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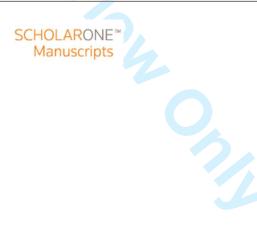
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Work–family enrichment and satisfaction: The mediating role of self-efficacy and work–life balance

Abstract

Although the direct effects of work-family enrichment on satisfaction are well-documented, previous theoretical predictions and empirical findings of the relationship have been inconsistent. Drawing on social cognitive theory, the current research examined how workfamily enrichment contributes to job and family satisfaction by exploring the mediating mechanisms of self-efficacy and work-life balance. This study also empirically validated a new self-efficacy measure using the work-life interface nomological network. A heterogeneous sample of Australian employees (N=234) from four different organisations responded to two waves of data collection separated by a 12-month interval. Using structural equation modelling, the results of the statistical analysis provided preliminary support for the hypothesised chain mediation model and the newly-developed five-item self-efficacy to regulate work and life scale. Specifically, work-to-family enrichment and family-to-work enrichment were positively related to self-efficacy, which in turn had a positive effect on work-life balance. Similarly, work-life balance had a positive impact on job and family satisfaction. Evidence of these relationships over time was demonstrated, thereby emphasising the importance of personcognitive resources (e.g., self-efficacy) in influencing life outcomes. Validation of the selfefficacy scale also demonstrated robust psychometric properties and criterion validity. Implications of these results were subsequently discussed.

Keywords: work–family enrichment; self-efficacy to regulate work and life; work–life balance; job satisfaction; family satisfaction; social cognitive theory

Introduction

Although work and family lives may interfere with one another, resources generated in either domain have also been shown to enhance the quality of life in the other (Greenhaus and Powell 2006; Siu et al. 2010). This positive aspect of the work–family interface, commonly referred to as work–family enrichment, has received increased research attention (Brough et al. 2014a; Siu et al., in press). However, much remains to be learned about the relationship between work–family enrichment and various job and family outcomes (Carlson et al. 2014). Although the direct effects of work–family enrichment on outcomes such as satisfaction (Carlson et al. 2006; McNall et al. 2010), performance (Van Steenbergen and Ellemers 2009; Carlson et al. 2011), and health and well-being (Carlson et al. 2006; Allis and O'Driscoll 2008) have been well documented, little is known about the mechanisms underlying the relationships due to a lack of empirical studies testing the presence of mediation effects.

The current research drew on the social cognitive perspective to expand existing theoretical understanding of the enrichment–satisfaction relationship. In particular, it examined the process by which enrichment affects satisfaction through a chain mediation model involving self-efficacy and perceptions of work–life balance (see Figure 1). Based on <u>Bandura's (1986)</u> social cognitive theory, it was posited that social and environmental factors influence human attitudes and behaviours to the extent that they affect self-efficacy beliefs, emotions and other self-regulatory mechanisms (Pajares 1997). Also, given that most employees devote the majority of their time, energy and attention to their work and families (Kossek et al. 2012), this study extended the common notion that job satisfaction is 'the most focal employee attitude' (Saari and Judge 2004, p. 396) and recognised that family satisfaction is just as pertinent to employee well-being as is job satisfaction. To date, only a few studies have incorporated the bi-directionality of

work-family enrichment and both job and family satisfaction in the same study (Wayne et al. 2004; Carlson et al. 2009; Carlson et al. 2010). Therefore, by testing the hypothesised theoretical model (Figure 1), this research provided a more comprehensive examination of the underlying relationships linking work-family enrichment to self-efficacy, work-life balance, and finally, satisfaction.

[Insert Figure 1]

Against the backdrop of increased research attention given to work-family constructs (Brough et al., 2014b; Eby et al. 2005), the current study sought to make three primary contributions. First, it applied social cognitive theory, specifically the self-efficacy mechanism, to the enrichment-satisfaction relationship, thereby extending research on positive psychology in the work-family interface. Second, it addressed the lack of research in the family domain of the work-family interface by considering work-to-family enrichment (WFE), family-to-work enrichment (FWE) and family satisfaction. In doing so, it also acknowledged the importance of life demands beyond the centrality of work in people's lives and challenged the assumption that employees tend to sacrifice their family and personal roles to perform at work (Kossek et al. 2011). Third, the study examined both within-domain and cross-domain spillover effects of work-family enrichment on job and family satisfaction through self-efficacy and work-life balance, potentially contributing to research on work-family spillover (Westman et al. 2009; Masuda et al. 2012).

Theoretical foundations and development of hypotheses

Based on the central concepts and propositions of role accumulation theory (Sieber 1974; Marks 1977), Greenhaus and Powell (2006) developed the theory of work–family enrichment, defined

as 'the extent to which experiences in one role improve the quality of life in the other role' (p. 72). The construct is bi-directional—WFE occurs when resources gained in the work role facilitate family role fulfilment and results in a better quality of family life, and FWE occurs when resources gained in the family role enhance job functioning and performance (Carlson et al. 2006). Additionally, it is proposed that enrichment occurs through two pathways: the instrumental pathway occurs when the resources gained in one role directly promote higher performance in the other role, and the affective pathway occurs when resources acquired from one role generate positive emotions, which indirectly facilitate functioning and performance in the other role (Carlson et al. 2006). While role accumulation theory forms the basis of the mechanism underlying work—family enrichment, it is proposed that social cognitive theory provides a richer explication of the way in which the synergistic benefits of enrichment lead to both job and family satisfaction.

Social cognitive theory

Social cognitive theory explains psychosocial functioning based on the triadic reciprocal determinism model (Bandura 1986). In this model, personal, behavioural and environmental factors operate as interacting determinants that affect each other bi-directionally, and ultimately influence a person's self-percept (Bandura 1989). Reciprocity, in the context of triadic reciprocal causation, does not necessarily indicate that reciprocal influences are of equal strength or occur simultaneously. Because it takes time for a factor to exert its influence and to activate reciprocal influences, individuals are both products and producers of their environments (Wood and Bandura 1989). This model marked a shift from traditional social learning theories by emphasising the role that cognition plays in influencing people's capability to construct reality.

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self-regulate, make sense of information and perform expected behaviours (Pajares 1997). A core component of social cognitive theory is self-efficacy, which operates as a proximal determinant of human motivation, affect and behaviour through the exercise of personal agency (Bandura 1989). The significance of self-efficacy has led a number of researchers to consider it a type of personal resource that contributes to the 'freedom' of action, and enables individuals to serve as causal contributors to their own lives (Bandura 1989).

Self-efficacy beliefs refer to 'people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances' (Bandura 1986, p. 391). They determine people's choices and aspirations, the amount of effort they invest in a given activity, the extent of their perseverance in the face of challenges and the level of stress they experience in a demanding environment (Bandura 1986). Highly self-efficacious people are assumed to be equipped with more personal resources; hence, they are better able to understand the consequences of their actions, capitalise on opportunities, avoid social traps that are detrimental and disentangle themselves from unpleasant or difficult situations (Bandura 1989). Behaviour is often more accurately predicted by personal determinants such as self-efficacy beliefs than capabilities because self-beliefs determine how people mobilise and utilise their knowledge, resources and skills to exert control over events in their lives (Bandura 1994).

At work, employees with a strong sense of self-efficacy focus their attention on how to master their job tasks to gain favourable outcomes, while employees plagued by self-doubt tend to dwell on their failures which ultimately undermine their job performance (Bandura 1988). Self-efficacy also affects the amount of work-related stress that employees experience when they cope with multiple demands. With respect to depression, anxiety and fatigue, self-efficacy does not only influence employees' coping capabilities, it also has the ability to control any

distressing thoughts that develop (Bandura 1988). A growing number of studies have since investigated and shown how self-efficacy can be altered to contribute to the dynamic triadic reciprocal interactions, which in turn improve the level of employee functioning and everyday human resource management (HRM) practices. Both Gist (1987) and Cooper-Thomas and <u>Anderson (2006)</u> suggested that personal traits (e.g., proactivity) and self-perceptions (e.g., selfefficacy) should be incorporated into organisation-wide HRM practices because low self-efficacy is indicative of inability or a lack of motivation, effort and preparation. Additionally, since an individual's sense of self-efficacy is influenced by past mastery experiences, vicarious experiences, verbal persuasion and physiological cues (Bandura 1994), and coupled with Weiss' (1977) finding that individuals developed work behaviour through observing and modelling the behaviours of their immediate supervisors and co-workers, it is thus crucial that self-efficacy becomes a key focus in HRM practices. Organisations with self-efficacy underpinning their HRM practices tend to enjoy enhanced organisational functioning through reduced stress, burnout and turnover, and increased productivity, innovation and engagement (<u>Bandura 2000</u>).

Mediating process between work-family enrichment and satisfaction

Drawing on Hennessy and Lent's (2008) recommendation to combine Erdwins et al.'s (2001) separate, within-role parental and work self-efficacy scales, the current research incorporated self-efficacy to regulate work and life as one of two mediators linking work–family enrichment to job and family satisfaction. Self-efficacy to regulate work and life is defined as the belief one has in one's own ability to achieve a balance between work and non-work responsibilities, and to persist and cope with challenges posed by work and non-work demands. Given that resource generation is central to the enrichment process (Friedman and Greenhaus 2000), this research

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posited that employees who experience WFE and FWE benefit from the positive resources, experiences and emotions generated, which enhance their self-beliefs and self-percepts to complete tasks and accomplish goals, and ultimately contribute to their ability to successfully respond to multiple role demands. Work–family enrichment is also indicative of the level of support stemming from the work and family domains, such that employees who experience more enrichment are more likely to apply their psychological resources to manage competing work and family demands (McNall et al. 2011).

The second mediator is work–life balance, defined as 'the individual perception that work and non-work activities are compatible and promote growth in accordance with an individual's current life priorities' (Kalliath and Brough 2008, p. 326). The present study distinguished worklife balance from work-family enrichment. The former refers to an overall sense of contentment, while the latter is a cross-domain construct, in which there is a transfer of or generation of resources from one domain to the other. This conceptualisation of work-life balance further emphasised perceptions as opposed to objective measures, recognising that perceptions of balance may change over time owing to varying life priorities. Fried et al. (2002) found that complexities and challenges associated with work and family roles have an inverse relationship with work-life balance satisfaction, because employees in less challenging and complex work and family environments tended to possess fewer skills (e.g., planning, organising, multi-tasking, motivating others) and psychological resources (e.g., self-esteem, self-efficacy) to meet work and family demands, and, consequently, had lower satisfaction with their work-life balance. Their study highlighted the importance of expectations, perceptions and attitudes in work-life balance, since objective measures (e.g., time, position, type of occupation) may not be thoroughly representative of the concept. Using Brough et al.'s (2014b) new work-life balance

> measure, this study also sought to contribute to the theoretical refinement of work–life balance through examining WFE and FWE as antecedents and recognising that multiple role demands may facilitate, enrich, or enhance certain work–life outcomes.

> In summary, when employees' work experiences have a positive and additive effect on their family role and vice versa, or when participation in both work and family roles buffer the distress caused by either of the roles (Greenhaus and Powell 2006), employees are more likely to experience increased satisfaction in both roles. The employee is assumed to have benefited from successfully participating in both work and family roles through the bi-directional spillover of developmental resources, positive affect, psychosocial capital and efficiency gains (Carlson et al. 2006). Consequently, he or she is more likely to believe in his or her own ability to maintain a balance between work and non-work demands, thereby acquiring a strong sense of self-efficacy, and subsequently, achieving work–life balance. Work–life balance, in turn, leads to both job and family satisfaction because an employee who has achieved work–life balance is most probably experiencing good functioning at work and at home with minimum interrole conflict (Greenhaus and Allen 2011). Self-efficacy and work–life balance thus constitute the important mechanism that mediates the enrichment–satisfaction relationship. The chain mediation model is represented by the following hypotheses:

Hypothesis 1a. The relationship between WFE and work–life balance is mediated by self-efficacy.

Hypothesis 1b. The relationship between FWE and work–life balance is mediated by self-efficacy.

Hypothesis 2a. The relationship between self-efficacy and job satisfaction is mediated by work–life balance.

Hypothesis 2b. The relationship between self-efficacy and family satisfaction is mediated by work–life balance.

Method

Participants and procedure

Self-report data were collected using an online survey, which eliminated the need for paper, printing, postage, data entry and other costs (Llieva et al. 2002), and allowed the researchers to reach out to a large number of employees within a short span of time. Four organisations within Australia—namely, one university, two public sector organisations, and one private sector firm responded to invitations to participate in this research. The survey respondents had a diverse range of occupations spanning areas such as education, health, policy, finance, accounting, and administrative support. The current research included a varied selection of industries and employees to enhance the ability of this study to be representative of the Australian workforce. The link to the online survey was subsequently sent using electronic mail to the employees in the four organisations.

Data were collected via a self-report survey at two time points—Time 1 and Time 2, 12 months apart. The surveys distributed at Time 1 and Time 2 contained the exact similar questions, and they pertained to respondents' feelings and attitudes towards their work and non-work activities, work and family environments, as well as their demographic and economic backgrounds. Survey respondents were told that participation was entirely voluntary and they could withdraw at any point in time. No incentives were given to respondents for their

participation. Having read and understood the information provided on the study, respondents who proceeded to participate in the survey were considered to have given informed consent. To reduce non-response bias at both Time 1 and Time 2, electronic mails were sent to the employees twice—two and four weeks after the first electronic mail was sent—to remind participants to complete the questionnaire if they had not done so. Self-generated identifier codes were used to match respondents who completed both Time 1 and Time 2 surveys.

Data screening

Little's (1988) missing completely at random (MCAR) test resulted in a chi-square = 599.97 (df = 603; p < .53), which indicated that the data were indeed MCAR because the *p*-value was not significant at the .05 level. A matched usable sample of 255 respondents was obtained across Time 1 and Time 2. Of the 255 cases, one case (0.4% of sample) was deleted using listwise deletion because of the presence of multiple missing values. Consistent with recommendations in the literature (Schafer and Graham 2002), missing values analysis employing expectation maximisation (EM) imputation was also conducted to estimate the missing values in the data to facilitate CFA and SEM analyses in AMOS (Arbuckle 2006). The data were subsequently screened for outliers. There were three univariate outliers, and the test for multivariate outliers using Mahalanobis distance indicated that there were 17 multivariate outliers. Based on the chi-square distribution, with 33 items in the hypothesised model, and at a critical cutpoint of .001, any cases with a Mahalanobis distance greater than 63.870 were considered multivariate outliers. 20 cases were excluded because they were found to reduce the multivariate normality and overall fit of the hypothesised model significantly. This yielded a final sample size of 234 cases.

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The final sample size consisted of 38.5% males (n = 90) and 61.5% females (n = 144). and their ages ranged from 22.0 to 63.0 years, with an average age of 40.6 years (SD = 9.8 years). A majority (70.9%, n = 166) of the respondents were married or cohabiting, 19.2% (n = 45) were single or never married, and the remaining 9.8% (n = 23) were divorced, separated or widowed. The average tenure was 8.0 years (SD = 7.7 years), and approximately 76.5% (n = 179) of the respondents had either a university or a postgraduate qualification. The respondents spent an average of 38.6 hours (SD = 9.1 hours) working per week. Additionally, the demographic characteristics of the respondents at Time 1 and Time 2 did not differ markedly. While the sample consisted of a disproportionately high number of women which did not appear to be representative of the Australian workforce (as of 2013, the Australian workforce was found to consist of 49% women and 51% men; ABS 2014), gender segregation seemed to be prevalent across a number of industries including the education and training sector as well as several Australian Government departments and agencies (ABS 2014). As it is not possible to control for recent trends in occupational gender segregation by testing the entire Australian workforce, the current research sought to minimise sampling error and increase the representativeness of the sample by using a relatively large sample size over two time points.

Measures

Work–family enrichment (Time 1)

Work-to-family enrichment (WFE) and *family-to-work enrichment (FWE)* were each measured using Carlson et al.'s (2006) 18-item work–family enrichment scale. The measure is divided into two sub-scales assessing each direction of enrichment (WFE and FWE) with nine items in each sub-scale. Participants provided their responses on five-point Likert-type scales (1 = *strongly*)

disagree; 5 = *strongly agree*), with items coded such that higher scores indicate greater agreement. Example items from the WFE and FWE scales include (respectively): 'My involvement in my work helps me to understand different viewpoints and this helps me to be a better family member' and 'My involvement in my family helps me gain knowledge and this helps me to be a better worker'. Cronbach's alpha was .93 for WFE and .87 for FWE.

Self-efficacy (Time 2)

Self-efficacy to regulate work and life was measured using a newly developed five-item scale adapted from Bandura's (2005) 'Guide for Constructing Self-Efficacy Scales'. The scale sought to assess how confident respondents were in regulating their work and non-work domains, based on the centrality of efficacy beliefs in people's lives. The five items were: (1) 'How confident are you in changing your lifestyle to achieve a good work–life balance?'; (2) 'How confident are you in finding out how to balance work and life?'; (3) 'How confident are you in achieving your ideal work–life balance?'; (4) 'How confident are you in implementing strategies to achieve work–life balance?'; and (5) 'How confident are you in inventing ways to balance your work and life?'. Each item had a scale ranging from 0 (*cannot do at all*) to 100 (*highly certain can do*), and higher scores meant that employees were more likely to believe in their own abilities to cope with work–life challenges. Cronbach's alpha for this scale was .96.

Work–life balance (Time 2)

Work–life balance was measured using Brough et al.'s (2014b) four-item scale. Employees were asked to respond to the items by reflecting on their work and non-work activities over the three months prior to the administration of the questionnaire. Their responses were indicated on five-

point Likert-type scales (1 = strongly disagree; 5 = strongly agree), with higher scores representing perceptions of better work–life balance. A sample item is 'I currently have a good balance between the time I spend at work and the time I have available for non-work activities'. Cronbach's alpha for this scale was .94.

Job and family satisfaction (Time 2)

Job satisfaction was measured using three items adapted by Cammann et al. (1983) from the Michigan Organisational Assessment Questionnaire (Seashore et al. 1983). The scale provided an overall measure assessing the degree to which respondents were happy and satisfied with their jobs, and whether they enjoyed their work. An example item is 'In general, I like working here'. Responses to the first item of job satisfaction were recoded inversely because the item was negatively phrased in comparison with the other two items. Participants provided their responses on five-point Likert-type scales (1 = strongly disagree; 5 = strongly agree). Cronbach's alpha for this sample was .86.

Family satisfaction was assessed with three items from the scale developed by Edwards and Rothbard (1999). A sample item is 'In general, I am satisfied with my family/home life'. Responses were recorded on seven-point Likert-type scales ($1 = strongly \ disagree$; $7 = strongly \ agree$), with higher scores indicating higher levels of family satisfaction. Cronbach's alpha for this scale was .97.

Control variables

To eliminate spurious results due to the influence of demographics, the current study controlled for gender (0 = male, 1 = female), marital status (0 = single or not married, 1 = divorced or

 separated, and 2 = married or cohabiting), age, number of hours worked per week, tenure at current company, and education level ($1 = secondary \ level$, $2 = vocational \ education \ and training or diploma \ level$, 3 = college or university \ level, and $4 = postgraduate \ level$). Respondents were also asked to indicate whether they currently had responsibilities for dependent children, relatives or any other individuals. Role theory suggests that gender, marital status, age, tenure and number of hours worked may affect employees' job and family satisfaction because of role conflict (Matthews et al. 2010). Additionally, numerous studies on self-efficacy have highlighted the antecedent role of education level (e.g. Tierney and Farmer 2002). The study also controlled for Time 1 job and family satisfaction via correlated residuals with Time 2 job and family satisfaction. In predicting the two mediators and two criterion variables, the longitudinal study thus controlled for all six demographic variables and Time 1 job and family satisfaction.

Analytical procedures

Data screening was conducted using SPSS (version 22.0). Correlational analysis, confirmatory factor analysis (CFA) and structural equation modelling (SEM) were carried out using AMOS (version 22.0; Arbuckle and Wothke 1999). The current study adopted Hu and Bentler's (1998) recommended two-index presentation strategy for the reporting of goodness-of-fit statistics. Specifically, the following fit indices—standardised root mean square residual (SRMR), goodness-of-fit index (GFI), Tucker-Lewis index (TLI), comparative fit index (CFI), parsimony comparative fit index (PCFI), root mean square error of approximation (RMSEA) and the chi-square statistic—were used in the data analysis to assess the adequacy of the measurement and structural models, as well as to report any misspecifications or violations of assumptions of CFA

and SEM. Values for the GFI, TLI, CFI and PCFI are between 0 and 1, with values closer to 1 representing a good-fitting model. Additionally, a value of .05 or less for SRMR and a value of .08 or less for RMSEA are indicative of good fit.

Results

Correlational analyses (refer to Table 1) provided initial support for all four hypotheses. Time 1 WFE was significantly and positively correlated with Time 2 self-efficacy (r = .27, p < .001). Similarly, Time 1 FWE was significantly and positively correlated with Time 2 self-efficacy (r = .27, p < .001). Additionally, Time 2 self-efficacy was significantly and positively correlated with Time 2 work–life balance (r = .67, p < .001). Time 2 work–life balance, in turn, was significant and positively related to Time 2 job (r = .27, p < .001) and family satisfaction (r = .29, p < .001). The correlations were both statistically significant and in the expected directions, indicating that self-efficacy and work–life balance are likely to fully mediate the hypothesised enrichment–satisfaction relationship.

[Insert Table 1]

Although several significant relationships were observed between the control variables and some of the study variables, most control variables were not shown to have a significant effect on the mediating and outcome variables—self-efficacy, work–life balance, job satisfaction and family satisfaction—except for marital status and the number of hours worked per week. The results were very similar when most of these variables were not controlled. To minimise and control for the possible effects of marital status and the number of hours worked per week on the study variables, both were included in the test of the hypothesised structural models. However,

they were subsequently shown to have no significant effect on any of the study variables, and were thus excluded from the final model.

Validation of the self-efficacy scale

Prior to testing the hypothesised mediation model, the newly developed self-efficacy scale was validated to ensure that it was psychometrically sound. Based on Byrne's (2001) recommendation and using three separate samples (Sample 1 was from a university, Sample 2 from a public sector organisation and Sample 3 from a private sector firm), the five-item measure was tested for the validity of its factorial structure through CFA. For a complete breakdown of demographics of the respondents in each sample, refer to Table 2.

[Insert Table 2]

Similarly, data were screened for missing values and outliers. There were no missing values and outliers for any of the cases in the three samples. Correspondingly, this yielded a final sample size of 539 cases, 226 cases and 293 cases for Samples 1, 2 and 3 respectively. Although not all of the normed chi-square (χ^2 /df) results met the recommended threshold range of 1.0–2.0, the proposed factorial structure of the self-efficacy measure (see Figure 2) represented an excellent fit to the data (see Table 3 for CFA results). The GFI, TLI and CFI estimates exceeded or were equal to .99. Both the PCFI and SRMR estimates were low, and the RMSEA estimates ranged from .05 to .06, all of which were again indicative of good fit. Figure 2 illustrates that the five items accounted for acceptable proportions of variance ($R^2 > .49$). Cronbach's alphas of the self-efficacy measure for each sample were .95, .96 and .94 for Samples 1, 2 and 3 respectively, suggesting that the measure was internally reliable.

[Insert Figure 2 and Table 3]

Measurement model

After the psychometric structure of the new self-efficacy measure was found to be acceptable, the next step was to test its criterion validity. Criterion validity refers to the extent to which one measure estimates or predicts the values of another measure (Eaves and Woods-Groves 2007, p. 201). Based on the two-step procedure proposed by <u>Anderson and Gerbing (1988</u>), a measurement model of the latent variables was first estimated using CFA to determine its discriminant validity, followed by a test of the hypothesised structural model using SEM.

[Insert Table 4]

The standardised parameter estimates were tested for significance with 95% confidence intervals calculated using the bias-corrected bootstrap method (5,000 re-samples; Hayes 2009) due to the presence of skewness and kurtosis in the sample. To determine the presence of common method variance (CMV), the common latent factor test was conducted using CFA. The test assumes that a single factor will account for all of the covariance among the variables of interest if CMV is present (Podsakoff and Organ 1986). As shown in Table 4, the fit statistics for the tests of the one-factor, five-factor (self-efficacy and work–life balance as a uni-dimensional construct) and six-factor (self-efficacy and work–life balance as distinct constructs) measurement models revealed that the six-factor model was the best-fitting model. The results suggested that the six self-report scales were statistically distinct and that self-efficacy and work–life balance should not be considered a uni-dimensional construct in spite of their moderately high correlation (r = .67, p < .001). Also, despite the significant chi-square, the six-factor measurement model exhibited better fit indices (SRMR = .09, GFI = .90, TLI = .93, CFI = .93,

PCFI = .83 and RMSEA = .07) than the five-factor measurement model, with all the fit indices falling within the recommended threshold levels accepted in the literature.

Structural model

The second stage involved testing the causal relationships underlying the latent factors to address the hypotheses and to establish criterion validity for the self-efficacy measure. The SEM analysis revealed that the chi-square statistic was significant and the fit indices were satisfactory, indicating that the structural model was a good fit to the observed data. More specifically, the fit indices TLI = .93, CFI = .94, PCFI = .85 and RMSEA = .07 are within the acceptable range as specified in the SEM literature (Lance et al. 2006). Additionally, all the predicted paths were statistically significant (see Figure 3). A closer look at the path estimates of the full mediation model revealed that self-efficacy fully mediated the relationship between both forms of work–family enrichment and work–life balance. Work–life balance also fully mediated the relationship between self-efficacy and job and family satisfaction. That is to say, all four hypotheses presented earlier were supported.

[Insert Table 5]

Full mediation and partial mediation

The current study further examined the specific nature of the hypothesised chain mediation model in two ways. First, the significant direct effects of WFE and FWE on job and family satisfaction became non-significant after adding the mediators—self-efficacy and work–life balance, indicating that full mediation has occurred. Second, direct, indirect and total effects were all insignificant, which point to the occurrence of partial mediation. Interestingly, the direct

effects of enrichment on satisfaction were only significant for the paths between Time 1 WFE and Time 2 job satisfaction (.71, p < .001) as well as that between Time 1 FWE and Time 2 family satisfaction (.53, p < .001). In addition, these two significant direct paths did not become insignificant when the indirect effects of enrichment on satisfaction through the two mediators were accounted for (see Figure 3[a]). Furthermore, the partial mediation model presented a slightly better fit to the data than the full mediation model (SRMR = .05, GFI = .94, TLI = .98, CFI = .98, PCFI = .87 and RMSEA = .04; see Table 4). These findings suggest that the mediating variables—self-efficacy and work–life balance—accounted for some but not all of the mechanisms underlying the enrichment–satisfaction relationship.

[Insert Figures 3 and 3a]

Discussion

The aim of the current research was to investigate the role of self-efficacy in the enrichment– satisfaction relationship. Time 2 self-efficacy was found to mediate the relationships between Time 1 WFE and FWE and T2 work–life balance, and Time 2 work–life balance was found to mediate the relationships between Time 2 self-efficacy and Time 2 job and family satisfaction. However, Time 1 WFE and FWE continued to have direct effects on Time 2 job and family satisfaction respectively. A partial chain mediation model linking work–family enrichment to job and family satisfaction over two periods was thus supported.

Building on previous research (e.g., <u>Restubog et al. 2010</u>; <u>Demerouti et al. 2012</u>) which have shown that person–cognitive resources (in particular, self-efficacy) can influence wellbeing outcomes and mediate between contextual variables and work outcomes, the present study found that self-efficacy mediated the relationship between work–family enrichment (a contextual

work–family resource) and work–life balance (a well-being indicator), ultimately giving rise to both job and family satisfaction (work and non-work outcomes). Going beyond the theory of work–family enrichment and social cognitive theory, Blau's (1964) social exchange theory can also be applied to gain further insights into the enrichment–satisfaction relationship, especially in regards to the persistent direct effects of WFE on job satisfaction and FWE on family satisfaction. Based on social exchange theory, it is proposed that when employees perceive their organisations and families as being supportive in helping them manage their work and family roles respectively, the employees tend to reciprocate with positive attitudes both at work and at home (McNall et al. 2010).

The findings also indicate that there were no cross-domain spillover effects of workfamily enrichment on job and family satisfaction through the mediators self-efficacy and worklife balance, because Time 1 WFE and FWE were only found to have significant direct effects on Time 2 job and family satisfaction respectively. It is well-established that enrichment is a consistent predictor of effort in and satisfaction with the role from which enrichment was generated (Wayne et al. 2004). In our study, Time 1 WFE and FWE did not have cross-domain spillover effects on Time 2 family and job satisfaction respectively. Additionally, it has been suggested in a number of studies that spillover is both distinct from enrichment (Powell and Greenhaus 2010) and an antecedent of enrichment (e.g., <u>Masuda et al. 2012</u>), which could possibly account for why WFE and FWE did not have any significant direct effects on family and job satisfaction respectively. Frone (2003) further suggested that a systematic examination of conflict and enrichment simultaneously and their relationship with satisfaction could lead to a better understanding of why the direct and overall effects of enrichment on satisfaction are channelled towards satisfaction in the originating domain.

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In testing the hypothesised chain mediation model, this study also empirically validated the five-item, uni-dimensional self-efficacy measure. Specifically, each of the five items accounted for acceptable levels of variance in the latent construct, and the measure produced a high level of internal reliability in all three independent samples. The psychometric structure of this new measure was thus found to be acceptable. Furthermore, self-efficacy to regulate work and life was not only significantly correlated with the other constructs in the expected directions, the measure was also found to be a mediator linking earlier experiences of enrichment to perceptions of work–life balance and satisfaction at a later point in time. Given that the full and partial mediation models were strongly supported, concurrent validity and predictive validity were also established for the measure. Therefore, the newly-developed self-efficacy to regulate work and life scale has both criterion validity and robust psychometric properties.

Theoretical implications

Much of the existing research on work-family enrichment, work-life balance, and job and family satisfaction have largely focused on how the social and environmental systems affect the individual. To date, little is known about how the individual's cognition (in the form of self-percepts and beliefs) is related to the aforementioned constructs, hence this study sought to contribute towards filling this gap. Importantly, the results showed that both self-efficacy and work-life balance served as explanatory mediating mechanisms through which work-family enrichment influenced employees' job and family satisfaction. Furthermore, there was empirical support for the relatively distal work-family enrichment predicting the more proximal self-efficacy, work-life balance and satisfaction constructs at a later point in time. This strengthens the arguments of social cognitive theory and theory of self-efficacy that have informed the

study's theoretical framework. Consistent with the triadic reciprocal determinism model which proposes a dynamic interplay among environmental, personal and cognitive factors in influencing an individual's self-percepts, this study has shown that it is important to consider the human agency and person–cognitive mechanisms in making sense of work and non-work issues.

The findings also emphasised the importance of the positive interactions between the work and family domains, both of which were traditionally considered to be independent or conflicting, thereby reflecting more adequately the nature of work-family relationships. Furthermore, they confirmed Barnett and Hyde's (2001) view that active engagement in either the work or non-work domain (or both) provides access to resources and experiences that can subsequently contribute to personal fulfilment. Another strength of the current research is that it has built upon previous research on work-family conflict and enrichment to examine the predictive utility of work-life balance, thereby contributing to its emerging literature. Similar to recent developments (e.g., Brough et al. 2007; Brough at al. 2014b) in the theoretical explanations underpinning work-life balance and contrary to the well-established notion that multiple roles lead to strain and stress, this study showed that role responsibilities and demands can facilitate and enhance certain work, non-work, and work-life outcomes. Finally, the study also recognised that the three work-family constructs-work-family conflict, work-family enrichment, and work-life balance-are theoretically distinct, thereby echoing Kalliath and Brough's (2008) view that work-family constructs should not be investigated without careful theorisation and conceptualisation.

Practical implications for human resource management

The emergence of positive organisational behaviour (Luthans 2002a,b; Bakker and Schaufeli 2008), with its roots in Seligman and Csikszentmihalyi's (2000) positive psychology movement, has led to the development of interventions aimed at enhancing individuals' self-efficacy and overall well-being. Despite the benefits of such interventions, Ouweneel et al. (2013) have indicated that they are only implemented when organisations encounter problems. While psychological theories have traditionally stressed that self-efficacy can only be acquired through direct experiences (Wood and Bandura 1989), the current study calls for managers and human resources practitioners to implement positive psychology interventions on a regular basis, since the enhancement of self-efficacy can also occur vicariously through observing people's behaviours and their associated consequences (Bandura 1986). A possible intervention is Ouweneel et al.'s (2013) web-based training program consisting of 'happiness', goal-setting, and resource-building tasks that seek to foster positive emotions, self-efficacy, and coping abilities.

Additionally, the positive impact of work–family enrichment on self-efficacy to regulate work and life emphasised the need for organisations to consider the family domain as integral to and a facilitator of employees' self-efficacy beliefs and well-being. Initiatives to enhance work–family enrichment would also facilitate the effective implementation of interventions aimed at helping employees to build a stronger sense of self-efficacy. Furthermore, this study confirmed that work–life balance has a positive influence on both work and family outcomes. To foster employees' competence to manage multiple life demands, prior studies have shown that organisations should nurture an organisational culture that allows employees to negotiate their job scopes (Carlson et al. 2009) and supports them in their work and non-work pursuits (Chou and Cheung 2013). At the organisational level, such an organisational culture can be cultivated

through the implementation of family-friendly policies. For the policies to be effective, Butler et al. (2004) and <u>Timms et al. (2015)</u> stressed the importance of managerial support and endorsement at the individual level, and Chou and Cheung (2013) further recommended that they be linked to other job aspects such as work hours, job security and pay and promotion. <u>Timms et al. (2015)</u> also emphasised that family-friendly interventions (e.g., flexible work arrangements) must consider employees' perceptions about the consequences of using such policies. This can be expedited by ensuring there is two-way communication between management and employees.

Strengths, limitations and recommendations for future research

Given that prior studies have often relied on cross-sectional data that preclude causal inferences (Carlson et al. 2011), the current research thus adopted a temporal survey design using two-wave 12-month follow-up data. The foremost advantage of examining data at more than one time period is that it allows researchers to control for individual heterogeneity (Hsiao 2007). Specifically, by introducing a one year time lag between the independent and dependent variables, this study was better able to control for unobserved or omitted variables that may be correlated with the study variables, thereby minimising the effects of measurement errors and common method variance arising from the use of self-report data (Wooldridge 2010). Additionally, the temporal ordering of the constructs gave the researchers the opportunity to uncover and address the dynamic processes underlying the hypothesised mediation model. Lastly, the current study conducted thorough data screening to ensure that outliers were eliminated, and adopted the bias-corrected bootstrap method to control for the effects of skewness and kurtosis of the data (Cheung and Lau 2008). This helped to maximise the accuracy of the results.

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Nonetheless, the study had several limitations that warrant further discussion. First, only two mediators were considered. The more robust partial mediation model when compared with the hypothesised full mediation model suggests the possibility of other constructs that may influence the enrichment-satisfaction relationship along with self-efficacy and work-life balance. Additionally, only satisfaction, manifested in the form of job and family satisfaction, was considered as outcomes in the hypothesised theoretical model. It is suggested that including other outcomes such as job performance and family functioning as well as other social and environmental factors as antecedents or mediators may increase the robustness of the chain mediation model. Furthermore, the dropout rate for survey responses was particularly high, which resulted in a much smaller than anticipated matched data sample. The high dropout rate could have been prevented with the implementation of procedures at Time 2 to remind survey respondents about their unique identifier codes and passwords given at Time 1. Finally, the sample had a disproportionately high number of women which may have affected the representativeness of the sample. Although the study took measures to minimise sampling error, it is suggested that future studies should purposefully recruit from a wider range of industries including but not limited to manufacturing, construction, and retail trade to enhance the representativeness of the present study.

Although some may argue that CMV and consistency bias remain a potential threat given the study's total reliance on self-report data, the common latent factor test performed suggested that the effect of CMV on the research findings was minimal. Furthermore, Podsakoff et al. (2003) found that the nature of the effects of CMV on observed relationships can be difficult to detect, and Spector (2006) found that studies tend to overstate its pervasiveness. Nonetheless, it is recommended that future studies should collect data from multiple sources (e.g., employers,

employees and spouses) as this would provide more concrete results regarding the relationships among the study variables. Another potential area for further investigation is the feedback path linking job and family satisfaction to work–family enrichment. The current enrichment and satisfaction literature suggest that both constructs are highly affect-driven, which implies that experiencing job and family satisfaction may lead to further work–family enrichment. Additional investigation into this feedback loop may potentially contribute to work–family research, which has recently started to embrace the positive side of the work–life interface using longitudinal designs (Innstrand et al. 2008).

Lastly, much of the research on the work–life interface continues to stem from the conflict perspective. By focusing on the theoretical explanations and practical implications of work–family enrichment and balance, both of which constitute the positive side of the work–life interface, new insights can be brought to work–family research which will advance understanding of within-domain and cross-domain interactions. For instance, it is established that work-to-family conflict and family-to-work conflict are distinct constructs with their own antecedents and outcomes (Kossek and Ozeki 1998), but less is known about WFE and FWE. Given that WFE and FWE are considered to be separate constructs, it follows that each will require its own unique intervention (Byron 2005). However, to date, specific interventions for WFE and FWE have not been investigated.

Conclusion

The present research is unique in its exploration of self-efficacy in relation to work-family enrichment, work-life balance, and job and family satisfaction. Specifically, the theoretical model was grounded in social cognitive theory and accounted for the underlying relationships

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among the constructs using Bandura's (1977) self-efficacy mechanisms. The findings demonstrate that not only is it important for employees to be equipped with resources and positive experiences in their work and family roles, but that the beliefs that employees have in , ing , idiated and , .efficacy to regulat. .tineluded in subsequent studie: ariables: their own capabilities also play a critical role in helping them to achieve work-life balance, and job and family satisfaction. The study also validated and established criterion validity for the newly-developed uni-dimensional self-efficacy to regulate work and life scale. It is recommended that the construct be included in subsequent studies that examine the relationships among work-life interface variables.

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 Table 1. Means, standard deviations and zero-order correlations of study variables and control variables.

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender	1.61	.49	_											
2. Age	40.60	9.81	06	_										
3. Marital status	2.52	.80	06	.16*	_									
4. Education	3.06	.95	09	.04	.03	_								
5. Tenure	8.00	7.73	.07	.49***	04	13	_							
6. Hours worked per														
week	38.55	9.13	22**	.16*	07	.12	.14*	_						
7. Work-to-family														
enrichment (T1)	3.29	.81	.32***	03	.09	.06	10	11	(.93)					
8. Family-to-work									`					
enrichment (T1)	3.49	.31	.15*	07	.21**	.05	02	06	.42***	(.87)				
9. Self-efficacy (T2)	60.22	21.73	.01	16*	.00	.03	05	19**	.27***	.27***	(.96)			
10. Work–life								_			. ,			
balance (T2)	3.20	.98	.02	20**	04	.02	14*	.29***	.25***	.18*	.67***	(.94)		
11. Job satisfaction														
(T2)	3.85	.75	.06	.00	.09	.11	04	01	.47***	.23**	.33***	.27***	(.86)	
12. Family														
satisfaction (T2)	5.80	1.26	.08	10	.23***	08	06	22**	.15*	.32***	.32***	.29***	.20**	(.97
Notes: 1) N = 234; 2)	*p < .05, '	** p < .01,	***p<.00	1.										

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Table 2. Demographic characteristics of research samples.

Variable	Sample 1 (N=539)	Sample 2 (N=226)	Sample 3 (N=293)
	Male: 40.4% (218)	Male: 27.4% (62)	Male: 34.5% (101)
Gender	Female: 58.4% (315)	Female: 71.7% (162)	Female: 64.8% (190)
	Missing: 1.1% (6)	Missing: 0.9% (2)	Missing: 0.7% (2)
	Range: 17.0–71.0 years	Range: 21.0–65.0 years	Range: 21.0–66.0 years
Age	Mean: 41.2 years	Mean: 40.9 years	Mean: 43.6 years
	SD: 11.4 years	SD: 10.9 years	SD: 9.9 years
	Single/Never Married: 18.6% (100)	Single/Never Married: 19.5% (44)	Single/Never Married: 20.1% (59)
Marital status	Divorced/Separated/Widow(er): 7.6% (41)	Divorced/Separated/Widow(er): 10.2% (23)	Divorced/Separated/Widow(er): 9.6% (2
	Married/Co-habiting: 72.7% (392)	Married/Co-habiting: 68.1% (154)	Married/Co-habiting: 68.6% (201)
	Missing: 1.1% (6)	Missing: 2.2% (5)	Missing: 1.7% (5)
	Range: 1.0–100.0 hours	Range: 20.0–70.0 hours	Range: 9.0–80.0 hours
Hours worked per	Mean: 39.2 hours	Mean: 39.7 hours	Mean: 39.2 hours
week	SD: 13.5 hours	SD: 6.5 hours	SD: 7.6 hours
	Range: 0.0–42.0 years	Range: 0.0–30.0 years	Range: 0.0–40.0 years
Tenure	Mean: 7.9 years	Mean: 5.2 years	Mean: 11.9 years
	SD: 8.0 years	SD: 5.9 years	SD: 8.8 years
	Secondary: 9.8% (53)	Secondary: 16.4% (37)	Secondary: 29.4% (86)
	Vocational/Diploma: 14.3% (77)	Vocational/Diploma: 19.0% (43)	Vocational/Diploma: 22.5% (66)
Education level	University/College: 29.9% (161)	University/College: 33.2% (75)	University/College: 29.4% (86)
	Postgraduate: 45.6% (246)	Postgraduate: 31.0% (70)	Postgraduate: 18.8% (55)
	Missing: 0.4% (2)	Missing: 0.4% (1)	Missing: 0.0% (0)

Table 3. Confirmatory factor analysis of self-efficacy measure.

Model	χ^2	df	p-value	χ²/df	SRMR	GFI	TLI	CFI	PCFI	RMSEA
Sample 1	9.52	3	.02	3.17	.01	.99	.99	1.00	.30	.06
Sample 2	4.67	3	.01	1.56	.01	.99	1.00	1.00	.30	.05
Sample 3	5.73	3	.13	1.91	.01	.99	.99	1.00	.30	.06

Notes: 1) N = 539 (Sample 1), 226 (Sample 2), 293 (Sample 3); 2) df = degrees of freedom; 3) SRMR = Standardised Root Mean Square Residual; 4) GFI = Goodness-Of-Fit Index; 5) TLI = Tucker-Lewis Index; 6) CFI = Comparative Fit Index; 7) PCFI = Parsimony Comparative Fit Index; 8) RMSEA = Root Mean Square Error of Approximation.

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Model	χ^2	df	p-value	χ²/df	SRMR	GFI	TLI	CFI	PCFI	RMSEA
-factor	6558.55	495	.00	13.25	.19	.31	.21	.26	.24	.23
5-factor	1311.23	473	.00	2.77	.09	.76	.89	.89	.80	.09
5-factor	1007.36	470	.00	2.14	.09	.90	.93	.93	.83	.07
index, 6) CF1 = 0	Comparative Fit In	idex, 7) PCF				EA = Root M	ean Square r		proximation.	

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Table 5. SEM goodness-of-fit statistics of hypothesised chain mediation model.

Model	χ^2	df	p-value	χ²/df	SRMR	GFI	TLI	CFI	PCFI	RMSEA
Full Mediation	965.13	477	.00	2.02	.13	.85	.93	.94	.85	.07
Partial Mediation	1173.29	484	.00	2.42	.05	.94	.98	.98	.87	.04

Notes: 1) N = 234; 2) df = degrees of freedom; 3) GFI = Goodness-Of-Fit Index; 4) TLI = Tucker-Lewis Index; 5) CFI = Comparative Fit Index; 6) PCFI = Parsimony Comparative Fit Index; 7) SRMR = Standardised Root Mean Square Residual; 8) RMSEA = Root Mean Square Error of Approximation.

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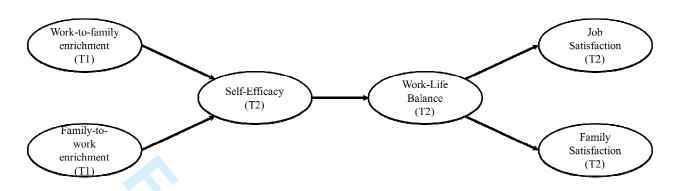


Figure 1. Hypothesised chain mediation model linking work-family enrichment to satisfaction.

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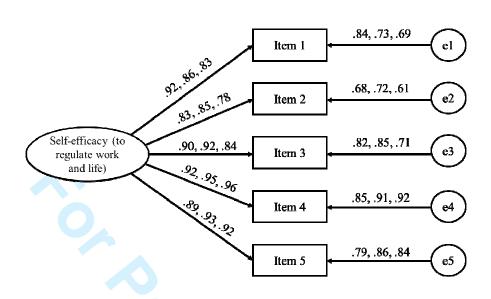


Figure 2. Confirmatory factor analysis standardised estimates of self-efficacy measure.

Notes: 1) Values to the left of the manifest variables represent standardised factor loadings (β); 2) Values to the right of the manifest variables represent squared multiple correlations (R^2).



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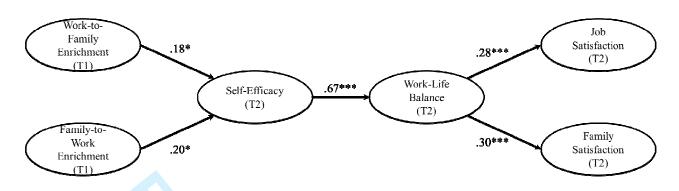


Figure 3. Longitudinal structural equation model of hypothesised chain mediation model.

Notes: 1) Values represent standardised regression weights; 2) *p < .05, ** p < .01, ***p < .001.

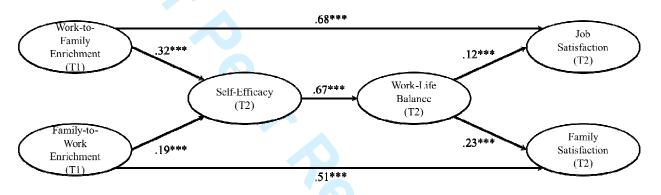


Figure 3(a). Longitudinal structural equation model of partial mediation model.

Notes: 1) Values represent standardised regression weights; 2) p < .05, p < .05, p < .01, p < .001; 2) The paths from Time 1 WFE to Time 2 Family Satisfaction and from Time 1 FWE to Time 2 Job Satisfaction were insignificant at -.06 (p > .05) and -.05 (p > .05) respectively.