

Effectiveness of gender equality initiatives in project-based organizations in Australia

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Abstract

Little is known about the impact of workplace gender equality initiatives in improving women's representation. We assess their effectiveness on levels of women's representation in Australian property and mining organizations. Derived from signaling theory, we propose and test a positive relationship between gender equality initiatives and women's representation at management and non-management levels. Derived from contingency theory, we propose and test the moderating effect of women in top management teams on the abovementioned relationships. The hypotheses were tested using archival data from 358 organizations with a 2-year time lag. The findings partially support the main and moderating effect hypotheses. We discuss theoretical, research, and practical implications.

JEL Classification: MI2, MI4

Keywords

Gender equality initiatives, project-based organizations, top management team, women in management

I. Introduction

Gender equality in the Australian workforce has been slowly improving over the past 30 years, with women's workforce participation increasing from 43.9% in 1979 to 59.3% in 2016 (Workplace Gender Equality Agency (WGEA), 2016b). However, Australian organizations remain highly gender segregated by both industry and occupation, perpetuating the inequality in the workforce (Blackburn et al., 2002; French and Strachan, 2015; WGEA, 2016a). Occupational segregation by gender is perceived to be the cause of labor market rigidity and economic inefficiency (Kennedy

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et al., 2017) and has implications for women relating to level of earnings, employment opportunity, and more broadly, their access to decision-making positions in the workplace (French and Strachan, 2015). With a growing demand for skilled labor and the importance of international competitiveness of Australian organizations, gender equality is high on the government's agenda (Conway, 2012: 15). The *Workplace Gender Equality Act 2012* (the Act) encourages the implementation of organizational equality initiatives with the aim to improve women's representation and, in turn, to improve productivity and competitiveness of Australian businesses (WGEA, 2016a).

The question of whether equality initiatives have been effective has generated an ongoing discussion among scholars (French and Strachan, 2015; Härtel, 2004; Kalev et al., 2006; Konrad and Linnehan, 1995). Some authors suggest that the implementation of equality initiatives has improved the employment status of women (Ali, 2016; Cockburn, 1991; Konrad and Linnehan, 1995; Sheridan, 1995; Still, 1993). However, the empirical studies are scarce (French and Strachan, 2009, 2015). Verbeek (2012) and French and Strachan (2007, 2009, 2015) argue that the impact of the equality initiatives on women's representation in traditionally male-dominated industries and in management is limited. Kalev et al. (2006) call some organizational initiatives "best guesses" (p. 590). Empirical studies of the effectiveness of equality initiatives have suffered from data constraints (Kalev et al., 2006), mostly being derived from limited case studies (Verbeek, 2011), with inconsistent findings (Kalev et al., 2006; Konrad and Linnehan, 1995) and a lack of "sufficient empirical proof' of effectiveness (Verbeek, 2011: 1944). While these gender equality initiatives are designed to achieve a gender-diverse workforce by effectively promoting equality (Konrad and Linnehan, 1995), French and Strachan (2015) argue that they fail to increase numbers of women overall and in management itself, in the traditionally male-dominated industries they studied, such as construction and transport.

Our current study extends the knowledge of effectiveness of gender equality initiatives on women's representation in several ways. First, we test signaling theory (Spence, 1973) and organizational contingency theory (Galbraith, 1973). Specifically, drawing on signaling theory, we predict that organizational gender equality initiatives, born from the unique Australian workplace equality legislation, are positively associated with women's representation at management and non-management levels in project-based property and mining organizations. We also predict that this relationship is moderated by the number of women in the top management team (TMT) based on organizational contingency theory, where the relationship between the gender-based initiatives and women's representation is contingent on the number of women in the TMT. This study integrates both theories to predict that the relationship becomes stronger for organizations with a high number of women in the TMT and weaker for organizations with a low number of women in the TMT. Second, we address important research gaps. There is a lack of research on the effectiveness of gender equality initiatives on women's representation (Klettner et al., 2016) and in traditionally male-dominated industries (French and Strachan, 2007, 2009, 2015; Verbeek, 2011, 2012), and there is no research on whether the number of women in the TMT affects that relationship (Klettner et al., 2016). While some studies have found positive effects of women on boards on the representation of women in management (Gould et al., 2014), no prior research has investigated the moderating effect of the number of women in the TMT on the relationship between gender equality initiatives and women's representation, thus making this study pioneering in this area. Third, the findings have practical implications for project-based organizations, their leadership, human resource (HR) departments, and industry-based professional associations. Australian project-based organizations in traditionally male-dominated industries, such as property and mining, are experiencing high levels of occupational segregation by gender (French and Strachan, 2015; WGEA, 2016a). As such, they are focusing their efforts on improving gender equality and are searching for effective gender equality initiatives, as confirmed by a significant proactivity in the implementation of some of those measures, specifically the work and family policies (French and Strachan, 2015). Understanding how to attract and retain highly skilled women in the industry will improve these organizations' productivity and competitiveness (Australian Trade Commission, 2015; Ernst and Young Australia, 2014; WGEA, 2016a). Our predictions are tested using 358 organizational reports submitted to the Workplace Gender Equality Agency (WGEA) in the 2013/14 and 2015/16 reporting periods, allowing a 2-year time lag between implementation of gender equality initiatives and women's representation.

2. Background and hypothesis

2.1. Australian workplace equality legislation—context of the study

In Australia, the workplace equality legislation was first introduced in 1986 as the *Affirmative Action (for Women) Act 1986* and later amended in 1999 to the *Equal Opportunity (for Women in the Workplace) Act* with the aim to help eliminate discrimination and build equal opportunity for women. Later, this act was replaced by the *Workplace Gender Equality Act 2012* (the Act), tasked with advancement of workplace gender equality with outcomes for both women and men to improve the productivity and competitiveness of Australian business (WGEA, 2016a). The Act requires non-public sector employers with 100 or more employees to report against a set of standardized gender equality indicators. Employers are required to report annually to the WGEA.

To date, Australian organizations have freely selected their gender equality initiatives (Burgess et al., 2007; Strachan et al., 2010), and in the absence of compulsory practices or specified outcomes, organizations select initiatives that they believe are appropriate to their business and the extent to which they want to implement them. Many Australian organizations have a "compliance with legislation" approach toward equality management and propose few equality management initiatives (D'Netto et al., 2014; Ernst and Young Australia, 2014; Fenwick et al., 2011). Assessing outcomes against specified criteria or measuring any impact of those initiatives has not been mandated (Strachan et al., 2007). The reporting required under the Act relates to reporting on having strategies or policies in place—without indicating their content, implementation guidelines or effectiveness in delivering any outcomes.

2.2. Gender equality in property and mining: reviewing the evidence

Women still make up significantly low numbers across all role levels in traditionally male-dominated project-based industry sectors such as property and mining. French and Strachan (2015) posit that male-dominated project-based industries represent the extremes of occupational gender segregation. Both horizontal segregation, characterized by the workforce being predominantly made up of men, and vertical segregation, where women hold lower-level roles and status and often face limited career-progression opportunities, are high in these industries (Fielden et al., 2001; French and Strachan, 2015).

The property industry is the largest industry in Australia, contributing AUD\$182.5 billion (11.5%) to gross domestic product (GDP), with a further estimated AUD\$279.7 billion through flow-on demand for goods and services (AEC Group, 2015). The property industry is the second largest employer in Australia, directly employing 1.17 million full-time equivalent (FTE) employees (11.8% of the Australian total) and supporting a further 1.54 million FTE jobs through flow-on activity, generating approximately 28.6% of wages and salaries for Australian workers (AEC Group, 2015). In property, a high degree of vertical segregation is evident, with women comprising only 4% of CEOs and 20% of key managers, indicating men occupy the higher-status and higher-paying jobs, leading to limited opportunities for career progression for women (Blackburn et al., 2002; French and Strachan, 2015; WGEA, 2016a: para. 2).

Similarly, the mining industry is another major contributor to the Australian economy, accounting for 8.5% of GDP and 2.3% of the Australian workforce. Despite the "boom" economic conditions since the mid-2000s and rapid expansion of the industry and its workforce, only 15.8% of employees are women (WGEA, 2016a). In addition to the low level of representation, women's distribution within the industry continues to be highly skewed (WGEA, 2016a). Most women work in support roles due to a high degree of vertical segregation, with only 15.3% holding managerial roles and only 2.7% employed as CEOs (WGEA, 2016a). The mining industry continues to be male-dominated with women remaining disadvantaged by even more severe vertical segregation than in property.

The findings from male-dominated project-based industries (French and Strachan, 2015) suggest that equal employment initiatives are "minimal in design, implementation, and outcomes," and they appear to offer limited impact on women's representation within those industries (p. 238). Furthermore, Klettner et al. (2016) point out occupational differences between men and women, with women concentrating predominantly in "specialist" and more female-type positions, such as HR and public relations, rather than mainstream management. Women senior executives are also more likely than men to be in support roles rather than in line roles (Klettner et al., 2016). This occupational segregation often leads to systemic workplace inequality across job opportunities, income, promotion, and status (Anker, 1997; French and Strachan, 2015).

2.3. Gender equality initiatives and women's representation

We use signaling theory to predict the relationship between gender equality initiatives and the level of women's representation in organizations. Signaling theory (Spence, 1973) asserts that people (including those outside the organization, that is, job applicants) interpret an organization's observable actions (external communication, workplace diversity, etc.) as signals of less observable characteristics (values, equality perspectives and commitment, etc.), thereby forming impressions about an organization's intentions (Connelly et al., 2011). The signal sent is usually planned and aims to produce positive outcomes (Connelly et al., 2011). The receiver receives the signal and perceives something unobservable about the sender (e.g. potential job applicants perceive that the organization values gender equality), and in turn, the receiver sends feedback to the sender (e.g. increased job applications from women, increased organizational commitment and retention of women, etc.).

Research suggests that organizations offering a wide selection of equality initiatives send strong signals to their stakeholders that they value and support gender equality (Celani and Singh, 2011; Spence, 1973). We argue that the existence of equality initiatives, such as gender-based HR initiatives and work–life initiatives, signal to female applicants that the organization cares about gender equality (Ali and Konrad, 2017; Allen, 2001; Casper and Harris, 2008; Ryan and Kossek, 2008). Such signals may lead to job applicants' perceptions of a supportive gender-diverse climate, an inclusive workforce, and a family-friendly organization (Allen, 2001; Casper and Harris, 2008; Ryan and Kossek, 2008). The gender-based HR initiatives, such as gender-focused recruitment, retention, and promotion initiatives, may signal to prospective applicants that the decisions about hiring and promoting women are monitored (Konrad and Linnehan, 1995) and that the well-being of women is actively promoted (McKay and Avery, 2006). In addition, the existence of such gen-der-based HR initiatives may suggest that women's contributions, professional development, and career progress are important in the organization (Comer and Soliman, 1996). Furthermore, research suggests that the availability, use, and perceived value of work–life initiatives

are associated with perceptions of organizational support (Casper and Harris, 2008). By signaling support for work–life initiatives, such as employer-funded parental leave and support with caring responsibilities and flexible working arrangements, organizations influence the perceptions of job applicants (Casper and Harris, 2008), encouraging more women applicants to respond. Signaling theory supports this argument, suggesting that signals are more likely to be observed and acted on when the receivers are scanning the environment for signals (Connelly et al., 2011); female applicants with greater family, childcare, and caregiving demands are more likely to scan the environment for signals of relevant work–life initiatives (Butts et al., 2013). Moreover, many work–life initiatives can lead to higher levels of work–life facilitation and role enrichment (Greenhaus and Powell, 2006; Poelmans et al., 2008) and higher levels of job commitment and satisfaction (Allen and Montgomery, 2001). Richard and Johnson (2001) found that firms with more equality initiatives in the workplace experienced lower levels of turnover.

Thus, we argue that gender equality initiatives draw more women to apply for roles with an organization and increase their likelihood of accepting job offers, leading to an increased representation of women (Ali, 2016; Celani and Singh, 2011). The job applicants rely on information from organizations about how much the organization values and supports gender equality (Casper and Harris, 2008). Organizations that have gender equality initiatives in place effectively signal to potential job applicants that the organization values and supports gender equality (Connelly et al., 2011; Turban and Greening, 1997). The high costs of offering those initiatives strengthen the signal being sent (Krawiec and Broome, 2008). Potential job applicants for both management and non-management roles receive signals from sources, such as company websites, press articles, recruitment brochures, social networks, and corporate advertising (Celani and Singh, 2011) and develop perceptions about organizational commitment to gender equality (Williams and Bauer, 1994). Job applicants apply for jobs in these organizations, signaling their receipt of the information (Williams and Bauer, 1994), which leads to improved representation of women in the organization (Celani and Singh, 2011).

Empirical research supports the proposition that gender equality initiatives lead to a higher representation of women in the workforce (Dreher, 2003). Ali (2016) found that gender equality initiatives signal the job applicants that the organization values and supports gender diversity, which leads to a greater likelihood of them applying and accepting employment and, therefore, an improved representation of women. Similarly, Kalev et al. (2006) studied policies and practices to promote equality across 708 private organizations in the United States and found positive effects of those initiatives on gender and racial equality in organizational workforces.

As such, drawing on signaling theory, our study predicts that effective gender equality initiatives in organizations may be evidenced through the improved representation of women across management and non-management levels as the feedback from employees to those activities. Therefore, we propose that:

H1a. Gender equality initiatives are positively associated with women's representation at the management level.

H1b. Gender equality initiatives are positively associated with women's representation at the non-management level.

2.4. Moderating effect of women's representation on TMTs

Hambrick and Mason (1984) advocate viewing top managers as a team, and using this approach, researchers have found positive relationships between TMT demographic indicators and organizational outcomes (Child, 1972; Hambrick and Mason, 1984; Welbourne et al., 2007). Our study

draws on organizational contingency theory (Galbraith, 1973) to predict that the relationship between gender equality initiatives and representation of women is contingent on the number of women in the TMT. Specifically, organizations with more women in the TMT may experience higher women's representation as a result of more gender equality initiatives (Ng and Sears, 2017). More women on the TMT may signal organizational commitment to diversity and therefore lead to more female recruits and better female staff retention. In addition, the visible nature of women in the TMT may suggest that the organization is committed to women's advancement at all levels (Capezio and Mavisakalyan, 2016) and signal that the organization embraces equality in employment (Bilimoria, 2006; Broome and Krawiec, 2008; Daily and Dalton, 2003). Furthermore, Joy (2008) suggests that women leaders signify "employers of choice to women looking for [the] 'best places to work" (p. 8). The high number of gender equality initiatives together with high numbers of women in the TMT may send a strong signal to potential female job applicants about the company's commitment to gender equality. Job applicants for both management- and non-management-level positions receive this signal that creates interest in the positions and the organization (Breaugh and Starke, 2000), increasing applicants' likelihood of applying, accepting job offers, and staying with the organization, thereby increasing women's representation in those organizations.

By the same token, it also stands to reason that low levels of women in the TMT may suggest the opposite and attract fewer applicants. Fewer women in the TMT is expected to signal to potential new recruits that organizational practices fail to deliver a greater inclusion of women (Eagly and Carli, 2003). Organizations that offer gender-based HR and work–life initiatives but show low numbers of women in the TMT also signal that they do not "walk the talk" of gender equality. There can be quite a gap between what organizations say they do and what they do (Klettner et al., 2016); they offer gender equality initiatives, but without showing the effects of these initiatives in practice, they compromise the credibility of their gender equality message, weakening the signal. Furthermore, few women in the TMT may be perceived as an indication that the organization does not deliver on inclusive HR policies, such as work–life flexibility, career developmental opportunities, and mentorship programs that benefit women (Ng and Sears, 2017). Hence, while the workplace gender equality initiatives may still attract female applicants and increase women's representation, the low numbers of women in the TMT may weaken the main relationship.

In summary, higher numbers of women in the TMT may strengthen the signal communicating that the organization embraces equality in employment, while lower numbers of women in the TMT may weaken that signal, resulting lower attraction and retention of women. Therefore, we propose that:

H2a. Representation of women in the TMT will moderate the relationship between gender equality initiatives and women's representation in management such that the main positive relationship becomes stronger for organizations with a higher number of women in the TMT and weaker for organizations with a lower number of women in the TMT.

H2b. Representation of women in the TMT will moderate the relationship between gender equality initiatives and women's representation in non-management such that the main positive relationship becomes stronger for organizations with a higher number of women in the TMT and weaker for organizations with a lower number of women in the TMT.

3. Methods

This study uses archival WGEA report data, with a time-lagged research design including a 2-year time lag between gender equality initiatives and women's representation. A 2-year time lag was adopted based on consideration of the type of equality initiatives, outcome variables, and a

common practice in diversity and HR literature (Ali et al., 2015; Lavrakas, 2008). Gender equality initiatives are easily and immediately visible to employees and job applicants through a company's internal and external information about recruitment and training practices, promotion opportunities, the company's commitment to equal opportunity and diversity, and flexible working arrangements (Celani and Singh, 2011; Richard et al., 2006).

3.1. Sample and data collection

The population of this research comprises Australian property and mining organizations. Data on equality initiatives for 2013–2014 were matched with data on women's representation for 2015–2016. A total number of 358 property and mining organizations were selected for this research using matched data for both periods. Data on control variables (organizational size and industry type) were also obtained from the WGEA archival reports. The sample organizations ranged in size from 25 to 11,069 employees (mean n=866). Mining represented 123 organizations (35% of total sample) and property comprised 235 organizations (65%). Women's representation in the sampled organizations ranged from 0% to 83% (mean n=12%) in management and from 5% to 72% (mean n=19%) in non-management.

3.2. Measures

3.2.1. *Predictors.* This study focused on gender equality initiatives across: (1) gender-based HR initiatives and (2) work–life initiatives. Gender-based HR initiatives involve organizations offering policies and strategies that specifically support gender equality through recruitment, retention, performance management process, promotion, succession planning, and training and development (see Appendix A for items). They were measured using the following response options: standalone policy (2), policy contained within another policy (1), standalone strategy (2), strategy contained within other strategy (1), or no (0). Cronbach's alpha showed the scale reliability of .88.

Work–life initiatives relate to formal policies and strategies for flexible working arrangements as well as policies, strategies, and measures to support employees with family and caring responsibilities (see Appendix A for items). The first three items were measured using "yes" (coded as 1) and "no" (coded as 0) responses. The remaining two items used the same response options as the gender-based HR initiatives. Cronbach's alpha showed the scale reliability of .73.

3.2.2. *Outcomes.* Women's representation was measured at management and non-management levels. The management level was aggregated by including the following standardized occupational categories (WGEA, 2013): other executives, senior managers, and other managers. The non-management level was aggregated by including: professionals, technicians and trade workers, community and personal service workers, clerical and administration staff, sales staff, machinery operators and drivers, laborers, and others. The non-management categories mirror the major groups in the Australian and New Zealand Standard Classification of Occupations (ANZSCO) classification structure managed by the Australian Bureau of Statistics (WGEA, 2014). Women's FTE representation at each of the two levels was calculated as a percentage of the total number of employees in each level.

3.2.3. Controls. The analyses controlled for the effects of organization size and industry type on women's representation at each level. Organizational size has been considered as a significant predictor of women's employment status (French, 2001; Konrad and Linnehan, 1995). Aldrich and Auster (1986) found that small organizations may have a reduced ability to cope with

Variable	Mean	SD	I	2	3	4	5	6
Controls								
Organization size	886.84	1413.31						
Industry type (0 = property; 1 = mining)	.34	.47	.13*					
Predictors								
Gender-based HR initiatives	8.14	5.54	.16**	01				
Work–life initiatives	2.75	2.27	.33**	.10	.44**			
Moderator								
Women in the TMT	10.08	15.13	03	03	.06	.14*		
Outcomes								
Women at management level	12.18	10.57	02	02	.07	.15**	.17**	
Women at non-management level	19.19	12.47	09	14**	.12*	.21**	.15**	.47**

Table 1. Means, standard deviations, and correlations^a.

SD: standard deviation; HR: human resource: TMT: top management team.

Organization size refers to number of employees in an organization. *Industry type* refers to two sub-categories of the project-based organizations included in this research, with "0" representing property organizations and "1" representing mining organizations. *Gender-based HR initiatives* are policies and strategies at each organization, aiming at gender equality. *Work–life initiatives* are policies, strategies, and practices at each organization, aiming at work–life balance. *Women in the TMT* refers to the percentage representation of women in a top management team (top executives who report to the chief executive officer). *Women at management level* refers to the percentage representation of women in the management. *Women at non-management level* refers to the percentage representation of women in the non-management employees.

^aTwo-tailed test.

*p<.05; **p<.01.

governmental requirements or to compete with large organizations for labor. This may affect women's representation (Mighty, 1996). Consistent with previous research, organization size was operationalized as the total number of employees (Ali, 2016).

The impact of organizational initiatives on diversity varies across industries (Blum et al., 1994; Datta et al., 2005). Previous research indicates the importance of industry to the development of HR initiatives (Jackson et al., 1989) and the employment status of women (Blum et al., 1994; French, 2001). Accordingly, a dummy variable called "Industry type" was created, with "1" representing mining and "0" representing property organizations.

3.2.4. *Moderator*. Women's representation in the TMT was calculated as a percentage of women in the TMT (Welbourne et al., 2007).

4. Results

Table 1 presents the means, standard deviations, and correlation coefficients for all variables. Multicollinearity is not an issue due to low correlations among controls and predictor variables.

We used hierarchical multiple regression to test the two hypotheses. Hypotheses 1 proposed that gender equality initiatives would be positively related to women's representation at the: management level (H1a) and non-management level (H1b). To test Hypotheses 1, women's representation at the two levels was separately regressed on both areas of gender equality initiatives. Control variables were entered in step 1, followed by gender equality initiatives in step 2. The results shown in Table 2 indicate that only work–life initiatives had a significant positive effect on women's representation at the management level (model 2: $\beta = .18$, p < .01) and non-management level (model 2:

 β =.28, p < .001). Gender-based HR initiatives did not have a significant effect on women's representation at the management and non-management levels. The results suggest that H1a and H1b were partially supported—only work–life initiatives had a significant positive effect on women's representation across the two levels.

Hypotheses 2 proposed that the positive effects of gender equality initiatives (gender-based HR initiatives and work–life initiatives) on women's representation at the management level (H2a) and non-management level (H2b) are stronger for organizations with higher numbers of women in the TMT and weaker for organizations with a lower number of women in the TMT. The predictor variables of gender-based HR initiatives and work–life initiatives and the moderating variable of women in the TMT were centered to reduce multicollinearity with the interaction terms (Aiken and West, 1991). To test H2a and H2b, women in the TMT and the interaction terms (gender-based HR initiatives × women in TMT and work–life initiatives × women in TMT) were created and entered in step 3. The results shown under Model 3 in Table 2 indicate that the interaction term work–life initiatives × women in TMT had a significant negative effect (model 3: β =–.14, p<.05) on women at the management level. The results shown in TADE 2 indicate that the interaction terms gender-based HR initiatives × women in TMT did not have a significant effect on women's representation at the management level.

We plotted the effects of low and high levels of women in the TMT on the relationship between work–life initiatives and women's representation at the management level. Figure 1 illustrates separate regression lines for organizations with few women in the TMT and for organizations with many women in the TMT. The relationship between work–life initiatives and women's representation at the management level was stronger, positive (more work–life initiatives led to higher representation of women at the management level) and significant for organizations with a low number of women in the TMT (b=1.33, p < .01), and weaker, positive but non-significant for organizations with a High number of women in the TMT (b=.15, p value not specified). The results suggest that H2a was partially supported, as the significant positive effect was found for organizations with a low number of women in the TMT.

Table 2 indicates that neither of the two interaction terms had a significant effect on women at the non-management level. Thus, H2b was not supported.

5. Discussion

The main objective of testing the relationship between gender equality initiatives and women's representation in organizations at management and non-management levels was to test the effectiveness of those initiatives in improving women's representation in Australian property and mining organizations. The objective of testing the moderating effect of the number of women in the TMT on the main relationships was to investigate whether the main positive relationships become stronger for organizations with high numbers of women in the TMT and weaker for organizations with low numbers of women in the TMT. The findings of this study provide some evidence for these relationships.

5.1. Gender equality initiatives and women's representation

We found support for a positive relationship between work-life initiatives and the representation of women at both management and non-management levels. This study provides pioneering evidence for this relationship, as no prior research has tested the effectiveness and impact of work-life initiatives on women's representation in project-based mining and property

Variable	Women at the	Women at the management level		Women at the	Women at the non-management level	level
	β (Model I) ^b	Hypothesis la	Hypothesis 2a	β (Model I) ^b	Hypothesis Ib	Hypothesis 2b
		β (Model 2)	β (Model 3)		β (Model 2)	β (Model 3)
Controls						
Organization size	03	09	08	08	18**	18**
Industry type	03	04	03	– . 4 *	15**	- . 5 **
Predictors						
Gender-based HR initiatives		10.	10.		.03	.03
Work–life initiatives		.18**	.16*		.28***	.27***
Moderator						
Women in the TMT			.17**			.12*
Interaction terms						
Gender-based HR initiatives $ imes$ women in TMT			<u>60</u> .			10.
Work–life initiatives $ imes$ women in TMT			14*			<u> </u>
R ²	00.	.03	.07	.03	01.	.I3
F	.30	2.71	3.35	4.96	9.81	6.90
ΔR^2	00.	.03	.04	.03	.07	.03
F for ΔR ²	.30	5.11	4.10	4.96	14.27	2.80

Table 2. Hierarchical regression analyses—gender equality initiatives predicting.

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^bStandardized coefficients are reported. *p < .05; **p < .01; ***p < .001.

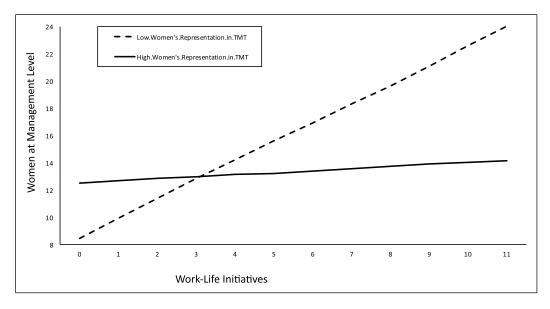


Figure 1. Moderating effect of women in the TMT on work–life initiatives–women's representation in management relationship.

X-axis values (0–11) refer to work-life policies, strategies, and practices at each organization, with higher numbers indicating a broader range of work-life initiatives. Y-axis values (8–24) refer to percentage representation of women managers, compared to total number of managers at each organization, with higher numbers indicating higher representation of women managers. Top management team (TMT) refers to top executives who report to the chief executive officer. Women in TMT was measured as percentage of women in a TMT. Low women's representation in TMT (dotted line) represents the relationship between work-life initiatives and women at management level in organizations with only few women in TMT (mean women in TMT minus I standard deviation). High women's representations with many women in TMT (mean women in TMT plus I standard deviation).

organizations. The findings suggest that work–life initiatives signal to job applicants that the organization cares about its employees, values and supports gender equality, and offers flexible work arrangements to support women with family and caring responsibilities (Casper and Harris, 2008; French and Strachan, 2013). The availability of work–life initiatives is a major determinant of employees' perceptions of organizational support (Casper and Harris, 2008) and therefore may lead to greater organizational attractiveness and a higher likelihood of job applicants applying for and accepting employment with the organization (Ali, 2016). We interpret these findings to suggest that these initiatives signal an organization's intentions to improve diversity in their workplaces (Edelman, 1992) and achieve an increased representation of women in male-dominated mining and property industries.

The findings pertaining to no impact of gender-based HR initiatives on women's representation can be explained by a possible lack of effectiveness of the signal (Connelly et al., 2011; Gupta et al., 1999). Past research in Australia has found that few project-based organizations implement proactive gender-based HR strategies in the areas of recruitment, promotion, and development of women to address the number of women in management and in other roles in traditionally male-dominated industries (French and Strachan, 2007, 2009, 2015). Therefore, the signal may be less effective due to gender-based HR initiatives being less available or visible in comparison to work–life initiatives; these initiatives are not promoted in corporate communication as much as work–life initiatives. The work–life initiatives are often promoted by companies to establish a good corporate citizen image

(Combs et al., 2005) and to achieve legitimacy (Yang, 2005). In addition, the receivers of the signal may also value gender-based HR initiatives less than work–life initiatives. This is because female job applicants may expect a company to have a standard set of HR initiatives and therefore may perceive them to be in place to simply comply with legislation (Konrad and Linnehan, 1995; Williams et al., 2016). French and Strachan (2009) also note that HR initiatives are harder to implement in comparison to work–life initiatives. This in turn may negatively impact the effectiveness of the signal and lead to gender-based HR initiatives having no impact on women's representation.

5.2. Gender equality initiatives, TMT, and women's representation

The results of this study also provide pioneering evidence that work–life initiatives interact with the number of women in the TMT to affect women's representation in management. Specifically, more work–life initiatives at low levels of women in the TMT lead to higher representation of women in management. Even with generally high levels of vertical segregation in those organizations (WGEA, 2016a) and low levels of implementation of equal employment initiatives (French and Strachan, 2013), more work–life initiatives with low levels of women in the TMT appear to be effective in signaling organizational commitment to gender equality (Ali, 2016; Celani and Singh, 2011). These findings support signaling theory and contingency theory (Galbraith, 1973; Spence, 1973).

The moderating effect of work–life initiatives at high levels of women in the TMT was not significant at the management level, possibly due to very few mining and property organizations having high levels of women in the TMT (WGEA, 2016a). This can also be explained by women in management not engaging with work–life initiatives when they see that women in the TMT tend not to use those initiatives themselves for career-progress concerns. The lack of adoption of work–life initiatives by women in the TMT may be sending a signal to women in management that in order to "fit in" with the male-dominating culture in those organizations and successfully progress their careers, they should not participate in work–life initiatives. This in turn may weaken the positive signal sent by organizations offering work–life initiatives and lead to no effect (Connelly et al., 2011; Gupta et al., 1999). The receivers are likely to question the validity of the work–life initiatives based on a lack of evidence in practice.

Similarly, the moderating effect was not significant for the impact of work–life initiatives at the non-management level, as possibly women in the TMT are less visible to these employees and job applicants (Ali, 2016). Female applicants for non-management roles may see more women in the TMT favorably but may not be aware of how work–life initiatives apply to non-management roles.

The findings pertaining to no moderating effect of women in the TMT on the main relationships (gender-based HR initiatives-women in management and gender-based HR initiatives-women in non-management) are consistent with the lack of significant main relationship effects of these initiatives and may indicate that neither these initiatives alone nor in combination with the number of women in the TMT affect women's representation. This could be due to organizations choosing to focus less on gender-based HR initiatives as they are harder to design to address bias and discrimination. This was suggested by French and Strachan (2009), who found that organizations were quicker to adopt the "soft" approach of work-life initiatives that encourage more women to move in and out of the organization, rather than increase their representation in management through "hard" gender-based HR initiatives.

5.3. Theoretical contribution and research implications

The study's results have several theoretical and research implications. The findings support signaling theory at management and non-management levels (Spence, 1973). The findings related to

the positive impact of work–life initiatives on women's representation across both organizational levels strengthens the signaling argument that the observable actions form unobservable perceptions of an organization valuing gender equality (Connelly et al., 2011). The support found across both organizational levels indicates the strength of this signal as such initiatives are offered on a discretionary basis together with implementation being low in those industries (French and Strachan, 2013; WGEA, 2016a). This research supports Ali's (2016) claim that testable predictions can be derived from signaling theory. Moreover, the results support the integration of signaling theory with contingency theory to propose the process through which gender equality initiatives affect women's representation (Galbraith, 1973; Spence, 1973). The support found for the effectiveness of work–life initiatives along with even low numbers of women in the TMT in improving the representation of women at the management level strengthens the argument that signaling theory can be used in various contexts and with other theories (Ali, 2016; Karasek and Bryant, 2012). It also shows the organization's commitment to gender equality, promoting women and valuing women's input into key decision-making (Ali, 2016; Celani and Singh, 2011; Joy, 2008).

The study addresses important research gaps in the field of gender equality and women's representation in project-based organizations and provides future research directions. This research may be the first study providing empirical evidence on the effectiveness of gender equality initiatives on women's representation in traditionally male-dominated industries (French and Strachan, 2007, 2015; Verbeek, 2011). Grounded on recent and reliable archival data from 358 Australian organizations, the study also addresses criticism regarding the lack of rigor in studies investigating the effectiveness of equality initiatives (Kalev et al., 2006; Verbeek, 2011) and provides empirical evidence to what Kalev et al. (2006) call "best guesses" (p. 590). Furthermore, the results of this research provide pioneering evidence for the positive effects of work–life initiatives on women's representation in management, moderated by even low representation of women in the TMT, addressing a lack of research in this area (Klettner et al., 2016). It also suggests that a genderdiverse TMT may create a gender-diverse management team through trickle-down effects (Ali and Konrad, 2017; Gould et al., 2014).

Future research could benefit from studying how such demographic composition of women in the TMT may influence leadership's focus on implementing gender-based HR initiatives and other gender equality programs. Furthermore, the effects of diversity climate (affecting organizational loyalty, job satisfaction, and performance) could be a possible moderator on the gender equality initiatives-women's representation relationship (French and Strachan, 2015; Mor-Barak and Cherin, 1998). Adopting a qualitative study, future research could also investigate why HR initiatives do not appear to impact women's representation at both organizational levels and why TMTs do not appear to moderate the work-life initiatives-women's representation relationship at non-management levels. Furthermore, the study could also investigate why high levels of women on the TMT do not appear to moderate the work-life initiatives-women's representation relationship at the management level. Moreover, future research could investigate whether the findings of this study generalize to organizations in other industries and to other national contexts. Different implementation and outcomes of gender equality initiatives can be expected from different industries (French and Strachan, 2015). For instance, property and mining organizations represent male-dominated and project-based industries in contrast to health and education organizations; hence, the effectiveness of gender initiatives may vary across those different organizations and potentially industries. In addition, Australia is a moderate-to-high masculine country (Ali et al., 2015), so results may be also be different in extremely low masculine countries such as Denmark, the Netherlands, Norway, and Sweden (Hofstede, 2001).

5.4. Practical implications

This study has several important practical implications. First, the findings relating to the effectiveness of gender equality initiatives on the representation of women across both organizational levels suggest a possible solution for addressing the workplace vertical segregation issue in male-dominated industries (Casper and Harris, 2008; Konrad and Linnehan, 1995). There has been much research on what causes gender inequality, but few studies have examined the effectiveness of equality initiatives (Kalev et al., 2006; Kulik, 2014). By focusing on implementing work-life initiatives, organizations can improve their gender-representation outcomes by addressing the worklife balance requirement in an efficient way. Second, as Australian property and mining organizations need to greatly improve women's representation at the managerial level (Strachan et al., 2010; WGEA, 2016a), this research shows that providing work-life initiatives together with having women in the TMT can help organizations achieve women's increased representation in management. Gender-diverse TMTs enable organizations to attract more women to management roles, leading to a reduction of vertical segregation by gender in those organizations and therefore contributing to an improvement in organizational productivity and competitiveness (Anker, 1997; French and Strachan, 2015; WGEA, 2016a). Third, these findings can help Australian property and mining organizations, as well as other organizations, to formulate work-life initiatives that may address legislative requirements (WGEA, 2014), as well as address the extremes of their gender occupational segregation (French and Strachan, 2015; WGEA, 2016a).

5.5. Limitations

Some study limitations must be considered in interpreting the results. The findings provide only indirect support for signaling theory. Direct support for signaling theory would measure job applicants' perceptions of gender equality initiatives offered by organizations and their subsequent impact on applicants' decisions to apply and accept jobs with an organization (Spence, 1973). This research is conducted at the organizational level. In addition, the study could not control for the effects of other demographic forms of diversity, such as ethnicity and age, that may interact with gender equality initiatives to impact women's representation. Furthermore, we did not test how well the work–life and gender-based HR initiatives were implemented—an area still largely unexplored (Williams et al., 2016). The implementation of such initiatives may strengthen or weaken the signaling impact, influencing the effectiveness of the gender equality–women's representation relationship (Ryan and Kossek, 2008).

6. Conclusion

Overall, this study responds to recent calls to provide empirical evidence for the effectiveness of equality initiatives on workplace equality in management and in traditionally male-dominated industries (French and Strachan, 2009, 2015; Kalev et al., 2006; Verbeek, 2011, 2012). Specifically, this study contributes to our knowledge of the effectiveness of gender-based HR and work–life initiatives on women's representation in project-based property and mining organizations. Overall, the findings indicate that organizations with effective work–life initiatives are more likely to benefit from an improved representation of women across management and non-management levels. The findings also demonstrate that organizations with even low numbers of women in their TMT are more likely to improve the effectiveness of their work–life initiatives, and benefit from greater representation of women in management. Thus, the study offers empirical evidence that providing effective gender equality initiatives can address occupational segregation and, in turn, gender inequality in the workforce.

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