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Sexual harassment and psychological distress experienced by women police: The role of embitterment and psychological contract breach

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ABSTRACT

Despite decades of workplace interventions, often focussed on increasing women police numbers, women continue to be under-represented in policing. Understanding the experiences of women once they have entered policing has been an area of ongoing interest. Examination of the experiences of women police is often undertaken with reference to its masculinized culture. Stemming from these discussions, sexual harassment remains a persistent concern across many police agencies. This study involves 491 women police employed in one large Australian, state police organization. Derived from the study findings, the concepts of psychological contract breach (PCB) and embitterment, two factors that have been rarely studied in policing, are critical to understanding the relationship between sexual harassment and psychological distress. Using mediated regression analysis, the research found PCB and embitterment provide a more nuanced explanation of outcomes of sexual harassment experiences and in turn, provided insight into why sexual harassment is associated with greater psychological distress. This research positions police agencies and their leaders to develop and implement more effective support strategies for women police who have experienced sexual harassment and mitigate negative psychological health impacts that may result.

INTRODUCTION

Despite decades of workplace interventions that promote equal opportunities and affirmative action women remain under-represented in police organizations (Schuck, 2021; Todak *et al.*, 2021). Efforts to attract more women into the police ranks has drawn significant research attention (Drew and Archbold, 2023). However, any successes achieved in attracting women into policing are likely to be undermined if women have negative experiences once they join (Casey, 2023; Crime & Corruption Commission (CCC), 2021; Drew and Archbold, 2023). Within the diversity of organizational experiences of police personnel that have been studied, sexual harassment remains a persistent concern that disproportionately impacts women police (Casey, 2023; Taylor *et al.*, 2022; Victorian Equal Opportunities and Human Rights Commission (VEOHRC), 2019). Previous research has found some support for the role of sexual harassment and gender discrimination experiences in producing comparatively higher rates of poor psychological health for women police compared to their male counterparts (Angehrn *et al.*, 2021). The current research seeks to contribute to contemporary understanding of how sexual harassment is related to poor psychological health outcomes for women in policing.

It is common for uniformed services, such as defence agencies and police, to report higher rates of sexual harassment and gender discrimination relative to other occupations (Davis *et al.*, 2023; Grube-Farrell, 2002). A study of police across 35 countries found that 77% of officers had been a victim of sexual harassment (Brown *et al.*, 2000). Brown *et al.* (2018) found less severe forms of sexual harassment, that is, banter, was reported by around two-thirds of women police employed in England, Wales, and Scotland police agencies. Harassment of greater severity was reported by between one-third and one-fifth of their sample. More recently, Taylor *et al.* (2022) conducted a nationally representative study of sexual harassment and sexual assault in US law enforcement. They found 71% of women police had experienced non-physical sexual harassment and 8.3% had experienced sexual assault.

Why so many police organizations report such alarmingly high rates of sexual harassment has been tied to specific work environment characteristics. Using McDonald's (2012) criteria, work characteristics commonly found across police agencies put police organizations at high risk (Brown *et al.*, 2018; Taylor *et al.*, 2022). Risk factors include numerical underrepresentation of women (demographic vulnerability and gender distribution in

work groups), a culture or climate that is more tolerant of harassment (workplace culture), and low levels of representation of women in senior ranks (power distribution) (Brown *et al.*, 2018; Taylor *et al.*, 2022). Police agencies must continue, or for some agencies begin, addressing workplace characteristics that facilitate and sustain sexual harassment. Unfortunately, these types of reforms will take time. Therefore, police agencies, as a matter of priority, must consider how to support the many women police who will in the shorter term experience sexual harassment in police workplaces.

Sexual harassment is having significant health impacts on women police (Angehrn *et al.*, 2021; de Haas *et al.*, 2009). Sexual harassment is associated with poor mental health and well-being, psychological distress, depression, and anxiety (Berdahl and Aquino, 2009; Chan *et al.*, 2008; Diez-Canseco *et al.*, 2022; Willings *et al.*, 2007). Currently, the factors that are most likely to exacerbate or reduce the impact of sexual harassment experiences on individual, psychological health outcomes remain relatively unexplored. This is especially the case for the police context. Without this understanding, developing policies, procedures, and supports to reduce poor psychological outcomes for women police experiencing sexual harassment, remains largely guesswork.

For this reason, a significant contribution of the current research involves the inclusion of the concepts of PCB and embitterment. PCB and embitterment are studied as factors that have the potential to contribute to an explanation of why sexual harassment experiences of women police result in psychological harm and represents a new research agenda in policing. This research addresses the need to gain greater insights into the ‘black box’ between sexual harassment experiences and well-being.

The current study involves 491 women police employed in a large Australian, state police organization. The study only included women police given that a greater proportion of women compared to men typically experience sexual harassment within policing (Taylor *et al.*, 2022). The current study contributes to the small body of existing police literature that has established the relationship between sexual harassment and psychological distress. It explores the role of PCB and embitterment as factors

that may, in part, explain this relationship (see Fig. 1 for full model being tested).

LITERATURE REVIEW

Recent inquiries and reports have drawn attention to and have driven calls for cultural reform in police organizations. It has been concluded that urgent action is needed to address what has been referred to as a police culture that remains unwelcoming (at best) and hostile (at worst) to women. In March 2023, a review of the UK Met police was released. The review found that the Met is ‘institutionally sexist and misogynistic’ (Casey, 2023, p. 285). It was further noted that women have a ‘day-to-day experience of sexism, bias, and bullying’ (Casey, 2023, p. 267). In Australia, a Commission of Inquiry into the Queensland Police Service responses to domestic and family violence (Richards, 2022, p. 11) found ‘clear evidence of a culture where attitudes of misogyny, sexism and racism are allowed to be expressed, and at times acted upon’. This is not dissimilar to previous reviews conducted in other Australian police organizations. The Victorian Equal Opportunities and Human Rights Commission (VEOHRC) (2015) found an entrenched culture of everyday sexism in Victoria Police and a ‘hypermasculine policing identity drove systemic discrimination, undermined women’s representation, progression and equal pay and impeded access to flexible work’ (VEOHRC, 2019, p. 2). The VEOHRC review linked this type of organizational culture to low employee morale, poor job satisfaction, decreased retention, lower productivity, and greater absenteeism.

The type of culture described as ‘typical’ police culture, facilitates high rates of sexual harassment and is an environment in which women police feel they do not receive adequate support. Women police often report that they are unable to discuss their concerns within their agencies or with their leaders (Davis *et al.*, 2023). It is not uncommon for perpetrators of sexual harassment to escape internal discipline and women police can at times be the ones who are punished for reporting sexual harassment or discrimination. They may be reassigned to other positions or transferred into reduced roles (Davis *et al.*, 2023). Given the characteristics of police culture, it is not difficult to argue that

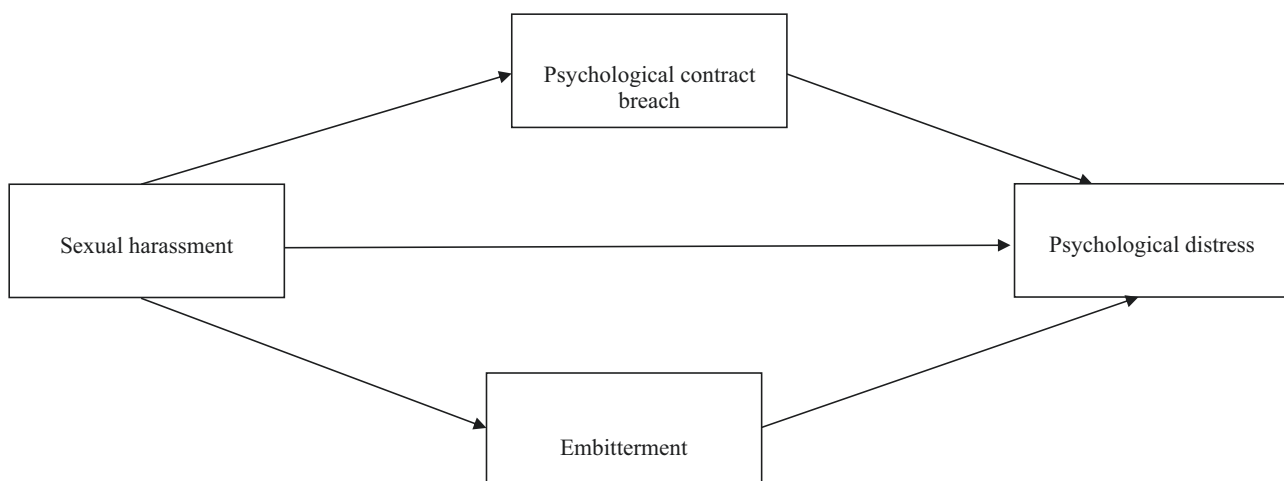


Figure 1: Relationships between sexual harassment, embitterment, PCB, and psychological distress

sexual harassment is likely to constitute a significant organizational stressor in police agencies. Reflecting on reported incidence rates, this is particularly the case for women police (Taylor *et al.*, 2022).

Sexual harassment as a stressor

Policing is an inherently stressful occupation. Workplace stress can in part, explain the elevated rates of mental health diagnoses, increased burnout, and high levels of psychological distress reported for this employee cohort (Drew and Martin, 2021, 2023). Stressors in policing are often grouped into two categories: operational (e.g. job stress associated with the nature of police work) and organizational (e.g. stress created by organizational systems, policies, procedures, and leadership of police agencies) (McCreary and Thompson, 2006). Even after accounting for the experience of potentially psychologically traumatic events, operational and organizational stressors are strongly associated with poor mental health outcomes (Carleton *et al.*, 2020; Drew *et al.*, 2023). Drew *et al.* (2023) refer to recent police research that found operational and organizational stress causes two to three times the harm compared to traumatic, critical incidents.

Understanding gender differences in the experience and cause of stress is important. Gender-specific forms of stress will become increasingly important to police agencies. The experience of women in policing is different to their male counterparts (Angehm *et al.*, 2021) and sexual harassment is likely to be a significant and gendered organizational police stressor. If agencies seek to bolster the numbers of women in their ranks and benefit from greater gender diversity, they must become more attractive and supportive workplaces for women. However, gender-specific forms of stress are often neglected in police stress research. For example, a well validated and extensively used measure of organizational police stress developed by McCreary and Thompson (2006) does not include it. Its exclusion means that many police stress researchers who consider gender differences are limited to examining gender differences across generic stress factors. Subsequently, sexual harassment remains an understudied form of organizational police stress.

Sexual harassment and well-being connection

Unsurprisingly, previous studies have established the connection between sexual harassment and poor mental health and well-being, including generalized psychological distress, depression, and anxiety (Berdahl and Aquino, 2009; Chan *et al.*, 2008; Willings *et al.*, 2007). Sexual harassment as a behavioural experience has a detrimental impact on the physical and mental health of police employees (Angehm *et al.*, 2021; de Haas *et al.*, 2009; VEOHRC, 2015). Poor psychological outcomes are likely to be exacerbated for women police who are not supported by their police agency to either address or report these behaviours. Feeling let down by the agency in which you work can exacerbate distress (VEOHRC, 2015).

Exploring the relationship between sexual harassment and psychological distress

Two concepts, PCB and embitterment have been identified as relevant factors that may explain how sexual harassment

is associated with psychological distress of women police. Embitterment and PCB, while connected through commonalities of injustice, betrayal, and incongruity or breach of employment expectations, are independent constructs (Michailidis, 2023). PCB focuses on a cognitive assessment of work events that represent an incompatibility between what was expected and what has been received (Nimmo, 2018; Rousseau 1989). Embitterment is focussed less on the event itself; it captures the psychological process initiated by the event (injustice and betrayal) and the type and severity of the psychopathology that results (embitterment) (Linden *et al.*, 2009). Studying embitterment and PCB provides the opportunity to gain more nuanced insights into how sexual harassment is cognitively and emotionally 'experienced' by women police.

Embitterment

Embitterment is a reaction to an experience that is common but exceptional and does not pose a direct threat to life (Hasanoglu, 2008; Linden, 2003). This experience results in feelings of humiliation, injustice, or a breach of trust and violates an individuals' basic beliefs and values (Linden and Arnold, 2020; Linden *et al.*, 2008). Embitterment occurs on a continuum (Linden, 2020). A severe and prolonged psychological reaction to an event that produces significant levels of embitterment and impairs functioning is referred to as post-traumatic embitterment disorder (Linden *et al.*, 2010).

Embitterment is considered a variable of interest in the current study given that previous research has suggested that triggers associated with embitterment are most often related to a work event. Research conducted by Linden *et al.* (2007) found that 73% of life events that caused embitterment were work related. Based on a review of the literature, the current research is the first study to focus on the relationship between sexual harassment, as a work event, and embitterment. As such, it is also the first undertaken in the police context. A limited number of studies have examined workplace bullying and embitterment in other workplaces and provide some relevant insights. Karatuna and Gok (2014) and Ege (2010) both found significant connections between workplace bullying and higher incidence of embitterment. Research on workplace bullying, a distinct but somewhat similar work experience, provides preliminary evidence to suggest that sexual harassment may be an important predictor of embitterment. In the current study, it is hypothesized that women police who experience sexual harassment within police agencies will feel a sense of betrayal and injustice and these feelings will be manifested as embitterment.

PCB

PCB is based on social exchange theory. It is 'an individual belief shaped by the organization, regarding terms of an exchange agreement between individuals and their organization' (Rousseau, 1989, p. 123). A breach occurs when employees perceive an imbalance between the obligations or promises perceived by the employee as made by the organization and the contribution that the employee provides in return. PCB is connected to the notion of organizational justice (Nimmo, 2018).

Considering stressors as a potential source contract breach, some organizational stressors in policing may be viewed by

officers as ‘part of the job’. Stressors such as shiftwork may be expected as simply the nature of policing duties. It will not be perceived as a breach of the implied contract between the officer and their police agency and as such, is unlikely when perceived in this way to lead to negative work-related or health outcomes (Duran *et al.*, 2019). However, when a stressor is perceived as a breach, the stress will often lead to reduced well-being.

It is proposed that sexual harassment is likely to be interpreted by women police as a breach of the employment contract. A fundamental cultural tenant of policing is the belief of officers that colleagues will ‘have each other’s back’, particularly given the physical dangers posed by police work. It is an implicit and likely unspoken expectation of those entering the police profession. However, it is the same colleagues and supervisors, who are to be supposedly relied upon, that subject women police to sexually inappropriate comments, behaviours, and actions (Brown *et al.*, 2018). A perception of contract breach via sexual harassment may be further exacerbated by the often-documented lack of responsiveness by police agencies to reports or knowledge of sexual harassment within its ranks (Davis *et al.*, 2023).

CURRENT STUDY

The predictive relationship between sexual harassment and PCB and how PCB might explain the relationship between sexual harassment and psychological distress is largely unexplored. Few studies of PCB in police populations have been undertaken (Duran *et al.*, 2019). No studies were identified that examined PCB and sexual harassment. Of the police studies that have examined the connection between stress, PCB, and well-being, the findings have been mixed. Based on qualitative research undertaken by Duran *et al.* (2019) it was concluded that PCB is relevant to understanding stress and well-being in police cohorts. Others, Noblet *et al.* (2009) and Rodwell *et al.* (2011) who undertook research with Australian police, largely failed to establish a relationship between PCB and well-being, psychological distress, job satisfaction, and affective commitment.

The current study is based on a sample of women police drawn from a large, Australian state police agency. The research has several aims. The first focuses on the relationship between sexual harassment and psychological distress. It is expected that greater levels of stress associated with sexual harassment experiences, PCB, and embitterment will be predictive of greater distress. Furthermore, the study examines the role of PCB and embitterment as possible, explanatory factors in better understanding the sexual harassment-distress relationship. It is expected that women police who experience higher levels of stress resulting from sexual harassment experiences, will feel more betrayed, resentful, and embittered. In turn, this will explain the predictive relationship between sexual harassment and distress. The study will facilitate the development of an interim approach to addressing sexual harassment and should be used in concert with broader and more substantive cultural reforms that ultimately aim to eliminate sexual harassment within police organizations.

METHODS

Data and procedure

The sample of 491 women police used in the current study was drawn from the larger dataset collected as part of the statewide police agency survey. A statewide survey of all police personnel employed in a large, state-based Australian police agency was undertaken. The survey was conducted as part of an Australian Research Council (ARC) Linkage Grant (LP200200834) focussed on developing an early warning system for police workplace health and performance. All personnel in the participating police organization were invited to participate in the study. An email was sent out to all personnel by the Commissioner of the police organization. The email contained a link to an online survey hosted on an external (University) platform. Follow-up emails to encourage survey participation were distributed by the Presidents of the Police Unions who service the police organization. The research had Human Resource Ethics Committee approval from Griffith University (2021/793) and received approval from the police agency research committee.

The sample of 491 women included in this study constitutes a response rate of 14.3% of all sworn women police employed by the agency. The average age of women police in the sample was 42.68 years (SD = 8.67). Years of service and rank categories for the sample are provided in Table 1. Most women (71.89%) had worked for the police agency for over 10 years, with the largest group holding 21+ years of service (33.40%), followed by 16–20 years of service (20.57%). In respect to rank, the largest group in the sample held the ranks of constable/senior constable (63.32%).

Measures

This study examines the relationships between (1) sexual harassment and psychological distress; (2) sexual harassment and embitterment; (3) sexual harassment and PCB; and, (4) the role of PCB and embitterment in explaining the relationship between sexual harassment and psychological distress.

Table 1: Number and percentage of women police by rank and years of service—agency and study sample

	All women police in agency	Women police in sample
Rank		
Constable/senior constable	2,644 (76.79%)	309 (63.32%)
Sergeant	574 (16.67%)	110 (22.54%)
Senior sergeant	174 (5.05%)	47 (9.63%)
Inspector and above	51 (1.48%)	22 (4.51%)
Years of service		
Less than 5 years	–	60 (12.22%)
5–10 years	–	78 (15.89%)
11–15 years	–	88 (17.92%)
16–20 years	–	101 (20.57%)
21+ years	–	164 (33.40%)

Note. Data regarding years of service by category for women police across the agency was not available. The mean years of service for women in the agency was 14.22 years.

Dependent variable

The dependent variable in the analysis was psychological distress. The Kessler Psychological Distress (K10) scale includes ten items (Kessler *et al.*, 2002). Each statement was rated on a 5-point Likert response scale, ranging from 1 (none of the time) to 5 (all of the time). Higher scores on the scale indicate greater psychological distress. An examination of the mean scores of the psychological distress scale shows that overall, participants reported feeling distressed 'a little of the time' (Scale Mean = 1.857; SD = 0.681; $\alpha = 0.898$).

Independent variable

One independent variable was included in the study, sexual harassment. Sexual harassment was measured via one item. Respondents were asked whether they had experienced sexual harassment in the last 6 months (1 = had not experienced). If the respondent had experienced sexual harassment, they were asked to rate the stress they felt from this experience. Stress was rated from 2 (no stress at all) to 8 (a lot of stress). A higher score on this scale indicated greater stress ($M = 1.714$; $SD = 1.534$).

Mediation variables

Two mediation variables were included in the study. The mediation effects of PCB and embitterment on the relationship between sexual harassment and psychological distress were tested.

A principal axis factor analysis with oblimin rotation was conducted to determine the construct validity of PCB and embitterment (see Table 2). Construct validity was not assessed for sexual harassment as this was a one-item scale. Results of the analysis revealed two distinct factors. Specifically, Component 1 comprised 14 items measuring embitterment and Component 2 included 5 items measuring PCB.

PCB

PCB was measured using Robinson and Morrison's (2000) 5-item scale. The scale measures 'an overall evaluation of how well one's contract has been fulfilled by one's employer' (Robinson and Morrison, 2000, p. 534). Each item was rated using a 7-point Likert scale, with 1 indicating 'very strongly disagree' through to 7 indicating 'very strongly agree'. Three of the five items were reversed scored. Higher scores on the scale indicated greater PCB. An examination of the mean score indicated that most women strongly agreed that there had experienced a contract breach ($M = 4.082$; $SD = 1.099$; $\alpha = 0.889$).

Embitterment

Embitterment was measured using Linden *et al.*'s (2009) fourteen-item post-traumatic embitterment scale. The embitterment scale measures participants' feelings of injustice experienced in reaction to adverse events in the workplace (Carter, 2021; Linden, *et al.*, 2009). Consistent with the operationalization of embitterment described by Linden *et al.* (2009) participants were asked to consider whether they had experienced a workplace event that caused them to feel extremely annoyed, angry, or resentful. Participants were then asked to

Table 2: Principal axis factor analysis

	1	2
Embitterment		
Led to a noticeable and persistent negative change in my mental well-being	0.844	-0.019
I think about it over and over again	0.853	-0.039
Caused me to be extremely upset when I am reminded of it	0.851	-0.017
Led to the feeling that there is no sense to strive or to make an effort	0.695	0.160
Made me frequently feel sullen and unhappy	0.875	0.015
Impaired my overall physical well-being	0.875	-0.007
Caused me to avoid certain places or persons so as to not be reminded of it	0.799	-0.040
Made me feel helpless and disempowered	0.870	-0.050
Led to a considerable decrease in my strength and drive	0.852	0.067
Made me more easily irritated than before	0.810	0.055
Made me feel like I need to distract myself from it in order to experience a normal mood	0.901	-0.110
Made me unable to pursue occupational and/or family activities as before	0.794	0.065
Caused me to draw back from friends and social activities	0.792	0.048
Frequently evokes painful memories	0.845	-0.010
Psychological contract breach		
I feel that my employer has come through in fulfilling the promises made to me when I was hired (reverse coded)	-0.001	0.816
Almost all the promises made by the police agency during recruitment have been kept so far (reverse coded)	-0.054	0.874
I have not received everything promised to me from the police agency in exchange for my contributions	0.001	0.596
The police agency has broken many of its promises to me even though I've upheld my side of the deal	0.010	0.721
Overall, I would say the police agency has done an excellent job of fulfilling its promises to me (reverse coded)	-0.054	0.874
Eigenvalues	10.864	2.589
% of variance	57.177	13.624

Note. Extraction method: principal axis factor analysis with oblimin rotation, cut-off for factor loadings >0.4.

reflect on that workplace event and rate several specific statements about how the experience had made them feel. Each item was rated using a 5-point Likert scale, with 1 representing 'not true at all' to 5 representing 'extremely true'. The use of a 1–5 numeric (anchor descriptions were replicated from the original scale) represented a slight variation to the scale developed by Linden *et al.* (2009). The original scale used a

Table 3: Descriptive statistics and bivariate correlations for all scales and covariates

	Number of items	α	M (SD)	1	2	3	4	5
1.Rank	1	–	1.553 (0.844)	1				
2.Sexual harassment	1	–	1.714 (1.534)	-0.026	1			
3.Psychological contract breach	5	0.889	4.082 (1.099)	-0.090	0.240 ^b	1		
4.Embitterment	14	0.970	2.786 (1.158)	0.111 ^a	0.200 ^b	0.413 ^b	1	
5.Psychological distress	10	0.898	1.857 (0.681)	-0.010	0.167 ^b	0.432 ^b	0.608 ^b	1

^aCorrelation is significant at the 0.05 level (2-tailed).

^bCorrelation is significant at the 0.001 level (2-tailed).

Table 4: Experience of sexual harassment—number and percentage of women police

Stress experienced from sexual harassment	Number of women police	Percentage of women police
Have not experienced sexual harassment	341	72.86
Experienced sexual harassment	127	27.14
Have experienced sexual harassment but it caused them <i>no stress at all</i>	52	11.11
Have experienced sexual harassment and it caused them <i>some to a lot</i> of stress	75	16.03

5-point Likert scale but was scored 0–4. Higher scores on the scale indicated stronger feelings of embitterment ($M = 2.786$; $SD = 1.158$; $\alpha = 0.970$).

Covariates

One covariate was included in the analysis, rank (1 = constable; 2 = senior constable; 3 = sergeant; 4 = senior sergeant; 5 = inspector or above). Table 3 provides the descriptive statistics for all variables and bivariate correlations of the scales and covariates.

Analytic strategy

A mediation analysis was conducted to determine whether the relationship between sexual harassment and psychological distress is mediated by PCB and embitterment. The hypothesized mediation model was tested using Model 4 in the Hayes' (2022) PROCESS Macro in SPSS v29.0. Hayes' (2022) PROCESS Model 4 tests the total, direct, and indirect effects within a model simultaneously. For indirect effects, bootstrapping was used to generate standard errors and percentile bootstrap confidence intervals, to indicate the significance of each effect. Path c' is the direct effect of sexual harassment on psychological distress. Paths b^1 and b^2 represent the direct effects of PCB and embitterment on psychological distress, respectively. The direct effect of sexual harassment on PCB is denoted as path a^1 , and the direct effect of sexual harassment on embitterment is path a^2 . The indirect effect of sexual harassment on psychological distress via PCB is calculated as path $a^1 * b^1$. Similarly, the indirect effect of

sexual harassment on psychological distress via embitterment was calculated as path $a^2 * b^2$. Path c is the total effect of sexual harassment on psychological distress, which is the sum of the direct and indirect effects.

RESULTS

Preliminary analyses

Table 4 provides the number and percentage of women police who reported varying levels of stress resulting from their experience of sexual harassment. The sample included 27.14% of women who had experienced sexual harassment in the previous 6 months. Of those women who indicated that they had been sexually harassed, 40.94% reported that they did not feel stressed at all by the experience and 59.06% experienced significant stress.

Using Linden *et al.*'s (2009) guide to embitterment scale interpretation (and considering the scale numeric used in the current study) an average score on the embitterment scale of ≥ 2.6 indicates that an individual suffers from an intensity of embitterment that is of clinical relevance. An average score on the embitterment scale of ≥ 3.5 indicates a clinically significant level of embitterment (Linden *et al.*, 2009). Table 5 provides the number and percentage of women police who experienced sexual harassment according to the above thresholds (cut-offs). When the cut-off was set at 2.6, 62.81% of women police who were sexually harassed reported a clinically significant level of embitterment, compared to 44.53% who were not sexually harassed. When the cut-off was set at 3.5, 35.54% of women police who had been sexually harassed reached this threshold compared to 27.55% in the non-harassed group.

Table 5 also provides data relating to the number and percentage of women police who scored above and below the mid-point on the PCB scale. These values were calculated separately for women police who had and had not experienced sexual harassment. Of those women police who were sexually harassed, 82.35% scored above the mid-point on the PCB scale. This is compared to 72.59% of women police who were not sexually harassed.

A series of (two-tailed) independent samples *t*-tests were conducted to examine whether officers who had and had not experienced sexual harassment reported significantly different levels of PCB, embitterment, and psychological distress.

For all three *t*-tests, assumptions for the analyses were met. The data set was inspected for outliers. Outliers were defined as data points with standardized residuals greater than three. There were no outliers for the *t*-tests on PCB and embitterment. Seven outliers were identified for the *t*-test on psychological distress and were excluded from the analysis.

Table 5: Sexual harassment experience by embitterment and psychological contract breach thresholds

Cut-off scores		Women police who did not experience sexual harassment		Women police who experienced sexual harassment		Total (all women police)	
		Number	%	Number	%	Number	%
Embitterment	<2.6	147	55.47	45	37.19	192	49.74
	≥2.6	118	44.53	76	62.81	194	50.30
	<3.5	192	72.45	78	64.46	270	69.95
	≥3.5	73	27.55	43	35.54	116	30.05
PCB	<3.5	88	27.41	21	17.65	109	24.77
	≥3.5	233	72.59	98	82.35	331	75.23

Note. PCB, psychological contract breach.

Table 6: Regression results for the mediation model

Direct effects	R	R ²	F	p	b	β	t	p	LLCI	ULCI
Psychological distress	0.614	0.378	47.555	***						
Rank					-0.065	-0.091	-1.906		-0.133	0.002
Sexual harassment (path c')					0.017	0.043	0.848		-0.022	0.056
Psychological contract breach (path b ¹)					0.074	0.117	2.441	*	0.014	0.133
Post-traumatic embitterment (path b ²)					0.302	0.544	11.313	***	0.249	0.354
Psychological contract breach	0.286	0.082	13.775	***						
Rank					-0.187	-0.164	-3.160	**	-0.303	-0.070
Sexual harassment (path a ¹)					0.139	0.225	3.425	***	0.059	0.219
Post-traumatic embitterment	0.225	0.051	10.091	***						
Rank					0.126	0.097	1.869		-0.007	0.259
Sexual harassment (path a ²)					0.146	0.036	4.111	***	0.076	0.216
Psychological distress	0.195	0.038	5.997	**						
Rank					-0.041	-0.057	-1.049		-0.118	0.036
Sexual harassment (path c)					0.071	0.183	3.139	**	0.027	0.116
Indirect effects	b	β	Bootstrapped SE	Bootstrapped LLCI	Bootstrapped ULCI					
Psychological contract breach (a ¹ * b ¹)	0.010	0.026	0.005	0.002	0.022					
Post-traumatic embitterment (a ² * b ²)	0.044	0.113	0.012	0.021	0.066					

Note. Bootstrap sample size = 5,000; Heteroscedasticity consistent standard error estimator HC3 was used; SE, standard error with respect to *b*; LLCI, low limit confidence interval with respect to *b*; ULCI, upper limit confidence interval with respect to *b*; **p* < 0.05; ***p* < 0.01; ****p* < 0.001.

The analysis indicated that officers who had been sexually harassed experienced higher levels of PCB ($M = 4.365$; $SD = 1.024$) than those who had not been harassed ($M = 3.958$; $SD = 1.095$), $t(438) = -3.523$, $p < 0.001$. Similarly, officers who had experienced sexual harassment reported higher levels of embitterment ($M = 3.007$; $SD = 1.092$) compared to their non-harassed colleagues ($M = 2.653$; $SD = 1.150$), $t(384) = -2.852$, $p = 0.005$. Significantly greater psychological distress was found for those women who had been sexually harassed ($M = 2.006$; $SD = 0.711$), compared to those who had not been harassed ($M = 1.795$; $SD = 0.651$), $t(459) = -3.208$, $p = 0.001$.

Mediation analysis

The Hayes (2022) PROCESS Macro (Model 4) was used to test whether PCB and embitterment mediate the relationship between sexual harassment and psychological distress. To test the significance of the indirect effects, 5,000 bootstrap samples were used

to generate standard errors and percentile bootstrap confidence intervals.

The mediation model is made up of four regression models (provided in Table 6). There were no leverage points or influential points within the data and the assumptions of multicollinearity were met; all tolerance values were greater than 0.1 (Hair et al., 2014) and correlations between the independent variables did not exceed 0.7 (see Table 3 for all bivariate correlations). The assumption of linearity was met for all predictors and all regression models. Normality of data was adequate given the large sample size (Lumley et al., 2002). Outliers were defined as data points with standardized residuals greater than 3. A total of 10 outliers were identified across the 4 regression models, and these data points were excluded from the mediation analysis.

The assumption of homoscedasticity was assessed through a visual inspection of studentized residuals plotted against unstandardized predicted values for each regression model. This assumption was violated in two of the regression models

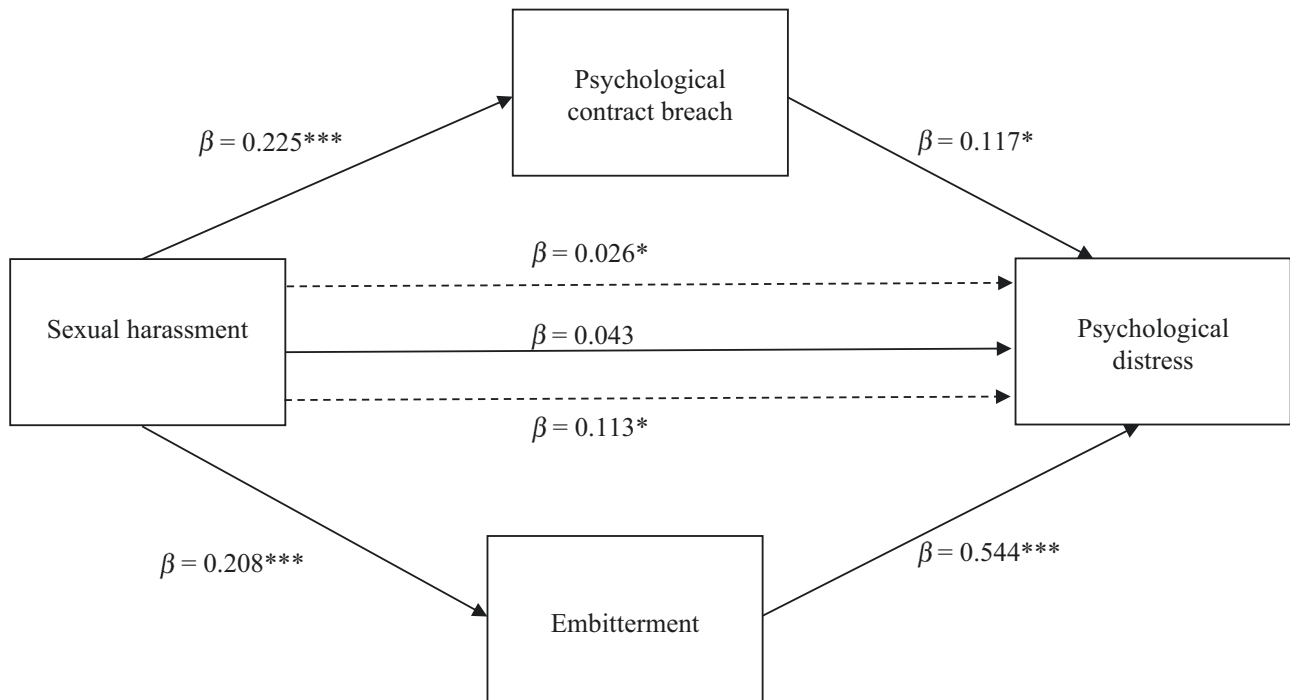


Figure 2: Path diagram with mediation effects of PCB and embitterment on the relationship between sexual harassment and psychological distress

(the first and third models reported in Table 6). Given this, the PROCESS Macro option to utilize heteroscedasticity-consistent standard error (HCSE) estimators when testing mediation models was used. HC3 (Davidson and MacKinnon, 1993) was utilized, as this HCSE estimator performs well in cases where there are no high leverage points (Hayes and Cai, 2007).

Direct effects

The full results of the mediation analysis are provided in Table 6 and is graphically depicted in Fig. 2. The total effect of sexual harassment on psychological distress (path c) was statistically significant, such that higher levels of sexual harassment predicted higher distress, $b = 0.071$, $p = 0.002$. However, when sexual harassment, PCB, and embitterment were entered in the model simultaneously, the direct effect of sexual harassment stress on psychological distress (path c') was no longer significant, $b = 0.017$, $p = 0.397$, indicating mediation. PCB had a significant direct effect on psychological distress (path b^1), such that higher levels of PCB predicted higher levels of distress, $b = 0.074$, $p = 0.015$. Similarly, embitterment was significantly related to psychological distress (path b^2) such that higher levels of embitterment predicted greater distress, $b = 0.302$, $p < 0.001$.

Indirect effects

An examination of indirect effects revealed that sexual harassment was associated with psychological distress via the mediating effects of both PCB (path $a^1 * b^1$), $b = 0.010$, $SE = 0.005$, 95% CI [0.002, 0.022], and embitterment (path $a^2 * b^2$), $b = 0.044$, $SE = 0.012$, 95% CI [0.021, 0.066]. The relationship between sexual harassment and psychological distress was fully mediated by PCB and embitterment (see Fig. 1 for a path diagram), meaning that the relationship between sexual harassment

and psychological distress was fully explained by the experience of PCB and embitterment.

DISCUSSION

The current study provides new insights into how women police cognitively and emotionally interpret their experience of sexual harassment in police workplaces and how this is related to psychological distress. Understanding how women police interpret their sexual harassment experiences has received limited research attention and no previous research has studied the role of embitterment and PCB in this context. This study found that embitterment and PCB explain how sexual harassment and distress are related. The research has significant implications for improving psychological health outcomes of women police who have experienced sexual harassment within their agencies.

The current study of women police employed in a single, large Australian state police agency revealed that approximately 3 in 10 women had experienced sexual harassment. While these rates are lower than some rates reported previously (Brown *et al.*, 2018; Taylor *et al.*, 2022) the data in this study was time limited to a 6-month period. Of those women police who had been sexually harassed, 40.94% reported that they did not experience stress as a result. This is consistent with research undertaken by deHaas *et al.* (2009) who found 49% of women police were not bothered by their experiences of sexual harassment.

Prevalence of embitterment and PCB

A primary focus of the current research was to study PCB and embitterment specifically in relation to sexual harassment and psychological outcomes. However, the research also provides

important insights into the prevalence of embitterment and PCB amongst women police.

In this study, severe embitterment was reported by 35.54% of women who experienced sexual harassment and 27.55% who did not experience sexual harassment. Clinically significant levels of embitterment were reported, regardless of sexual harassment experience, by 30.05% of women police in this study. This data is alarming when compared to [Linden *et al.*'s \(2009\)](#) research who found that 2%–3% of people are likely to report clinical embitterment. Rates of embitterment found in this study, and its relationship with psychological distress, supports previous research that found embitterment is more likely when an individual's work involves holding strong personal beliefs about their job and its contribution to society ([Dunn and Sensky, 2018](#); [Sensky, 2008](#)). For those serving in the police profession, there is often strong connection to the professional identity of being a police officer, strong personal beliefs about the work they do and a perception of the importance of their role in the community.

The findings also indicate high prevalence rates of PCB in policing for women police. A significant breach was reported by 82.35% of women who had been sexually harassed. Even for those women police who had not been sexually harassed, 72.59% of women reported a significant breach. Other researchers, in studies outside of policing, have indicated varying prevalence rates from 55% to 76% ([Coyle-Shapiro *et al.*, 2019](#); [Lester *et al.*, 2002](#); [Robinson and Rousseau, 1994](#)). [Sensky \(2008\)](#) proposed, somewhat similar to embitterment, that PCB is likely to be particularly relevant in organizations that have a strong public service ethos and those with hierarchical structures. The mismatch in expectations when professional identity is strongly held is likely to result greater risk of negative psychological health outcomes. These factors characterize police and their agencies.

Key findings relevant to research aims

Previous research has found higher rates of depression, anxiety, and general psychological distress resulting from sexual harassment experiences ([Angehrn *et al.*, 2021](#); [Berdahl and Aquino, 2009](#); [Chan *et al.*, 2008](#); [deHaas *et al.*, 2009](#)). This research contributes to the growing and consistent evidence for the connection between sexual harassment and psychological health in policing, finding that sexual harassment was significantly associated with greater distress. As such, sexual harassment should be viewed as a relevant and impactful organizational stressor, particularly for women police. It should be routinely included in police stress research.

Previous research in police populations of the PCB-psychological outcomes relationship had produced contradictory findings ([Duran *et al.*, 2019](#); [Noblet *et al.*, 2009](#); [Rodwell *et al.*, 2011](#)) while embitterment has rarely been considered. While both PCB and embitterment have significant predictive relationships with distress, in this research the embitterment-distress relationship is strong. The strength of the relationship between embitterment and psychological distress was four and half times the strength of the relationship between PCB and distress.

The predictive relationship between sexual harassment and distress was no longer significant when embitterment and PCB were considered as possible explanatory factors. As such, this research provides critical new insights into how women police

cognitively and emotionally interpret their experience of sexual harassment in police workplaces and its connection with psychological distress. The current study provides support for the contention that women police who experience sexual harassment interpret these experiences as betrayal, perceive their treatment as unjust, and feel that the implied contract between themselves and their agency has been broken. These emotions and cognitions provide at least a partial explanation for how sexual harassment, as one type of organizational experience, is contributing to adverse psychological outcomes for women police.

PRACTICAL IMPLICATIONS

Broadly, this research contributes to the continued call for police organizations to acknowledge that sexual harassment is an issue for the police profession and results in psychological harm. Primary prevention efforts, eliminating sexual harassment within police ranks through long-term, sustained, and dedicated efforts directed at the cultural reform of the masculinized culture of policing must be a priority. However, this type of reform will take time and it is a sobering reality that in the interim women police will continue to be psychologically impacted by sexual harassment. Therefore, police leaders must dedicate themselves to the development and implementation of the best supports possible to mitigate harm. This needs to involve supporting women police who are likely in the shorter-term experience sexual harassment in police workplaces and engaging in more decisive and effective responses to quickly and efficiently responding to and stopping sexual harassment at the earliest possible point of intervention.

For the first time, this research has identified the need to consider PCB and embitterment in responding to sexual harassment in police agencies. The research suggests that women police need to hear genuine messaging from leaders at every level of police agencies. A message that sexual harassment constitutes a breach of the agreement and promises made by the agency to their officers to provide them with a safe and respectful workplace. Leaders need to be seen to take action to address the cause of the breach. As highlighted previously this may involve commitment to the longer-term reforms, but should also involve more decisive and comprehensive action against perpetrators of sexual harassment within the agency. Acknowledging the breach and demonstrating a commitment to addressing harassment is likely to go some way in offsetting the harm that it may cause. Leaders should also consider how other organizational experiences may be interacting with or independently causing feelings of PCB and embitterment amongst their police employee cohorts.

Situations that elicit embitterment responses are often appraised as uncontrollable and this can lead to a perception of helplessness or low coping potential ([Znoj *et al.*, 2016](#)). Those who are embittered may blame themselves for not being able to avoid the situation that caused harm ([Linden, 2003](#)). As such, it is important for support interventions to explicitly articulate to those who have experienced sexual harassment that they are not responsible or to blame. Even though sexual harassment is highly prevalent in policing it should not be considered acceptable or tolerated. Support should be provided to women police to develop individualized coping strategies to mitigate

the emotional and psychological impacts of their experiences. This may include providing professional psychological support, accessing support networks, or sponsored education around self-managed strategies such as exercise and mindfulness techniques.

Michailidis and Cropley (2017) and Sensky (2008) conclude that rumination may be viewed positively by those who are embittered, with individuals feeling that it is important not to forget the cause of their harm. They may feel compelled to persuade others of the wrongdoing. While an individual may view this as positive or even a way of coping, it is detrimental to their recovery and psychological health. Interventions designed to prevent, disrupt or treat embitterment, similar to the guidance provided above in respect to PCB, must include an acknowledgment of the sexual harassment experience (the event/s). Furthermore, it must be acknowledged that this type of behaviour should not and will not be accepted. Agencies and their leaders need to ensure through not just words but also actions that sexual harassment will not be 'swept under the carpet' but will be addressed appropriately through fair, transparent, and just organizational processes. Removing the need for women police to feel compelled to personally hold on to their experiences in an effort to ensure that the wrongdoing is not forgotten is important for their recovery.

LIMITATIONS AND FUTURE RESEARCH

The current research had several limitations. First, the sample was drawn from one large state police agency in a single geographic location. To test the generalisability of the study findings, further research should be conducted across numerous police agencies and in geographically diverse locations, both domestically and internationally. Analysis was limited to a cross-sectional dataset. This means that predictive relationships can only be assumed based on theoretical understanding of the likely developmental process between sexual harassment experiences, embitterment and PCB, and psychological distress. Studying sexual harassment experiences using a longitudinal research design would be an important extension to the current research providing insight into the temporal process between sexual harassment, embitterment, PCB, and distress. Is embitterment or PCB evident prior to the development of psychological distress symptoms or are these simultaneously occurring events?

Participants were not explicitly asked whether their embitterment was directly related to their experience of sexual harassment. In this research, the approach was taken to identify those who had reported embitterment and study how this differed between those who had and had not experienced sexual harassment. Future research should consider asking participants explicitly whether sexual harassment was a direct cause of their embitterment, however, it might be difficult for individuals to identify a single cause of embitterment, as this is reliant on the individual having an accurate perception of a cause and effect, in isolation.

Future research should also explore the complex interplay between a diverse range of organizational stressors, including sexual harassment, their connection to embitterment and PCB and in turn, psychological distress. This research would provide the opportunity to determine the proportional contribution of sexual harassment compared to other

organizational factors in resultant PCB and embitterment outcomes. Understanding the role of these factors in predicting other work-related outcomes, such as satisfaction, commitment, and turnover intentions would be a useful extension to the current study.

CONCLUSIONS

The current study has provided new and important insights into how sexual harassment experiences of women police are related to psychological health outcomes. Sexual harassment has the potential to cause significant psychological harm and must be addressed. Police leaders must pursue larger-scale reforms through systematic and pervasive cultural reforms to reduce the rates of sexual harassment that plague police organizations. In the interim, police agencies need to consider how to better support the many women in law enforcement who have and regrettably, are likely to in the future, be impacted by sexual harassment. This research has provided an enhanced understanding of the cognitive (PCB) and emotional (embitterment) outcomes of sexual harassment, how these factors might positively influence psychological outcomes for women police, and contributes to an empirical evidence base on which to build and implement more effective support strategies for women police who experience sexual harassment within their agencies.

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