positive home–work interaction on daily work engagement through daily psychological avialability.

Variable	Null model: Intercept only		Model 1: Intercept and slope	
	Est	SE	Est	SE
Constant	0.00	0.019	2.82	0.263
Positive WHI	-	-	0.085*	0.045
Positive HWI	-	-	-0.003	0.051
Psychological availability	-	-	0.609*	0.039
AIC	-	682.8	-	680.5
BIC	-	708.4	-	744.7
LogLik	-	-335.4	-	-325.3
χ^2 (deviance)	-	670.8	-	650.5
$\Delta\chi^2$	-	-	-	20.3
df	-	-	-	2.00
Variance	0.206	0.454	0.179	0.423

Est, Estimate; SE, Standard error; Positive WHI, Positive work–home interaction; Positive HWI, Positive home–work interaction; AIC, Akaike information criterion; BIC, Bayesian information criterion; Loglik, Log-likelihood ratio test; *df*, degrees of freedom.
*, t > 2.00/z score > 1.9; **, p < 0.001.

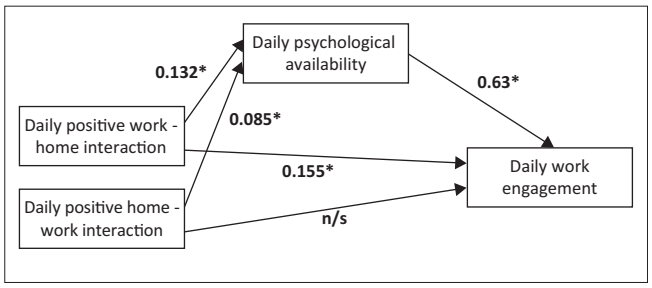

FIGURE 1: The mediating effect of daily psychological availability between daily positive work–home interaction, daily positive home–work interaction and daily work engagement (variation across days).

Figure 1 shows that daily positive work-home interaction partially mediated between daily psychological availability and daily work engagement. No effect was found for positive home-work interaction on daily work engagement when controlling for daily positive work-home interaction. Daily psychological availability had the biggest effect on daily work engagement. The study concluded that psychological availability partially mediates the relationship between positive work-home interaction and daily work engagement. Thus, H_3 is partially accepted.

Findings

The aim of this study was to determine whether daily psychological availability mediates the relationships of daily positive work-home interaction and daily positive home-work interaction with daily work engagement of women. Previous research has indicated that work engagement is important for organisations and employees (Demerouti & Cropanzo, 2010; Xanthopoulou, Bakker, Demerouti & Schaufeli, 2009). Furthermore, research has proved the link between work-home interaction and work engagement (Oosthuizen & Mostert, 2010), as well as between psychological availability and work engagement (Rothmann & Buys, 2011).

The present study confirmed that daily positive work-home interaction predicts daily work engagement. Sonnentag (2003) found that day-level fluctuations contributed 42% to the total variance found in work engagement. Day-level studies (Sonnentag, 2003; Xanthopoulou et al., 2009) have observed that individuals are not engaged in their work to the same extent every day. Thus, supported by the literature, day-level fluctuations were expected for each woman from one day to the next. This finding affirms that of Danner-Vlaardingerbroek et al. (2013, p. 55) regarding experiences at work 'spilling over into the relationship at home, through the internal state of the partner'. The internal state of the partner determines whether he or she will be more or less psychologically available to the spouse (Danner-Vlaardingerbroek et al., 2013). Positive experiences at work have also been shown to enhance employees' overall well-being (cf. Barnett & Hyde, 2001).

Daily positive home-work interaction does not predict daily work engagement. This is mostly in line with previous research; Demerouti et al. (2004) indicated that there is a stronger link between positive work-home and positive work outcomes, compared to the link between daily positive home-work interaction and positive work outcomes. Demerouti, Bakker &Voydanoff (2010) explained that home resources facilitate work performance by providing means (e.g. social support from one's partner, domestic worker) or by enhancing individual abilities (e.g. developmental possibilities). Supportive home environments may provide women with the opportunity to take on a greater role at work; however, the present study found that it cannot be assumed that women will contribute to positive work outcomes–psychological availability is required. Daily positive home–work interaction for this sample did not culminate in a spillover effect to the work environment (work engagement), hence contradicting the findings of Carlson et al. (2006), who stated that accumulated resources in one role (home environment) may spillover to improve performance or positive affect in another role (work environment).

The results further indicated that daily psychological availability predicted daily work engagement, which is in line with the work of May et al. (2014) and Olivier and Rothmann (2007), who confirmed the effect of psychological availability on work engagement. These studies, however, viewed the constructs as traits, and they were not measured as state-like variables. Psychological availability is crucial for optimal work experiences, as it demonstrates the ability of people to cognitively, emotionally and physically invest energy at work in order to be personally engaged at work (Kahn, 1990; May et al., 2004).

The mediating effect of psychological availability

Both daily positive work-home interaction and daily positive home-work interaction predicted daily psychological availability of the women, whereas only positive work-home interaction predicted work engagement. A possible explanation for daily positive home-work interaction not having a significant effect on work engagement, is that women can control the spillover effect of the home environment into

the workplace, and, hence, do not need to employ personal resources (psychological availability) to remain engaged. However, the same cannot be said for controlling the spillover effect of the work environment into the home environment. Kay and Shipman (2014, p. 1) found that women are less confident than men in their role at work and would thus need to employ personal resources (psychological availability) to manage the spillover effect from the work environment into the home.

The present study found that the relationship of women's daily positive work-home interaction with daily work engagement is partially mediated by daily psychological availability. Limited research was found that attests to this. Women often have multiple roles (e.g. mother, wife and employee) to fulfil. If these roles become incompatible, it will impact the individual's contribution as an employee (Greer & Egan, 2012). Experiencing salience (the importance and value people ascribe to roles) in life roles, such as work and home acts as an important determinant in managing these multiple role commitments (cf. Amatea et al., 1986). As such, role salience is critical to understanding the outcomes of the home and work environments (Super, 1980). The idea that positive work-home spillover occurs, creates salience in the home domain, which enables women to engage at work.

In summary, it was found that only positive work-home interaction and psychological availability significantly contribute to women's work engagement levels, while both daily positive work-home interaction and daily positive home-work interaction contributes to psychological availability. O'Neil, Hopkins and Bilimoria (2015) advocated work-life integration when addressing the development of women in the workplace. Women's development can be further addressed through the role of psychological availability and how it can assist them in dealing with the demands of work and home. Neglecting this could have a detrimental effect on women's engagement at work (Reuben, 2011).

Limitations and recommendations for future research

Given that the sample consisted of 60 women from the corporate sector in Gauteng, the results cannot be generalised to other countries or industries. In addition, as the sample consisted of only women, caution should be exercised in generalising the results to men. Only respondents who had access to the Internet were able to participate in this study; hence, other methods of data collection would need to be considered for respondents who cannot respond via electronic media, such as paper-and-pencil diaries.

Maintaining participation for 10 consecutive working days was challenging. As such, constant reminders (in the form of short message systems [SMSs]) were sent to the individuals to complete their questions for the day. The privacy of the participant's responses was ensured by providing a secure link to which only the participant had access. The initiatives adopted to enhance the participation with the study were done in a manner that did not bias or disadvantage anyone. Each of the 60 participants stood an equal chance to win the cash prize. The condition for entry into the draw was that the participant would need to have completed her diary entries for all 10 days of the study. The entire process was explained to the participants prior to commencement of the online diary, and they had the right to withdraw at any stage of the process. Regarding incentives to promote participation, researchers support the idea that offering a reward of prize could optimise response rates (Laguilles, Williams & Saunders, 2011; Sarraf & Cole, 2014). Not much research provides us with a clear answer to whether incentives to participate in research has ethical implications for the results; however, Hsieh and Kocielnik (2016) point out that offering incentives to participate in research may attract a certain type of participant (e.g. a person drawn to rewards), but this is also the case for not offering an incentive (e.g. a positive minded person motivated by the task). In both cases, this may affect results. These authors further explain that the type of incentive is more likely to affect the demographic of participant (Hsieh & Kocielnik, 2016).

Future research could embark on studies observing differences for women from varying demographic backgrounds (e.g. different positions within the organisation and number of children under her direct care). Furthermore, including men from different social and demographic backgrounds who also have multiple responsibilities at home and work would provide more perspective on how their work engagement is affected.

Conclusion

Psychological availability was shown to have predictive validity in women's work engagement. This relationship was found to be more prevalent than daily positive work-home interaction and daily positive home-work interaction. In particular, the random effects for psychological availability proved to have a bigger effect than positive work-home interaction, highlighting the importance of promoting psychological availability in the workplace to help women manage the multiple roles they fulfil.

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Competing interests

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Authors contributions

K.Ł. wrote up the background and literature review section. Also, collected the data for this study. M.G. wrote up the method and statistical analysis section. Both authors contributed to the discussion, limitations and recommendation sections. Both authors read and approved the final manuscript.

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