



**Pregnancy-related Discrimination and Expectant Workers’  
Psychological Well-being and Work Engagement:  
Understanding the Moderating Role of Job Resources**

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## PREGNANCY-RELATED DISCRIMINATION AND WORKERS' WELL-BEING AND ENGAGEMENT

## Pregnancy-related Discrimination and Expectant Workers' Psychological Well-being and Work Engagement: Understanding the Moderating Role of Job Resources

**Abstract**

**Purpose:** In this paper, we apply the Job Demand-Resource Model to investigate the association between pregnancy-related discrimination (conceptualised as a job demand) and expectant workers' psychological well-being and work engagement, and the moderating role of workplace support (co-worker and supervisor social support and perceived organisational family support (POFS); conceptualised as job resources).

**Design:** The paper conducted a cross-sectional online survey of vocationally active British workers in their second and third trimesters of pregnancy using purposive sampling techniques. Participants were recruited through online forums and social media platforms. A sample of 186 was used to conduct multiple regression and moderation analysis (SPSS v28 and STATA v17).

**Findings:** We observed that higher levels of pregnancy-related discrimination were associated with poorer psychological well-being and work engagement among surveyed expectant workers. Perceived co-worker social support moderated both these relationships for psychological well-being (demonstrating a buffering effect) and work engagement (an antagonist effect). POFS and supervisor support did not moderate this association.

**Practical implications:** This paper highlights the importance of pregnancy-related discrimination at work as a work stressor, necessitating its reduction as part of organisations' strategies to manage and prevent work-related stress above and beyond their legal requirements to do so under national-level equality legislation. It also sheds light on the potential value of resource-based interventions.

**Originality/ value:** This is the first study to investigate pregnancy-related discrimination and work-related health outcomes within a British sample, and to explore the potential protective health and motivational value of job resources therewithin.

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WORK ENGAGEMENT

**Keywords:** pregnancy, discrimination, psychological well-being, work engagement,  
the job demand-resource model

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## PREGNANCY-RELATED DISCRIMINATION, SOCIAL SUPPORT, WELL-BEING AND WORK ENGAGEMENT

### Pregnancy-related Discrimination and Expectant Workers' Psychological Well-being and Work Engagement: Understanding the Moderating Role of Job Resources

Around 80-90% of women will be employed during their pregnancy (Adams et al., 2015). Arguably, one of the most challenging aspects of many women's employment experiences emerges at the intersection of work, pregnancy and, for many, the transition to parenthood. It is during this period when women, line managers, and their employers must consider the physiological and psychological changes, and, in turn, the subsequent work-related challenges that pregnancy may bring to their jobs and working life (Pattison & Gross, 1996).

In the United Kingdom (UK), like in many other countries, pregnancy and maternity are legally protected characteristics under the Equality Act 2010 (Equal Opportunities Commission 2010). Within this legal context, women are protected against discrimination (unfair treatment at work) from individuals in their workplace during pregnancy. Within UK law, pregnancy discrimination is when a woman is treated unfavourably because of her pregnancy or pregnancy-related illness (Honeyball, 2020). Examples include selection for redundancy because of their pregnancy or pregnancy-related illness, reduction in pay or hours, pressure to resign, refusing to give a promotion based on pregnancy status, denying the right to return to their previously held job position or having some other job roles/duties taken away due to their pregnancy status or maternity leave (Adams et al., 2015).

Despite such legal safeguards, pregnancy discrimination at work continues to exist both in the UK (Adams et al., 2015) and globally (e.g., Fox and Quinn 2015). In the UK in 2015, an estimated 75% of working British mothers reported "... a negative or possibly discriminatory experience during pregnancy, maternity leave and/or on return from maternity leave" (Adams et al., 2015, p.7). Recently, there have been public accusations and court cases against large companies by female employees regarding pregnancy-related discrimination (e.g., Frontier Airlines, ACLU, 2022; Amazon, Wilson, 2022). The most reported forms of unfavourable treatment among expectant women at work included: being given unsuitable work or workloads (15% of respondents); encouraged to take time off or signed off on sick leave early (14%);

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encouraged by employers to start maternity leave early (11%); and discouraged from attending antenatal classes during working time (10%; Di Marco et al., 2018).

Consequently, it is more important than ever to understand women's experiences at work during their gestation period, how such experiences relate to their well-being and work motivation and understanding how organisations can better support them during this period.

### **The Interface of Pregnancy and Work: Women's Lived Experience**

Expectant employees must navigate decisions regarding whom, when, and how to disclose and manage their pregnant identities at work (Jones, 2017), with many women expressing fear or worry about the process and outcome of disclosure (Davis et al., 2005; Jones, 2017). Davies et al. (2005) found expectant employees reported being concerned about encountering and managing negatively held perceptions and behaviours by co-workers, managers, and employers regarding their pregnancy and work identity. Many reported being concerned about prejudiced attitudes by co-workers and managers surrounding their job dedication and performance ability; and how exposure to such prejudicial attitudes and, potentially, discriminatory behaviours may affect their work, professional identity, working life, and their (and their baby's) health and well-being.

Millward (2006) conducted a series of interviews with employed women exploring their transition from pregnant employees to working mothers. She found women reported feeling systematically excluded by the organisation and co-workers, with many describing 'feeling invisible'. A common experience was feeling insecure regarding their professional position, with many questioning the strength of their professional identities going forward (into and beyond maternity leave) and overall worth to the organisation. Many expectant workers reported feelings of guilt, and pressure to work due to the perceived 'cost and burden' of their pregnancy on co-workers (Millward, 2006). Similar findings have been observed elsewhere in the literature (Fox & Quinn, 2015; Davies et al. 2005).

### **Pregnancy-related Stigma and Discrimination: Conceptual Understanding**

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There is a small, but growing body of evidence examining the nature and occurrence of pregnancy-related stigma and discrimination at work; and, in turn, investigations into how such experiences relate to women's psychological well-being and feelings about work (e.g., Fox & Quinn, 2015). Stigma theory (Goffman, 1963) is used to help understand how pregnancy may be viewed, in some social contexts and interactions, as a stigmatised condition. Goffman defined stigma as a devalued attribute; and argued that the nature of the stigma determines the range of perceived appropriate behaviour(s) for the stigmatised person. Discrimination occurs when stigmatisation is acted on by concrete behaviours such as exclusion, rejection, or devaluation. Such discriminatory behaviours can take place on a personal level or be enacted through societal, organisational, and structural inequalities (Abbey et al., 2011). Absent from Goffman's (1963) definition of stigma, however, is an emphasis on the importance of context in determining whether an individual will be stigmatised and, in turn, exposed to discriminatory behaviours (Connor, Glick, and Fiske 2016). Crocker, Major, and Steele (1998) argue context is critical to understanding stigma, and this point is clear with pregnancy. Although pregnancy may be celebrated and praised in some contexts (e.g., family), it may be devalued and stigmatised in others (e.g., work; Fox & Quinn, 2015).

Pregnancy is closely linked with socially constructed understandings and sociohistorical ideologies around motherhood, with female gender stereotypes related to passivity and caretaking often activated among those encountering a pregnant woman (Fox & Quinn, 2015). Previous research has observed the stereotypes typically associated with pregnant women, include being more emotional, irrational, less committed to their jobs (Cunningham & Macan, 2007), less competent than other employees (Butensky, 1984), more likely to leave the organisation (Cunningham & Macan, 2007), more disengaged from work and less capable of performing work tasks (Fox, 2011). The responses pregnant women receive from others, including avoidance and social rejection, may lead women to feel stigmatised and discriminated against (Corse, 1990; Fox & Quinn, 2015); which

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may, in turn, have a direct or indirect impact on their psychological well-being, job satisfaction, job commitment, and their work-life balance.

### **Pregnancy-related Discrimination: Applying the Job Demand Resource Model**

The wider discrimination literature has observed that exposure to increased perceived discrimination at work (conceptualised as a work stressor) is associated with poorer measures of work-related well-being (e.g., poor psychological well-being and self-efficacy; e.g., Di Marco et al., 2018; Di Marco et al., 2016) and various employee outcomes (e.g., work motivation; Cornejo, 2016; and job satisfaction, Triana et al., 2019) among targeted workers. However, a paucity of research exists examining such postulated associations among expectant workers (Hassard et al., 2021). Preliminary evidence indicates that psychological stress imparted by the working environment may play an important role in the mental health of expectant women (Yeh et al. 2018). Existing studies in this field have focused, almost exclusively, on job strain and its relationship with adverse birth outcomes (Loomans et al., 2013).

We aim to address this gap by examining psychological well-being (understood as a state in which a person realises their own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community; WHO, 2022) and work engagement (understood as a positive, affective-motivational state of fulfilment that is characterised by feelings of vigour, dedication, and absorption; Schaufeli et al., 2002) as dependent variables. Like previous workplace discrimination research (e.g., Yeung, Zhou & Chong, 2021, XU & Chopik, 2020), we will apply the Job Demand-Resource (JDR; Demerouti et al., 2001) model to inform our postulated pathways.

The JDR model postulates that work characteristics (categorised as either job demands or job resources) influence workers' psychological well-being and work engagement. *Job demands* are those factors that require emotional or cognitive effort, which can result in psychological or physical harm. In the context of this study, we conceptualise perceived pregnancy-related discrimination as a job demand. Conversely, *job resources* refer to those physical, social, or organisational aspects of



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the job that may: reduce job demands and their associated physiological and psychological costs; be functional in achieving work goals; and stimulate personal growth, learning, and development (Demerouti et al., 2001; Bakker and Demerouti, 2008). The JDR model postulates that the presence of high job demands is altered by the presence of job resources contingent on the dependent variable (Bakker and Demerouti, 2008). More specifically, this theory postulates that the interaction of high job demands and high job resources is associated with work engagement; and conversely, high job demands paired with low job resources are associated with poorer psychological well-being among workers. Previous research has observed perceived discrimination at work to be negatively associated with employee mental health (Di Marco et al., 2018; Di Marco et al., 2016) and motivational or attitudinal work outcomes (e.g., job satisfaction and work engagement; Yeung, Zhou & Chong, 2021).

**Hypothesis 1:** Women's perception of pregnancy-related stigma will be negatively associated with psychological well-being (H1a) and work engagement (H1b).

### **The moderating role of job resources: workplace social support**

Social support at work is thought to be a very important protective role in employees' health (Bakker and Demerouti, 2008; Hobfoll, 2001). The JDR model understands social support at work as a 'job resource' (Carlson et al., 2017; Bakker & Demerouti, 2007) and is postulated to play an important role in mitigating the risk of ill-health at work (e.g., poor mental health) and, conversely, enhancing work engagement. While we use the JDR model to inform our study's hypotheses, it is important to highlight that a number of prominent organizational stress theories also postulate the important antecedent and moderating role played by social support to both employee work and health outcomes (e.g. Job Demand-Control-Support Model; Karasek & Theorell., 1990; Conservation of Resource Theory, Hobfoll, 1989).

However, across these theories, social support is often explored in a uni-dimensional manner and theorised to play either a positive role directly in employee health and work engagement; or indirectly in mitigating the impact of stressful working



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conditions. This does not recognise that social support is multifaceted (e.g., perceived emotional, instrumental, and informational support) and can derive from various sources: co-workers, supervisors, and the organisation in general (Cohen, 2004). In the work discrimination literature there remains a limited empirical investigation into what resources and support in the workplace might play an important role in attenuating the risk posed by exposure to anticipated or experienced forms of discrimination at work and workers' well-being and satisfaction (de Wit et al., 2007; Brondolo et al., 2009; Di Marco et al., 2018). Several studies have examined the postulated moderating role play by social support in relation to perceived discrimination and various employee health and work outcomes (e.g., across different forms of discrimination, Xu & Chopik, 2020; age discrimination, Redman & Snape, 2006; Harada et al; 2018 ; gender-based discrimination, Kim, Lee & Sung, 2013 ; race-based discrimination, Salami, Lawson & Metzgar, 2021). While this body of evidence attest to the importance of social support and its postulated moderating role with perceived discrimination at work, very few studies have comparatively examined them and considered their unique and independent contribution (e.g. social support from the organisation, supervisors or co-workers). Theoretically, all three forms of social support should act as a job resource and play a moderating role in the relationship between perceived pregnancy-related discrimination and expectant workers' psychological well-being and work engagement. However, we believe it is imperative to empirically test this directly to better understand the nature and strength of these associations independently of each other.

**Hypothesis 2:** Social support at work from co-workers (H2a) and managers (H2b) will moderate the relationship between the perception of pregnancy-related discrimination and psychological well-being

**Hypothesis 3:** Social support at work from co-workers (H3a) and managers (H3b) will moderate the relationship between the perception of pregnancy-related discrimination and work engagement.

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**Hypothesis 4:** Perceived organisational family support (global measure) will moderate the relationship between pregnancy-related discrimination and psychological well-being (H4a) and the relationship between pregnancy-related discrimination and work engagement (H4b).

### Methods

#### Participants and Procedures

A cross-sectional correlational design was used. The target population were women aged 18 and over, employed and living in the UK. Women in their second and third trimester were targeted as it was more likely they had disclosed their pregnancy to their employer and co-workers. Therefore, the study's inclusion criteria were: 18 years or older, based in the UK, currently working, and at least 20 weeks pregnant. Ethical approval was obtained from [blinded for review]. Participants were recruited online due to the specific eligibility criteria and sensitive nature of the research. The link to the online survey was shared on pregnancy-related groups and forums on social media platforms (such as, Facebook and Twitter) to recruit as widely as possible. Data were collected between April to June 2019. 186 participants completed the survey. Two cases were removed due to observable patterns in their survey responses (one with a completion rate of 47%, one with a completion rate of 8% only), leaving a final sample of 184. Six items had one response missing (missing rate: 0.01%), and one item had 3 responses missing (missing rate: 0.02%). These nine missing data-points were replaced using *linear trend at-point estimation* methods for replacing missing values in SPSS (v28).

#### Measures

Demographic characteristics collected were age, education-level, number of children, ethnicity, and employment and relationship status. An overview of the employed self-report measures is described below. All demonstrated acceptable internal consistency ( $\alpha > .80$ ) within our sample.

**Pregnancy-related Discrimination.** We used Fox and Quinn's (2015) 29-item questionnaire to quantify experienced subtle and overt forms of pregnancy-related discrimination. This scale employs a 7-point Likert scale (1= strongly disagree to 7=

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strongly agree), with higher scores indicative of increased perceived pregnancy-related discrimination at work. An example item: "My co-workers think that I am not dedicated to my job". Confirmatory factor analysis (CFA) supported a unidimensional structure of this scale (factor loadings ranged from 0.45 to 0.91). As a result, the composite score of the 29 items was computed to quantify perceived pregnancy-related discrimination. Fox and Quinn reported good reliability for this scale ( $\alpha = .94$ ). Our study observed similar levels of reliability ( $\alpha = .97$ ).

**Perceived Organisational Family Support (POFS).** The ten-item scale measures perceptions of tangible and intangible support provided by the organisation (Jahn, Thompson, & Kopelman, 2003). An example item includes: "My organization puts money and effort into showing its support of employees with families". All items are rated on a seven-point Likert scale (1= strongly disagree to 7= strongly agree), with higher scores indicative of better POFS. As reported by Jahn et al. (2003), the construct validity and psychometric properties of the POFS scale are satisfactory with good internal consistency ( $\alpha = .96$ ). We used a composite score of this ten-item scale to quantify POFS. A unidimensional structure was observed based on the CFA analysis (factor loadings range from 0.77 to 0.94) and good internal consistency of the scale in our sample ( $\alpha = .963$ ).

**Social Support from Supervisor and Co-workers.** Two self-reported three-item scales (one to quantify perceived supervisor and the other co-worker social support) were used for the Copenhagen Psychosocial Questionnaire (version 2; Pejtersen et al., 2010). Items ranged from 1 (Never/Hardly ever) to 5 (Always). An example item, includes: "How often do you get support from your colleagues?" The supervisor social support scale measures interpersonal relationships within the workplace and shows low floor and ceiling effects, satisfactory internal consistency ( $\alpha = .79$ ), and good test-retest reliability (Thorsen & Bjorner 2010). The perceived co-worker social support measures show satisfactory internal consistency ( $\alpha = .70$ ) and test-retest reliability (Pejtersen et al., 2010). Higher scores on both these scales are indicative of better perceived. The CFA supported a two sub-dimensional structure, and both perceived supervisory social support (factor loadings range from 0.77 to 0.94)

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and co-worker social support (factor loadings range from 0.70 to 0.95) had good reliability in our sample:  $\alpha = .91$  and  $.90$ .

**Psychological well-being.** Psychological well-being was measured using the 5-item World Health Organisation Well-being Index (WHO-5; WHO, 1998) anchored using a one (at no time) to six (all of the time) Likert-scale. The scale measures subjective psychological well-being and is used widely within clinical (Topp et al., 2015) and community samples (Furuya et al., 2013). An example item includes: "I have felt cheerful and in good spirits". It has strong psychometric properties (see Topp et al., 2015). Higher scores are indicative of better psychological well-being. The CFA supported a unidimensional structure (factor loadings range from 0.65 to 0.91) with high levels of internal reliability in this sample ( $\alpha = .906$ ).

**Work Engagement.** Work engagement was measured using a 9-item version of the Utrecht Work Engagement Scale (Schaufeli, Bakker, & Salanova, 2006) using Likert scale system ranging from (1) Never to (7) always/every day. A higher score on this scale is indicative of increased work engagement. An example item includes: "At my work, I feel bursting with energy." The literature has recorded good validity and reliability ( $\alpha = .90$ ; Schaufeli et al., 2006). The CFA showed a unidimensional structure (factor loadings range from 0.61 to 0.88) and high internal reliability ( $\alpha = .93$ ) within our sample.

**Gender role attitudes.** Gender Schema Theory (Bem, 1993) suggests that gender schemas (referring to cognitive structures of organised prior knowledge regarding the role expectations of individuals based on biological sex or socially constructed notions of gender) can influence individuals' behaviours and attitudes in the workplace (Starr & Zurbriggen, 2017). With this view, we believe this to be an important covariate to consider and account for. Gender-role attitudes were measured using Braun's (2014) shortened five-item measure. Items were measured on a one (strongly agree) to five (strongly disagree) Likert-scale. An example item includes: "All in all, family life suffers when the woman has a full-time job." A higher score is suggestive of less traditionally held gender role attitudes. The CFA revealed a unidimensional structure. However, based on Braun (2014), the fifth item was

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dropped due to low factor loading ( -0.31). The final four-item scale (factor loadings range from 0.54 to 0.88) demonstrated good internal reliability ( $\alpha = .80$ ).

### Pre-analysis Checks

As part of our pre-analysis checks, CFA using maximum likelihood estimator in STATA (v17) was conducted to measure the factorial structure and latent variable property of study variables. The seven-factor CFA model (inclusive of all multi-item scales) demonstrated satisfactory model fit across a range of goodness of fit indicators (see Table 1) and acceptable factor loadings for all (but one) items (ranging from .45 to .94; Hair et al., 2019). We observed a low factor loading (-.36) on one item in the Gender Role Attitudes scale: *“Both the man and woman should contribute to the household income.”* Therefore, we decided to exclude this item and create the composite score using the remaining four items. The model fit, after removing this item, was found to significantly improve (see Table 1).

[insert Table 1 here]

SPSS (v28) was used to conduct the analysis. Given the self-reported nature of our data, we tested the common method variance shared by the items. Harman’s single-factor test using Principal Axis Factoring extraction showed that 31.91% variance can be explained by a common factor, which is lower than the 50% cut-off proposed by Malhotra et al. (2006). All key assumptions of multiple regression analysis was checked before the analysis (Field, 2018). A visual inspection of the scatterplots suggests the assumption of linearity is plausible between the independent and dependent variables. Multicollinearity was not observed in any of the models (VIF range: 1.03 to 2.27; tolerance range: 0.44 to 0.97). The Durbin-Watson statistics were approaching 2 (range: 1.67 to 1.79) suggesting the assumption of independence was met. The scatterplot of standardized residuals against dependent variables approximates a random pattern, suggesting the assumption of homoscedasticity is not violated. The P-P plots showed no observable violation of the assumption of normal distribution of errors. The maximum value of Cook’s distance was .11, suggesting no influential cases are present and pose significant bias to our models.

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Considering the relatively small sample size, we have adopted the bias-corrected accelerated (BCa) bootstrapping resampling method with 1000 bootstrapped samples to increase the power and accuracy of statistic inference (Hayes, 2018). The bootstrapping resampling method is not restricted by the assumptions of the normal theory approach and, therefore, produces robust regression estimates (Salibian-Barrera & Zamar 2002; Wood 2005). G\*power (v3.1.9.7; Faul, Erdfelder, Buchner, & Lang, 2009) was used to estimate power achieved for all tested predictors parameters. The results of this analysis are summarised in the results section.

### Results

The sample ( $n = 184$ ) ranged in age between 20 to 43 years of age ( $M = 30.9$ ,  $SD = 4.9$ ). In general, the sample was highly educated (72.3% with an undergraduate degree and above), in a relationship at the time of the survey (95.1%), employed full-time (71.7%), Caucasian (92.5%), and expecting their first or second child (90.8%; see Table 2). Parametric correlations observed pregnancy-related discrimination was associated with lower psychological well-being ( $r = -.339$ ,  $p < .001$ ) and lower work engagement ( $r = -.199$ ,  $p = .007$ ) among expectant workers. Both dependent variables were significantly and positively correlated with all three proposed moderators (i.e., POFS, supervisor social support and co-worker social support; see Table 3).

[insert Tables 2 & 3 here]

To test the hypotheses that increased pregnancy-related discrimination is associated with decreased psychological well-being and work engagement, we tested the unconditioned effect of pregnancy-related discrimination using multiple regression methods with 1000 bias-corrected accelerated bootstrapping (BCa) resampling method. As age, education and gender role attitudes have been previously observed to influence pregnant women's psychological well-being and work engagement (e.g. Fox & Quinn, 2015), they have been included as covariates in our analysis. After controlling for covariates, increased pregnancy-related discrimination was associated with poorer psychological well-being ( $F(4, 179) = 6.925$ ,  $p < .001$ ,  $R^2 =$



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.134;  $\beta = -.341$ , 95% BCa CI [-.404, -.159],  $p < .001$ ;  $f^2_{[OBS]} = .132$ , power achieved 99.8%) and work engagement ( $F(4, 179) = 5.412$ ,  $p < .001$ ,  $R^2 = .18$ ;  $\beta = -.160$ , 95% BCa CI [-.302, -.048],  $p = .018$ ;  $f^2_{[OBS]} = .026$ , power achieved 58.5%) among our sample. The observed effect sizes were 'small to medium' and 'small', respectively (Cohen, 1988).

1000 bias-corrected accelerated bootstrapped multiple regression was used to test whether the three forms of support at work (co-worker and supervisor social support and POFS) would moderate the effect of perceived pregnancy-related discrimination: hypotheses 2, 3, and 4. In the model with psychological well-being specified as the dependent variable ( $F(10, 173) = 5.686$ ,  $p < .001$ ,  $R^2 = .247$ ), co-worker social support moderated the relationship between pregnancy-related discrimination and expectant worker's psychological well-being ( $\beta = .225$ , 95% BCa CI [.040, .298],  $p = .010$ ). The observed effect size was small (Cohen, 1988):  $f^2_{[OBS]} = .053$ , power achieved 87.4%.

The interactive nature of this association is visually presented in Figure 1. We observed when co-worker social support is low (1 SD below the mean;  $b = -.350$ ,  $p = .001$ ) or average ( $b = -.180$ ,  $p = .024$ ), there is a significant negative relationship between perceived pregnancy-related discrimination and psychological well-being among expectant workers. When co-worker social support is high (1 SD above mean), however, a non-significant negative association is observed ( $b = -.010$ ,  $p = .921$ ). This suggests that the negative association between perceived pregnancy-related discrimination and psychological well-being only really emerges in expectant workers who have average or low levels of co-worker social support. Suggestive, therefore, of a buffering effect. However, in contrast to our hypotheses, supervisor social support ( $\beta = -.134$ , 95% BCa CI [-.259, .058],  $p = .243$ ,  $f^2 = .018$ , power achieved 44%) and POFS ( $\beta = -.117$ , 95% BCa CI [-.257, .082],  $p = .263$ ,  $f^2 = .014$ , power achieved 35.8%) did not moderate this association.

Examining work engagement as the dependent variable ( $F(10, 173) = 7.702$ ,  $p < .001$ ,  $R^2 = .308$ ), co-worker social support was found to moderate the association between pregnancy-related discrimination and expectant workers' work engagement:  $\beta = .209$ , 95% BCa CI [.069, .320],  $p < .001$ ). The observed effect size was small (Cohen, 1988):  $f^2 = .046$  (power achieved 82.5%). We observed an *antagonistic effect* (see Figure 2), where high levels of co-worker social support reversed the negative



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association between pregnancy-related discrimination and work engagement.

Among expectant workers reporting low levels of co-worker social support (1 *SD* below mean), there was a non-significant negative relationship between perceived pregnancy-related discrimination and work engagement:  $b = -.117$  ( $p = .358$ ). At average levels of co-worker social support, this association remained non-significant but became positive:  $b = .081$  ( $p = .397$ ). At high levels of co-worker social support (1 *SD* above mean), higher levels of pregnancy-related discrimination was associated with higher work engagement among surveyed expectant workers:  $b = .278$  ( $p = .020$ ). The moderating effect of supervisor social support ( $\beta = -.181$ , 95% BCa CI [-.317, .009],  $p = .050$ ;  $f^2 = .034$ , power achieved 70.1%) was approaching statistical significance, and POFS ( $\beta = -.068$ , 95% BCa CI [-.249, .112],  $p = .436$ ,  $f^2 = .005$ , power achieved 15.9%) was not.

[insert Figures 1 & 2 here]

### Discussion

The aim of this study was to test the direct association between perceived pregnancy-related discrimination at work and self-reported psychological well-being ( $H_{1a}$ ) and work engagement ( $H_{1b}$ ); and the moderating role of various forms of workplace support therewithin (co-worker social support,  $H_2$ ; supervisory support,  $H_3$ ; perceived organisational family support,  $H_4$ ) in a sample of expectant British working women.

As hypothesised by the JDR model (Demerouti et al., 2001), we found that increased pregnancy-related discrimination was associated with poorer psychological well-being ( $H_{1a}$  retained) and work engagement ( $H_{1b}$  retained) among our sample of expectant British workers. Although cross-sectional in nature, this observed risk to mental health aligns with that previously observed in Fox and Quinn's (2015) longitudinal study of expectant workers in the USA, qualitative findings from a study of pregnant working women by Davies et al. (2005), and, in turn, the wider workplace discrimination literature (Di Marco et al, 2018).

Our study is the first, to our knowledge, to examine work engagement as a unique dependent variable in relation to perceived pregnancy-related discrimination.

Previous research has observed an increased perceived discriminatory work

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environment to be associated with decreased employee satisfaction and engagement both cross-sectionally (Cornejo, 2007; Tirana et al., 2019) and longitudinally (Rodríguez-Muñoz et al., 2009). Therefore, this finding contributes to a building evidence base that suggests perceived discrimination related to pregnancy is an important work-related stressor, and the absence of its mitigation or management may have negative implications in terms of employees' mental health and engagement at work. Therefore, its mitigation is important from both a legal compliance perspective (e.g., Equality Act 2010); but, in turn, may yield added benefits from a workplace health perspective.

The second aim of the study was to test the moderating role of various forms of workplace support (co-worker social support,  $H_{2a\&b}$ ; supervisory social support,  $H_{3a\&b}$ ; and POFS,  $H_{3a\&b}$ ; all conceptualised as a job resource) in relation to perceived pregnancy-related discrimination and expectant workers' psychological well-being and work engagement. Our findings align - in part - to the postulated interactive effects specified in the JDR model. We observed that expectant workers who report high levels of pregnancy-related discrimination and co-worker social support facilitated better work engagement ( $H_{2b}$  retained) and, in turn, mitigated the risk to their psychological well-being ( $H_{2b}$  rejected). This aligns with previous research from the wider workplace discrimination literature, which also observes the buffering role of co-worker social support in relation to workers' psychological well-being (e.g., Di Marco et al., 2018; Xu & Chopik, 2020) and work engagement (e.g., Yeung, Zhou & Chong, 2021). This finding may suggest that access to good quality co-worker social support is instrumental in coping with the stress induced by a perceived discriminatory work environment among expectant workers.

Contrary to our expectations, the moderating effects of other forms of workplace support (e.g., social support from supervisors/ managers and POFS) did not moderate these associations. Research from the wider discrimination literature observes mixed evidence of the attenuating role of manager and organisational-level social support in mitigating the impact of workers' exposure to discriminatory behaviours or attitudes at work and employee well-being (e.g., Di Marco et al., 2018) and motivation at work (Beehr et al., 2003). This finding highlights the salient role of

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certain, but not all, job resources in the context of a perceived discrimination work environment among expectant workers. It suggests that the value of job resources in combination with a perceived discriminatory work environment operate uniquely and independently of each other, as not all our tested forms of workplace support acts as moderators.

We draw on the wider social support at work literature to understand these non-significant findings. This literature observes mixed evidence of the buffering (or indirect effect) of social support in combination with work stressors (such as perceived discrimination at work). Cohen and Wills (1985) proposed that, to detect moderating effects, there should be an adequate match between the support under consideration. That is social support is more likely to buffer the negative effects of stressful working conditions if the available support directly addresses the perceived needs of the situation and its recipient. Cohen and Wills (1985) term this *the stress-support matching hypothesis*. In short, this hypothesis concludes the type or source of support given should be a perceived match to the type or source needed (in either instrumental or emotional terms) by its recipient; otherwise, it will not show the expected (buffering) effects (Cohen & Wills, 1985). Therefore, utilising this idea put forward by Cohen and Wills (1985) we postulate that the social support offered by co-workers (e.g., being able to talk to co-workers when upset) to expectant workers experiencing discrimination (e.g., worries about being left out of important projects or viewed as less committed to their job) acts as a buffer because it matches the (instrumental or emotional) needs of its recipient in that context. Conversely, we may interpret our non-significant finding as suggestive of a mis-match between the other sources of support at work and what they can provide in instrumental, emotional or information terms), and, in turn, the perceived needs of expectant women in this working context. What is important, for future research, is to better understand the psychological process and mechanisms that might underpin and influence the salient role of co-worker social support in the context of a discriminatory work environment among expectant workers. We believe the value of qualitative research is of particular importance here.

In practical terms, this finding has potentially important implications. Firstly, it challenges the notion that all job resources are beneficial in moderating the potential

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negative impact of a discriminatory work environment. Secondly, it highlights the need to target the most relevant and perceived job resources (ensuring alignment to what is needed by the recipient to what is offered by the job resource) in a workplace intervention to ensure their salience and value in mitigating the potential risks posed to worker health and engagement. The importance of consultation and co-creation of interventions with workers directly may be of particular importance in identifying the most potent and salient job resources within that working context and environment.

### **Study Limitations**

There are several limitations that must be considered when interpreting these results. Firstly, the measure developed by Fox and Quinn (2015) used to quantify pregnancy-related is relatively recently developed and has, therefore, not been widely empirically tested or validated. Second, the study is cross-sectional and the temporal nature of variables should not be concluded. Our sample is predominately expectant workers who are Caucasian, highly educated and in long-term relationships. Third, the data collected for this study was in the summer prior to the commencement of the pandemic. We believe, therefore, it is important to test the generalisability of these associations post-pandemic and, in particular, how they may operate within hybrid working conditions. Therefore, the generalisability of such findings beyond these sample parameters should be done with caution. An important area of future research should be to examine such issues in a more diverse sample of pregnant workers. Preliminary evidence has observed a disparity of reported experienced or perceived stigmatising attitudes and discriminatory behaviours by expectant workers by sectoral-area of work, their health status, and by age (Adams et al., 2015). Therefore, future research should examine whether such relationships continue to exist within and across such at-risk groups. Due to the sample size, our study was underpowered to detect very small effects. Future research should increase the sample size to enhance the reliability, validity, and generalizability of the results.

### **Conclusion**

In conclusion, this article offers four main contributions. First, it contributes to further advancements in the field of discrimination at work and understanding further its

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association with workers' psychological well-being and work engagement. Second, it highlights the importance of pregnancy-related discrimination at work as a work stressor, necessitating its reduction as part of the organisation's strategies to manage and prevent work-related stress above and beyond their legal requirements to do so under national-level equality legislation. Third, it observes that not all forms of social support at work influence the association between perceived-related discrimination and expectant workers' psychological well-being and work engagement. It observes social support from co-workers plays an instrumental role as a job resource within this context. Finally, the potential value and effectiveness of resource-based interventions due to the salient role of job resources; but, in turn, highlights that not all types of resources are useful to counteract specific demands.

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**Table 1 | Measurement models comparison**

| Model            | $\chi^2$ | df  | $\chi^2/df$ | CFI | TLI | RMSEA | SRMR | $\Delta \chi^2(\Delta df)$ |
|------------------|----------|-----|-------------|-----|-----|-------|------|----------------------------|
| <b>Model one</b> | 3654.40  | 189 | 1.93        | .84 | .83 | .07   | .08  | ---                        |
|                  |          | 3   |             |     |     |       |      |                            |
| <b>Model two</b> | 3551.20  | 183 | 1.94        | .85 | .84 | .07   | .08  | 103.2*** (62)              |
|                  |          | 1   |             |     |     |       |      |                            |

Note: \*\*\* $p < .001$ ;  $\chi^2$  = chi-square, df = degrees of freedom, CFI = comparative fit index, TLI = Tucker–Lewis index, RMSEA = root mean square error of approximation, SRMR = Standardized root mean squared residual,  $\Delta \chi^2(\Delta df)$  = changes in chi-square and degrees of freedom.

*Model one: Seven-factor model with Pregnancy-related Discrimination (29 items), Perceived Organisational Family Support (10 items), Social Support from Supervisor (3 items), Social Support from Co-workers (3 items), Psychological well-being (5 items), Work Engagement (9 items) and Gender role attitudes (5 items).*

*Model two: Seven-factor model with Pregnancy-related Discrimination (29 items), Perceived Organisational Family Support (10 items), Social Support from Supervisor (3 items), Social Support from Co-workers (3 items), Psychological well-being (5 items), Work Engagement (9 items) and Gender role attitudes (4 items).*

Table 2. Table summarising participant demographic information (n=184).

| Statistic                             | Frequency | Percentage (%) |
|---------------------------------------|-----------|----------------|
| <b>Relationship Status</b>            |           |                |
| Married/ Civil Partnership            | 115       | 62.5           |
| Living Together/Cohabiting            | 60        | 32.6           |
| Single                                | 9         | 4.9            |
| <b>Employment Status</b>              |           |                |
| Employed Full-time                    | 132       | 71.7           |
| Employed Part-time                    | 49        | 26.6           |
| Self-employed                         | 1         | 0.5            |
| Unemployed                            | 1         | 0.5            |
| Missing                               | 1         | 0.5            |
| <b>Number of children they have</b>   |           |                |
| 0                                     | 95        | 51.6           |
| 1                                     | 72        | 39.1           |
| 2                                     | 12        | 6.5            |
| 3                                     | 5         | 2.7            |
| <b>Ethnicity</b>                      |           |                |
| White                                 | 172       | 92.5           |
| Mixed/Multiple ethnicities            | 6         | 3.2            |
| Asian/Asian British                   | 4         | 2.2            |
| Black/African/Caribbean/Black British | 2         | 1.1            |
| Missing                               | 2         | 1.1            |
| <b>Education status</b>               |           |                |
| Primary school                        | 1         | 0.5            |
| GCSEs or equivalent                   | 11        | 6.0            |
| A-levels or equivalent                | 39        | 21.2           |
| University undergraduate programme    | 77        | 41.8           |
| University post-graduate programme    | 51        | 27.7           |
| Doctoral degree                       | 5         | 2.7            |

| Item no. | Items   | Standardised factor loading | Standardised error | Z value | 95% confidence interval |
|----------|---|-----------------------------|--------------------|---------|-------------------------|
| 15       | My supervisor thinks that I am no longer working as hard as I did before I was pregnant.  | 0.89***                     | 0.02               | 54.69   | [0.86, 0.92]            |
| 13       | My supervisor no longer has confidence in my abilities to do my job.  | 0.88***                     | 0.02               | 47.00   | [0.84, 0.91]            |
| 17       | My supervisor thinks that I am not dedicated to my job.   | 0.87***                     | 0.02               | 45.17   | [0.84, 0.91]            |
| 12       | My supervisor thinks that work is no longer one of my top priorities.   | 0.85***                     | 0.02               | 38.89   | [0.81, 0.89]            |
| 14       | My supervisor does not want to help me when I need it.  | 0.83***                     | 0.02               | 33.47   | [0.78, 0.88]            |
| 29       | I have received an unfair performance appraisal.  | 0.75***                     | 0.03               | 22.66   | [0.69, 0.82]            |
| 7        | My co-workers think that I am not dedicated to my job.  | 0.73***                     | 0.04               | 20.79   | [0.67, 0.80]            |
| 11       | My supervisor views me as more emotional, even if I am not.   | 0.73***                     | 0.04               | 19.87   | [0.65, 0.80]            |
| 5        | My co-workers think that I am no longer working as hard as I did before I was pregnant.   | 0.72***                     | 0.04               | 19.63   | [0.65, 0.79]            |
| 28       | I have not been given new responsibilities at work.   | 0.72***                     | 0.04               | 18.90   | [0.64, 0.79]            |
| 23       | I have been left out of meetings.   | 0.71***                     | 0.04               | 18.67   | [0.64, 0.79]            |
| 9        | My co-workers view me as less competent.  | 0.71***                     | 0.04               | 18.40   | [0.63, 0.78]            |
| 16       | My supervisor thinks that I will not return to work following the birth of my child.  | 0.70***                     | 0.04               | 18.49   | [0.63, 0.77]            |
| 20       | Some of my responsibilities have been taken away unnecessarily.   | 0.70***                     | 0.04               | 17.68   | [0.62, 0.78]            |
| 22       | I will be left out of important projects.   | 0.69***                     | 0.04               | 17.41   | [0.62, 0.77]            |
| 3        | My co-workers no longer have confidence in my abilities to do my job.   | 0.69***                     | 0.04               | 16.71   | [0.60, 0.77]            |
| 25       | My supervisor has not made necessary accommodations to my pregnancy (for example, standing for long periods of time, heavy lifting, extra over-time, etc.). | 0.65***                     | 0.04               | 14.81   | [0.57, 0.74]            |
| 2        | My co-workers think that work is no longer one of my top priorities.  | 0.64***                     | 0.05               | 13.96   | [0.55, 0.73]            |
| 19       | I have been denied a pay raise.   | 0.63***                     | 0.05               | 13.67   | [0.54, 0.72]            |
| 8        | My co-workers avoid me.   | 0.63***                     | 0.05               | 13.45   | [0.53, 0.72]            |
| 26       | I have been denied benefits that my organisation normally provides to pregnant women.   | 0.62***                     | 0.05               | 13.29   | [0.53, 0.71]            |
| 6        | My co-workers think that I will not return to work following the birth of my child.   | 0.61***                     | 0.05               | 12.94   | [0.52, 0.71]            |
| 4        | My co-workers do not want to help me when I need it.  | 0.61***                     | 0.05               | 12.99   | [0.52, 0.71]            |
| 18       | I have been denied a promotion.   | 0.61***                     | 0.05               | 12.54   | [0.51, 0.70]            |
| 27       | I have been asked to stop working earlier than I want to.   | 0.60***                     | 0.05               | 12.26   | [0.50, 0.69]            |
| 24       | I am being forced to take unpaid leave.   | 0.59***                     | 0.05               | 11.79   | [0.49, 0.68]            |
| 21       | I have received a pay cut.  | 0.58***                     | 0.05               | 11.62   | [0.48, 0.68]            |
| 10       | I have not been invited to social events with co-workers.   | 0.54***                     | 0.05               | 9.94    | [0.43, 0.64]            |
| 1        | My co-workers view me as more emotional, even if I am not.  | 0.45***                     | 0.06               | 7.42    | [0.33, 0.57]            |

Note: \*\*\* $p < .001$

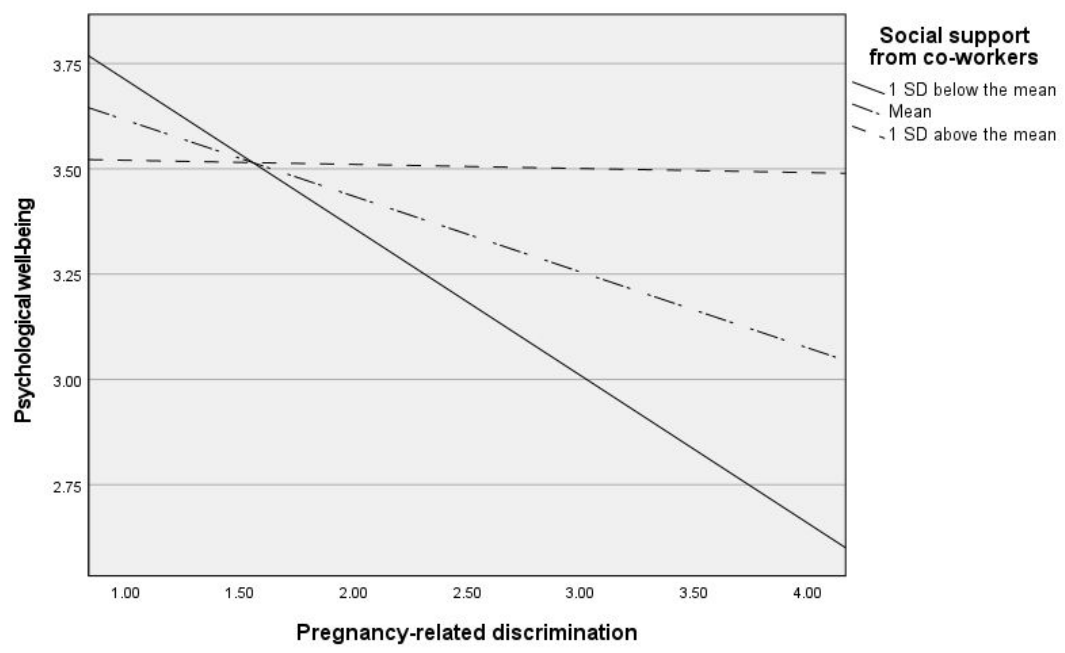
**Table 3** Pregnancy-related Discrimination Scale factor loadings (standardised factor loadings in descending order)

Table 3. Descriptives, Correlations and Cronbach's alpha coefficients ( $n = 184$ )

|   | Mean             | SD  | Cronbach's<br>alpha | 1      | 2    | 3      | 4       | 5      | 6      | 7      | 8      | 9 |
|---|------------------|-----|---------------------|--------|------|--------|---------|--------|--------|--------|--------|---|
| <b>1. Age</b>                                     | 30.9             | 4.9 |                     | -      |      |        |         |        |        |        |        |   |
| <b>2. Education level</b>                         | 4.0 <sup>a</sup> | 0.9 |                     | .34*** | -    |        |         |        |        |        |        |   |
| <b>3. Gender role attitudes</b>                   | 3.7              | 1.0 | .81                 | .16*   | .15* |        |         |        |        |        |        |   |
| <b>4. Pregnancy-related stigma</b>                | 2.6              | 1.3 | .96                 | -.07   | -.10 | -.16*  |         |        |        |        |        |   |
| <b>5. Social Support from Co-workers</b>          | 3.5              | 1.0 | .89                 | -.06   | .04  | .05    | -.48*** |        |        |        |        |   |
| <b>6. Social Support from Supervisor</b>          | 3.3              | 1.2 | .90                 | .01    | .07  | .12    | -.58*** | .54*** |        |        |        |   |
| <b>7. Perceived Organisational Family Support</b> | 2.6              | 1.1 | .96                 | .11    | .10  | .14    | -.46*** | .42*** | .64*** |        |        |   |
| <b>8. Psychological well-being</b>                | 3.2              | 1.1 | .89                 | .16*   | .08  | .11    | -.34*** | .38*** | .35*** | .32*** |        |   |
| <b>9. Work engagement</b>                         | 4.6              | 1.3 | .93                 | .11    | .10  | .28*** | -.20**  | .37*** | .39*** | .34*** | .51*** |   |

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

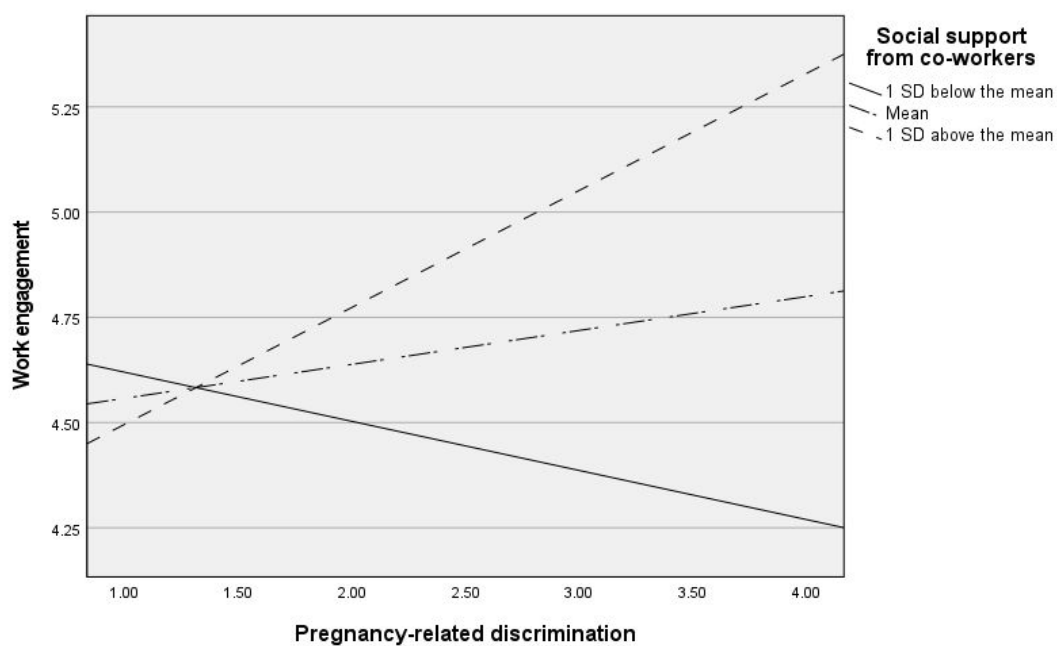
<sup>a</sup>Education level is represented numerically as 1= Primary school; 2=GCSEs or equivalent; 3=A-levels or equivalent; 4= University undergraduate programme; 5= University post-graduate programme; 6= Doctoral degree.



**Figure 1.** Visual representation of the moderation effect of social support from co-workers on the relationship between pregnancy-related discrimination and psychological well-being.

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**Figure 2.** Visual representation of the moderation effect of social support from co-workers on the relationship between pregnancy-related discrimination and work engagement.