



Can Job Demands and Job Resources Predict Bystander Behaviour in Workplace Bullying? A Longitudinal Study

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Abstract

Bystanders can affect workplace bullying by engaging in active or passive behaviours. However, there is a knowledge gap regarding how perceived work environment factors relate to bystander behaviour. The study aim was to investigate how job demands, and job resources are associated with bystander behaviour in workplace bullying. An online questionnaire was distributed to a sample of health care workers at two time points. Longitudinal data were obtained from 1144 respondents. Cross-lagged panel models were used to investigate associations between job demands, job resources, and bystander behaviours over time. The results showed that social support was positively related to active behaviours, whereas influence at work was negatively related to both active and passive behaviours. Perceived illegitimate tasks were negatively related to active and positively related to passive behaviours, whereas emotional demands had an unanticipated opposite pattern of relationships. The findings provide new information about how factors in the organisational and social work environment are associated with active and passive bystander behaviours in workplace bullying. Specifically, the results expand current understanding of workplace bullying by relating bystander behaviour to the organisational context.

Keywords Workplace bullying · Bystander behaviour · Witness · Job demands–resources · Longitudinal study

Introduction

Workplace bullying is a major work environment hazard, affecting workers across the globe (Nielsen & Einarsen, 2018). Workplace bullying is defined as repeated negative acts directed at a person over a period of time. In this situation, it is difficult for the targets to defend themselves (Einarsen & Skogstad, 1996). A plethora of evidence suggests that workplace bullying can have severe negative consequences for individuals and organisations, including health problems, post-traumatic stress, and sickness absence, to name a few (for a comprehensive overview, see Nielsen & Einarsen, 2018). Due to the deleterious impact, it is important to prevent bullying from occurring in the workplace.

While bystander intervention has been proposed as a potential way to stop and prevent workplace bullying (Nielsen et al., 2021), few studies have explored which factors that predict different types of bystander responses to workplace bullying, particularly when taking the organisational context into consideration. Factors in the work environment are well known to be crucial to the development of workplace bullying (Feijó et al., 2019), yet it remains unclear to what extent the work environment can influence bystanders to act in different ways when witnessing bullying. By exploring the relationship between factors in the work environment and bystander behaviour, a more comprehensive understanding can be gained of how employees and the organisational context interplay in shaping the bullying process. Consequently, this study aimed to investigate how perceptions of job resources (i.e. influence at work and social support from colleagues), and job demands (i.e. emotional demands and illegitimate tasks) were associated with active (defending the victim), or passive (being an outsider) bystander behaviours over time.

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Workplace Bullying Bystanders

Previous research on workplace bullying has predominantly taken a dyadic perspective, focusing on two main actors, the target and perpetrator (Ng et al., 2020). However, research interest in the role of bystanders in workplace bullying has recently increased (Ng et al., 2020). Bystanders are possibly the largest group exposed to bullying situations; Salin and Notelaers (2020), drawing on two samples, reported that 12.8% and 21.6% of respondents from each sample respectively, had witnessed workplace bullying during the past six months. In a recent study, Rosander and Nielsen (2023) found that 27% of respondents had witnessed workplace bullying the past six months. Similarly, 23.4% have witnessed workplace bullying in their workgroup (Ng et al., 2022). To avoid conflating targets and bystanders, targets of bullying were filtered out when reporting the number of witnesses in these studies. This indicates that a significant share of workers has been bystanders to workplace bullying.

Typologies of bullying bystander roles describe bystander behaviours that differ according to the extent of participation (from active to avoidant) and the extent of support for the perpetrator or target (Paull et al., 2012). For example, bystanders may ignore or avoid the bullying situation (outsider role); or they may defend or support the target (defender role) (Paull et al., 2012). Bystander roles can also be categorised according to whether the bystander's actions can be described as identifying with the target or the perpetrator, or whether they are constructive or destructive (Paull et al., 2012). In the present study, we focus on predictors of two types of bystander behaviours on each side of the active/passive continuum of bystander intervention: the defender role and the outsider role, since these are the most commonly reported ways of acting (Ng et al., 2022). The defender is defined as a helpful, prosocial bystander that stands up for the victim, whereas the outsider is defined as an avoidant or abdicating bystander, that walks away or ignores the situation (Paull et al., 2012).

Most studies have only explored either individual (e.g., self-efficacy; Hellemans et al., 2017), or contextual (e.g., power position, perceived severity; Hellemans et al., 2017; Hershcovis et al., 2017) predictors that may influence bystander behaviour, whereas little focus has been paid to the role of organisational context and work environment factors. Although research on workplace bullying often has taken the vantage point of the work environment hypothesis (e.g., Einarsen et al., 1994; Skogstad et al., 2011), which states that factors in the work environment can increase the risk of bullying (Leymann, 1996; for a recent review of the empirical evidence, see Feijó et al., 2019), there is a knowledge gap regarding how work environment

factors relate to bystander behaviour in the workplace. The work environment hypothesis primarily considered workplace bullying as an organisational, rather than individual, problem. This perspective has, however, been overlooked in the bystander behaviour literature, where more research emphasis has been placed on individual level determinants. Therefore, it is necessary to add an organisational perspective to understand what influences bystander behaviours within the organisational context, and not only from an individual perspective.

Theoretical Framework

In order to understand how the perceived work environment factors could relate to bystander behaviour, we used one of the major theoretical streams within organizational psychology, the Job Demands–Resources (JD-R) theory (Bakker et al., 2023), as a guiding framework. According to the JD-R theory job characteristics can be divided into two categories, job demands and job resources. The JD-R theory complements and integrates theories and approaches in work stress research (Schaufeli & Taris, 2014) and work motivation research (Bakker et al., 2023). It captures both negative (health impairment) and positive (motivational) processes generated by work demands and resources respectively. Job resources are theorised to instigate a motivational pathway characterised by strong work engagement, commitment, and flourishing. Job demands, on the other hand, are theorised to lead to a health impairment pathway, characterised by strain, exhaustion, and health complaints (Bakker et al., 2023). Job demands are further divided into either challenge or hindrance demands, meaning that job demands can be perceived as either challenging obstacles that are to be overcome, or hindering obstacles thwarting personal growth (Bakker & Sanz-Vergel, 2013; Van den Broeck et al., 2010). Although taxing, challenge demands are associated with positive emotions and engagement, whereas hindrance demand are associated with negative emotions and lower engagement (Tadić et al., 2015). Both job resources and job demands have been shown to predict workplace bullying, with negative and positive associations respectively (Conway et al., 2021). However, less knowledge exists about the relationship between job resources, demands and bystander behaviour.

Job Resources as Predictors of Bystander Behaviour

Based on the JD-R theory, we expect job resources, through the motivational pathway, to foster active bystander behaviours, and similarly reduce the tendency for passive bystander behaviours. More specifically, in this study we conceptualise active bystander behaviours as a constructive type of job crafting (Demerouti, 2014; Tims & Bakker, 2010), that could result from job resources.

The motivational pathway of the JD-R theory suggests that positive processes and constructive workplace behaviours are generated by job resources. Theoretically, resources would lead to enhanced commitment, engagement, and motivation. Resources have also been suggested to create processes of job crafting, where individuals shape their job to create even more resources by optimising their work environment, creating positive gain spirals (i.e., a positive spiral of increasing resources, Bakker & Demerouti, 2017). One aspect of job crafting is relationship crafting and fostering social bonds at work. Consequently, to foster social relations in the workplace, employees who report higher levels of job resources might be more likely to respond with active behaviours and less likely to resort to passive behaviours, when they witness workplace bullying. It is therefore possible that bystander behaviours in workplace bullying are predicted by job resources. Consistent with Bronkhorst (2015), we operationalise job resources as: influence at work and social support from colleagues in this study. Influence at work, also referred to as job autonomy, is the extent to which individual employees can structure and control how and when they carry out their work tasks (Spector, 1986). Social support refers to the availability and quality of helping relationships in the workplace (Viswesvaran et al., 1999), in this case from colleagues. We consider these resources as covering both organisational and social aspects of the work environment.

Empirically, research has shown that supervisory and organisational support is positively associated with formal reporting of bullying incidents (MacCurtain et al., 2018), demonstrating a connection between perceived support and active bystander behaviour. Additionally, job autonomy, and social support from both supervisors and colleagues are related to safety behaviours in the workplace (Bronkhorst, 2015). Moreover, MacCurtain et al. (2018) found that collegial support was related to an increased tendency for bystanders to discuss the bullying incident with colleagues and provide support to the target. These findings are consistent with the notion that job resources result in active bystander behaviours. Therefore, we hypothesised the following:

Hypothesis 1 Influence at work will be positively related to defender bystander behaviour (H1a) and negatively related to outsider bystander behaviours (H1b) over time.

Social support from coworkers will be positively related to defender bystander behaviour (H1c) and negatively related to outsider bystander behaviours (H1d) over time.

Job Demands as Predictors of Bystander Behaviour

Drawing on the JD-R theory, we expect high demands, through the health impairment pathway, to generate more passive, and less active, forms of bystander behaviour. We conceptualise passive bystander behaviours as a form of self-undermining (Bakker & Wang, 2020), that could result from job demands. In contrast to the motivational pathway, the health impairment pathway postulates that demands over time are taxing to employees, leading to deteriorated health (Bakker & Demerouti, 2017), and related consequences, such as withdrawal (Taris et al., 2001). In a study by Bronkhorst (2015), high work pressure was negatively related to both physical and psychosocial safety behaviours, indicating an adverse effect of demands on behaviour. The study examined safety behaviours such as voluntarily carrying out tasks that improve psychosocial safety or expending extra effort to ensure psychosocial safety in the workplace (Bronkhorst, 2015). Based on these results, it could be expected that job demands are negatively associated with extra-role safety behaviours such as engaging in active bystander behaviour.

If job crafting can result from resources and optimize the work environment through positive gain spirals, self-undermining represents the opposite (Bakker & Wang, 2020). Bakker and Wang (2020) describe self-undermining as a stress-response, where the employee responds to strain with undesirable behaviours that create further hindrance demands in the workplace. Self-undermining has been described to be a predictor of, but also predicted by, job demands (Bakker & de Vries, 2021), which can create a loss-cycle (i.e., a negative spiral of increasing demands, Bakker & Wang, 2020). Putting this in relation to witnessed workplace bullying, it is possible that self-undermining behaviour could manifest in the form of passive bystander behaviour. Following this line of reasoning, it has been specified that the relationship between job strain and job crafting is negative, with job strain rather being associated with withdrawal from work (Bakker & de Vries, 2021). Witnessed workplace bullying has been described as a stressor (Sprigg et al., 2019), and the strain from this stressor could, for individuals already experiencing high demands, result in a less active, and more passive response. The loss-cycle could then be manifested through a process where bullying continues to be reproduced in the workplace, as it is not counteracted.

In this study, we aim to test whether job demands relate to bystander behaviours empirically by focusing on two types of demands both reported to be common within health care: emotional demands and perceived illegitimate tasks (Anskär et al., 2019; Hasenfeld, 2009). Emotional demands refer to facing emotionally distressing situations

at work (van Woerkom et al., 2016). Earlier research has shown emotional demands to be a major stressor in human service work, related to strain and detachment (van Vegchel et al., 2004).

Illegitimate tasks implies being required to complete work tasks perceived as unnecessary or unreasonable (Semmer et al., 2010). Perceived illegitimate tasks are work stressors that previously have been associated with counterproductive workplace behaviours including both active and passive behaviours that harm the organization and organizational members (Semmer et al., 2010). Illegitimate tasks can be seen as a threat to the individuals' professional identity, which can be both stressful and frustrating (Semmer et al., 2010).

Based on the adverse role of job demands on behaviour, and the previously established relationship between employee strain and withdrawal, we believe a similar pattern may apply to witnessed workplace bullying. Therefore, we expect an increased likelihood to take on a passive role, and less likelihood of taking on an active role as a bystander when demands are high, due to the strain that demands cause employees. We hypothesised the following:

Hypothesis 2 Emotional demands will be negatively related to defender bystander behaviour (H2a) and positively related to outsider bystander behaviours (H2b) over time.

Illegitimate tasks will be negatively related to defender bystander behaviour (H2c) and positively related to outsider bystander behaviours (H2d) over time.

Context of the Present Study

In this study, we focused on health care sector employees, such as physicians, nurses, and assistant nurses. There are several reasons why the health care sector is an interesting organisational context to study bystander behaviour in workplace bullying. First, workplace bullying is prevalent among nurses (Karatuna et al., 2020; Shorey & Wong, 2021), assistant nurses (Einarsen et al., 1998), and physicians (Rouse et al., 2016). Second, patient mortality is 7% lower in working environments that are rated as good by nurses (Aiken et al., 2012). More knowledge about how the perceived work environment relates to behaviour in the health care sector is therefore highly important. Third, the sector is generally characterised by several antecedents to workplace bullying, such as a mixture of professional groups, hierarchical structures, frequent change, emotional demands, high workloads, high turnover, and a shortage of staff and resources (Belrhiti et al., 2021; Hasenfeld, 2009; Manyisa & van Aswegen, 2017).

Materials and Methods

Procedure and Participants

To robustly test the study hypotheses, we used a longitudinal design, measuring each variable at two time points. We were therefore able to investigate potential changes in behaviour, rather than focusing solely on between-subject differences in bystander behaviour. We selected a time lag of six months for the present study to minimise the risk for employee turnover during the study that could bias the results, while allowing sufficient time to pass for possible change processes to be initiated. This time frame also harmonises well with recall windows used to measure witnessed workplace bullying (e.g., Sprigg et al., 2019). This design made it possible to clarify how organisational and social work environment factors were related to changes in bystander behaviour over time.

Data were collected at two time points, time 1 (t1; April–May 2020) and time 2 (t2; October–November 2020). Originally, the questionnaire was distributed to physicians, nurses, and assistant nurses employed in a regional public health care organisation in Sweden. In Sweden, the public health care system is organised on a regional level, with 21 regions administrating health care throughout the country. The questionnaire was in this case distributed to employees in one of these regional health care organisations. However, there was a substantial rise in the number of Covid-19-cases in Sweden when the questionnaire was first administered in April 2020. Therefore, to ensure that there would be a sufficient number of respondents, the research team also decided to distribute the questionnaire to health care workers via Kantar Sifo, a public opinion poll and market research company. KANTAR Sifo administers a panel comprising more than 100,000 randomly recruited individuals, ages 16 and above. The company records information about the panelists' occupation, which allows for surveys to be targeted to certain groups. The questionnaire was consequently also distributed nationally to health care workers (physicians, nurses, and assistant nurses) in the polling company's own panel, reaching all 21 regions. The panellists derived from Kantar Sifo were offered a small incentive by Kantar Sifo for participating, of about \$2 per wave. The employees of the public regional health care organisation were not offered any incentive for participation.

The questionnaires sent to the regional public organisation resulted in $N = 396$ responses at t1 (response rate 12%) and $N = 357$ responses at t2 (response rate 10%), of which 143 (36% retention rate) had matched data. Matched data in this case refers to participants who responded to both the Time 1 and Time 2 survey. Participants were matched using unique identifier codes,

allowing for longitudinal data to be paired over time. In other words, matched respondents were the ones that provided longitudinal data, whereas any non-matched participants were unique respondents for each wave. The questionnaires sent to the panel resulted in an additional 1194 participants at t1 (response rate 75%) and 1259 at t2 (response rate 77%), of which 1001 (84% retention rate) had matched data. The two samples were combined to increase statistical power, resulting in a final $N_{t1} = 1590$, $N_{t2} = 1616$, and $N_{\text{matched}} = 1144$. In total, 918 respondents responded to only one survey (at either t1 or t2) but were retained in the data set to provide better estimates for within-time relationships. The longitudinal data from 1144 respondents were used in the cross-time analyses. Table 1 shows the demographic characteristics of the sample. We used a full panel study design (i.e. all factors were measured at both measurement points) to allow for exploration of changes in cross-lagged relationships.

Ethical Considerations

At both measurement points, participants were presented with a consent form before participating in the survey. The consent form specified that participation was voluntary and that responses would be treated confidentially in accordance with ethical regulations. Participants had to provide active consent to participate in the study. Participants were also informed that the study was longitudinal, and that they would be reinvited to participate in another survey within 6 months. The study protocol was approved by the Swedish Regional Ethical Review Board (ref no. 2018/385).

Measures

Demographics

The survey included questions about gender, age, tenure, supervisor position, and occupational title.

Witnessed Bullying

A single item asked whether the participant had witnessed bullying at work during the previous 6 months. In line with recommendations from previous studies (Einarsen & Skogstad, 1996), this question was preceded by the following definition of workplace bullying: “Bullying occurs when a person is exposed to repeated uncomfortable, demeaning, or hurtful acts in the workplace. To be called bullying, it must occur over a period of time, and the person subjected to it would have difficulty defending themselves against it”. This definition was followed by the statement “Bullying can occur both offline and online” (Jönsson et al., 2017). The response options were 0 (no) or 1 (yes). Since the purpose of this item only was to identify possible witnesses of workplace bullying, a dichotomous response option was used. For all other items, Likert scales were used for the response options.

Bystander Behaviour

Considering that witnessing bullying is an important prerequisite to be able to engage in any type of bystander behaviour, questions about bystander roles were only presented to those who in the previous step answered “yes” to having witnessed bullying during the past six months. To measure bystander behaviour, items from the Participant Roles Scale

Table 1 Demographic characteristics of the sample at time 1 and 2 ($N = 1590 - 1616$)

Variable	Statistic	Time 1	Time 2
Age	Mean age in years (<i>SD</i>)	50.21 (12.35)	50.80 (12.07)
Tenure	Mean tenure in health care in years (<i>SD</i>)	21.35 (13.42)	21.78 (13.42)
	Mean tenure current workplace in years (<i>SD</i>)	9.75 (9.87)	10.30 (10.10)
Gender	<i>N</i> women (%)	1247 (78.4%)	1280 (79.2%)
	<i>N</i> men (%)	320 (20.1%)	318 (19.7%)
	<i>N</i> other (%)	9 (.06%)	8 (.05%)
Supervisor	<i>N</i> reporting supervisor responsibilities (%)	252 (16%)	281 (14%)
Occupational title	<i>N</i> assistant nurses (%)	591 (37.2%)	603 (37.3%)
	<i>N</i> nurses (%)	531 (33.4%)	525 (32.5%)
	<i>N</i> physicians (%)	288 (18.1%)	295 (18.3%)
	<i>N</i> other occupational title ^a (%)	177 (11.1%)	188 (11.6%)

^aSuch as psychologist, physiotherapist, midwife, care assistant, personal assistant, etc. This table contains demographics for all participants that responded to the survey at Time 1 and Time 2, and not only participants with matched data (those responding to both Time 1 and Time 2 surveys). This explains the slight differences in demographics between Time 1 and Time 2

by Salmivalli et al. (1996) were adapted to fit the workplace context. The original scale was designed to measure bystander behaviour among schoolchildren who had witnessed bullying. We used eight items to measure defender and outsider behaviours. The questions on bystander behaviour were presented with the prompt “How did you act in the situation?” If the participant had witnessed several situations, they were asked to refer to one situation.

Defender Five items assessed defender behaviour. A sample item is “Did you support the victim in the immediate bullying situation?” ($\alpha = .76$ at t1; $\alpha = .73$ at t2).

Outsider Three items measured outsider behaviour. A sample item is “Did you pretend like nothing happened?” (α at t1 = .68; α at t2 = .68).

The response options for both subscales were 1 (never), 2 (sometimes), and 3 (often).

Organisational and Social Factors

To measure resources and demands, scales from the Copenhagen Psychosocial Questionnaire (COPSOQ II; Pejtersen et al., 2010) were used. A Swedish translation was used for all COPSOQ measures (Berthelsen et al., 2014).

Influence at Work Three items assessed influence at work. A sample item is “Do you have a large degree of influence concerning your work?” Response options ranged from 1 (never) to 5 (always) (α at t1 = .76; α at t2 = .77).

Social Support from Coworkers This scale consisted of three items. A sample item is “How often do you get help and support from your colleagues?” Response options ranged from 1 (never) to 5 (always) (α at t1 = .69; α at t2 = .69).

Emotional Demands Four items assessed emotional demands. A sample item is “Does your work put you in emotionally disturbing situations?” Response options ranged from 1 (never) to 5 (always) (α at t1 = .79; α at t2 = .81).

Illegitimate Tasks Six items from a Swedish translation of the Bern Illegitimate Task Scale (BITS; Aronsson & Mellner, 2016; Semmer et al., 2010) were used to measure illegitimate tasks. A prompt “Do you have work tasks to take care of, which keep you wondering if...” was followed by statements such as “...they have to be done at all?” The response options ranged from 1 (never) to 5 (very often) (α at t1 = .84; α at t2 = .86).

Analytical Strategy

Descriptive statistical tests were conducted using SPSS, version 27. All subsequent models were estimated using R version 4.1.0. The lavaan package in R (Rosseel, 2012) was used to conduct confirmatory factor analyses and generate cross-lagged panel models.

Temporal invariance of the measures was assessed by testing measurement invariance over the two time points for each construct. This is done to assure that the factor structure for each scale does not differ as a function of time, which is an important prerequisite for testing associations of the same construct over time (van de Schoot et al., 2012). Temporal invariance is tested by estimating a series of nested confirmatory factor analyses where constraints on factor loadings and intercepts are imposed in a stepwise manner from the original CFA model (van de Schoot et al., 2012). Conventional fit indices were used to evaluate models (i.e. confirmatory fit index [CFI] > .95, root mean square error of approximation [RMSEA] < .06, standard root mean square residual [SRMR] < .08) and the χ^2 test used to test the model-implied covariance matrix (Hu & Bentler, 1999).

In the next step, a cross-lagged panel model was estimated using only the two dependent variables (defender role and outsider role) and control variables that predicted them (Model 1). Autocorrelations were included for the bystander behaviour scales between t1 and t2 (each factor predicting itself over time to assess change in the construct).

Finally, control variables that did not significantly contribute to the prediction of bystander behaviour were excluded from the model, and all organisational and social factors at t1 and t2 were added to the model with t1 variables as predictors of the two bystander behaviours, together with autocorrelations for each construct over time (Model 2).

Because only a subset of the sample (those that had witnessed bullying) responded to the bystander role questions, the models contained a large number of items in relation to the sample size of available cases. We therefore used observed variables (scale scores), rather than latent variables, in the predictive path models (Model 1 and 2), to make the models less computationally complex. Longitudinal latent variable models would not converge. Model 2 therefore consisted of the control variables (gender and supervisor position) and 6 scales (influence at work, social support, emotional demands, illegitimate tasks, defender role and outsider role) at each measurement point. All scales were allowed to correlate within time points at both t1 and t2.

Bystander behaviours were only reported by respondents that had witnessed workplace bullying. This created

Table 2 Intercorrelations, means, and standard deviations of observed study variables at time 1 and time 2 ($N=91-1613$)

	1	2	3	4	5	6	7	8	9	10	11	12
Time 1												
1. Defender	-											
2. Outsider	-.53***	-										
3. IN	.01	.00	-									
4. SSC	.04	-.02	.30***	-								
5. ED	.03	-.02	-.16***	-.10***	-							
6. BITS	.01	.08	-.25***	-.21***	.29***	-						
Time 2												
7. Defender	.52***	-.38***	-.05	.09	.10	-.02	-					
8. Outsider	-.39***	.63***	-.03	-.04	-.04	.12	-.38***	-				
9. IN	-.03	-.10	.69***	.22***	-.12***	-.24***	.01	.09	-			
10. SSC	.11	-.07	.24***	.61***	-.12***	-.23***	.07	-.09	.26***	-		
11. ED	.01	.02	-.17***	-.12***	.69***	.27***	.13*	-.12	-.14***	-.10***	-	
12. BITS	-.15	.12	-.24***	-.16***	.22***	.67***	-.10	-.04	-.24***	-.22***	.28***	-
<i>M</i>	2.34	1.65	2.56	3.78	3.41	2.64	2.31	1.64	2.54	3.76	3.41	2.71
<i>SD</i>	0.53	0.52	0.75	0.66	0.68	0.78	0.51	0.52	0.76	0.65	0.71	0.81

IN Influence at work, *SSC* Social Support from Coworkers, *ED* Emotional Demands, *BITS* Bern Illegitimate Tasks Scale

* $p < .05$; ** $p < .01$; *** $p < .001$

non-random missing data within the bystander behaviour variables for respondents that had not witnessed bullying. Therefore, we used pairwise estimation for missing data in the model as an available-case analysis (Allison, 2003). All constructs were coded so that higher levels indicated higher ratings on the construct.

Result

Descriptive Results

Of the full sample at t1, 16.3%, ($N=258$), reported having witnessed workplace bullying during the previous 6 months. At t2, the corresponding value was 15.3%, ($N=247$). Table 2 shows means, standard deviations, and Pearson's correlations of the study variables at t1 and t2.

Measurement Invariance

To test the temporal invariance of the constructs, a series of nested confirmatory factor analyses were performed with indicators for each scale at t1 and t2 set to load on a latent variable for each time point. In these models, item specific residuals are allowed to correlate over time (as recommended by Little, 2013). We started with a baseline model testing for configural invariance. Constraints were then added to test for metric and scalar invariance. For metric invariance, factor loadings at t1 and t2 are specified to load equivalently onto their latent variable at both points. In

the next step, scalar invariance is tested by imposing constraints on the intercepts of each item to be equal over time. A shift of $> .01$ in CFI for each step is considered failure of the invariance test (Little, 2013).

Table 3 summarises the test of invariance for all study variables. Factor loadings for all items were significant at the $p < .001$ -level in each measurement model, ranging from .30 to .92. Most fit indices were in range for all predictor variables, which all demonstrated strong measurement invariance over time. The RMSEA values for the outsider scale, and illegitimate tasks, were slightly elevated, but the CFI and SRMR were within an acceptable range. The shift in CFI for the outsider scale was slightly above threshold recommendations (Δ CFI 0.011 – 0.013), but within rounding error of a .01 change. The configural model for the defender measure had an initially poor fit to the data, $\chi^2(29)=240.67$, $p < .001$, CFI = .862, RMSEA = .133, SRMR = .088. Fixing one error correlation between two items at t2 improved the fit slightly, see Table 3. The fit was still not excellent, but the CFI was close to .90 and the SRMR was within range. We therefore included the error correlation in the invariance test of the defender scale, as recommended by Little (2013). The defender scale achieved strong temporal invariance. We did not consider the deviations from conventional fit criteria large enough to preclude further analyses.

Controlling for Gender, Age, and Supervisor Position

Previous research indicates that workplace bullying could be a gendered phenomenon, and that age may be a risk factor

Table 3 Fit statistics of models testing measurement invariance over the two time points for each measured construct

	Configural				Metric				Scalar			
	χ^2 (df)	CFI	RMSEA	SRMR	χ^2 (df)	CFI	RMSEA	SRMR	χ^2 (df)	CFI	RMSEA	SRMR
Defender ^a	196.878*** (28)	0.890	0.121	0.071	211.059*** (32)	0.884	0.116	0.079	215.533*** (37)	0.884	0.108	0.073
Outsider	30.402*** (5)	0.959	0.111	0.037	40.259*** (7)	0.946	0.108	0.058	42.017*** (10)	0.948	0.088	0.052
IN	103.598*** (15)	0.985	0.054	0.027	104.490*** (18)	0.986	0.048	0.027	111.113*** (22)	0.985	0.044	0.025
SSC	29.555*** (5)	0.996	0.048	0.021	35.199*** (7)	0.995	0.044	0.024	39.892*** (10)	0.995	0.038	0.022
ED	86.603*** (15)	0.990	0.048	0.023	88.784*** (18)	0.990	0.044	0.025	88.940*** (22)	0.991	0.038	0.023
BITS	876.977*** (49)	0.934	0.091	0.046	881.755*** (54)	0.934	0.086	0.047	918.002*** (60)	0.931	0.083	0.045

IN Influence at work, SSC Social Support Coworker, ED Emotional Demands, BITS Bern Illegitimate Task Scale

* $p < .05$; ** $p < .01$; *** $p < .001$

^aThe defender model includes one error correlation between two residuals at t2

(Feijó et al., 2019). In addition, supervisors have the formal responsibility to intervene when they witness a bullying situation in the workplace, which may affect their tendency to report either active or passive bystander behaviours. We therefore controlled for these factors in the analyses.

First, a cross-lagged panel model was estimated with only the control variables, gender, age, and supervisor responsibility to predict the two bystander behaviours at t2 (Model 1). We also included t1 bystander behaviours as predictors of the behaviours at t2 in the model, to control for the autocorrelation in the constructs. The model generally showed a good fit to the data, $\chi^2(6) = 28.87$, $p < .001$, CFI = .986, RMSEA = .090, SRMR = .025. Although the RMSEA-value was slightly above threshold recommendations, the other fit indices were within a good range. In addition to significant autocorrelations for both behavioural constructs, the model showed significant paths from two of the three control variables. Gender significantly predicted both defender ($\beta = .09$, $p < .001$), and outsider ($\beta = .07$, $p < .001$) behaviours, indicating that men were likely to rate both behaviours higher than women. In addition, supervisor responsibility predicted defender ($\beta = -.09$, $p < .001$) and outsider ($\beta = -.04$, $p = .039$) behaviours, such that supervisors were more likely to report both defender and outsider behaviours (Table 4). Age was not significantly related to any of the bystander behaviours and was subsequently excluded from all following analyses.

Hypotheses Testing

In the next step, we added the organisational and social variables for t1 and t2 (influence at work, social support from coworkers, emotional demands, and illegitimate tasks) to the model (Model 2). Autocorrelations were specified for each construct to control for its own change over time, together with predictive paths specified to each of the bystander behaviours. The model showed a good fit to the data, $\chi^2(22) = 318.997$, $p < .001$, CFI = .966, RMSEA = .081, SRMR = .037. Again, the RMSEA-value was slightly elevated. However, under some circumstances RMSEA can be an unreliable indicator of model fit (Kenny et al., 2015). This stresses the importance of evaluating a model based on multiple indices. Given the high CFI and very low SRMR, we considered the model fit to be acceptable. In addition to the autocorrelations and the significant effects of gender and supervisor status, the model identified 7 significant paths from resources and demands to bystander behaviours (see Table 4 for parameter estimates, p -values, and standard errors).

Hypothesis 1 predicted that job resources will be positively associated with defender behaviour (H1a and H1c) and negatively associated with outsider behaviours (H1b and H1d). However, in contrast to hypothesis 1a, influence at work was negatively related to defender behaviour

Table 4 Parameter estimates, standard errors, standardized beta values, and *p*-values from the cross-lagged panel models (*N* = 91 – 1613)

		Defender t2				Outsider t2			
		B	SE	β	<i>p</i>	B	SE	β	<i>p</i>
Model 1	Age	-.01	.01	-.02	.36	.01	.01	.04	.07
	Gender	.12	.03	.09	<.001	.09	.03	.07	<.001
	Supervisor	-.13	.03	-.09	<.001	-.06	.03	-.04	.039
	Defender t1	.42	.02	.43	<.001				
	Outsider t1					.55	.02	.56	<.001
Model 2	Gender	.15	.03	.12	<.001	.09	.02	.07	<.001
	Supervisor	-.15	.03	-.11	<.001	-.05	.03	-.04	.042
	Defender t1	.40	.02	.42	<.001				
	Outsider t1					.58	.02	.57	<.001
	IN t1	-.07	.01	-.11	<.001	-.04	.01	-.05	.004
	SSC t1	.08	.02	.10	<.001	-.02	.01	-.02	.193
	ED t1	.08	.02	.10	<.001	-.05	.01	-.06	.001
	BITS t1	-.05	.01	-.08	.038	.06	.01	.09	<.001

Gender is coded 0 for female, 1 for male. Supervisor is coded 0 for supervisor, 1 for not supervisor

IN Influence at work, *SSC* Social Support from Coworkers, *ED* Emotional Demands, *BITS* Bern Illegitimate Tasks Scale

($\beta = -.11$, $p < .001$), whereas consistent with the hypothesised direction (H1b), influence at work was negatively related to outsider behaviour ($\beta = -.05$, $p = .004$). Furthermore, social support from coworkers was positively associated with defender behaviour ($\beta = .10$, $p < .001$) in line with hypothesis 1c, while hypothesis 1d was not supported, as there was no significant association between social support from coworkers and outsider behaviour.

Hypothesis 2 predicted that job demands will be negatively related to defender behaviour (H2a and H2c), and positively related to outsider behaviours (H2b and H2d). Unexpectedly, emotional demands significantly predicted defender behaviours positively ($\beta = .10$, $p < .001$), and outsider behaviours negatively ($\beta = -.06$, $p = .001$), contrary to the hypothesised directions of H2a and H2b. Conversely, illegitimate task perception was associated with the behaviours in the hypothesised directions, in support of both H2c and H2d. H2 was therefore only supported for the job demand of illegitimate tasks.

Taken together, hypotheses 1b, 1c, 2c and 2d were supported, whereas 1a, 2a and 2b showed an unanticipated opposite pattern of relationships. H1d did not demonstrate any statistically significant association between social support and the outsider behaviour variable.

Discussion

The study aim was to investigate how job demands, and job resources were associated with bystander behaviour in workplace bullying. The findings demonstrated multifaceted associations between job resources (influence at work and

social support) and bystander behaviour over time. Influence at work was negatively related to outsider behaviours (in line with H1b). However, influence at work was also negatively related to defender behaviours (in contrast to H1a). Job autonomy, referred to as influence at work in this study, has theoretically been proposed to relate positively to job crafting (Tims & Bakker, 2010). In more recent studies, however, no longitudinal association between job autonomy and job crafting has been found (Niessen et al., 2016). Some researchers have suggested that job autonomy paradoxically can be a job demand in some cases, when the job role is poorly regulated, and designing one's own job becomes an additional demand (Dettmers & Bredehöft, 2020). In such cases, the taxonomy of dividing job characteristics into either job demands or resources is not straightforward. As for social support, H1c stated that social support from coworkers would be positively related to defender bystander behaviour. That social support predicted active bystander behaviour in the hypothesised direction is in line with the findings of MacCurtain et al. (2018) and could reflect an overall tendency to show support to colleagues, not only concerning work tasks, but also in relation to social situations and interpersonal behaviour. On the other hand, the results did not support H1d, since social support from colleagues was not significantly related to passive bystander behaviour. This could indicate that social support as a resource, in contrast to influence at work, has a greater importance for promoting active behaviour among bystanders, rather than inhibiting passive behaviour.

Unexpectedly, emotional demands were negatively related to the outsider role, and positively related to the defender role in contrast to both H2a and H2b. A possible explanation

for this pattern of relationships could be that emotional demands are perceived as a core characteristic of health care work. Employees in the health care sector likely expect their work to be emotionally demanding (Mann, 2005), and may perceive it as a challenge demand rather than a hindrance demand (Bakker & Sanz-Vergel, 2013). If emotional demands are perceived as challenge demands, they might not have the expected adverse effects as other demands (Van den Broeck et al., 2010), such as strain and self-undermining behaviour. Consequently, there may be less risk that emotional demands result in passive behaviour in situations of interpersonal mistreatment. Employees with high emotional demands may also be more used to emotionally taxing situations which can make them emotionally equipped to intervene, and less likely to remain passive, if they witness bullying. To test this, future studies could investigate whether emotional demands are perceived as challenge or hindrance demands in the health care sector.

Meanwhile, illegitimate work tasks were associated with bystander behaviours in the hypothesised direction of H2c and H2d. It is possible that a high level of perceived illegitimate tasks signals that management does not prioritise employees' work situation and gives them tasks that are perceived as meaningless or unnecessary. The frustrations and strain resulting from this threat to professional identity could reduce organisational commitment, and subsequently generate more passive, and less active, responses to workplace bullying.

Theoretical Contributions

This study makes some important theoretical contributions. To our knowledge, this is the first study to relate bystander behaviour in response to workplace bullying to the organisational context. In previous studies, workplace bullying has been incorporated into the JD-R theory as a stressor (e.g., Vranjes et al., 2022). In this study, we expand this by also including bystander behaviours into the JD-R framework, by conceptualising them as either active socially oriented job crafting behaviours or passive self-undermining behaviours. The study therefore adds to existing knowledge of bystander behaviour in the health care sector and connects bystander behaviour with the perceived work environment.

Moreover, the present findings nuance the assumption that job resources and job demands always correspond to beneficial or detrimental processes, respectively. This reflects recent developments in the JD-R model, which suggest that the conceptualisation of what constitutes resources and demands can depend on the context (Bakker & Demerouti, 2017), and that demands may not be simply detrimental but may be perceived as challenges, particularly in human service work (Duarte et al., 2020).

Practical Implications

The present findings may be useful to practitioners in two ways. For instance, the results suggest that it may be beneficial for organisations to promote socially supportive environments where this resource can be fostered between colleagues, not only for its intrinsic value, but also because it may promote active bystander behaviour in response to workplace bullying. Moreover, managers and organisations should consider the detrimental role that illegitimate tasks may have on bystanders. Engaging employees in discussions about task relevance may reduce the harmful effects of this stressor (Semmer et al., 2010), and affect bystander behaviour. We found that illegitimate tasks were positively related to passive bystander behaviours and negatively related to defender behaviour; therefore, it may be particularly useful to address this job demand when attempting to promote prosocial interventions for practitioners.

Strengths, Limitations, and Future Research

The present study has both strengths and limitations. A strength of the study is the longitudinal design, which allowed exploration of cross-lagged relationships over time. In addition, the sample was large and represented different occupational groups within the health care sector in Sweden. However, the data were collected at two points during 2020, when the sector experienced pressure from the Covid-19 pandemic. It is possible that the organisational and social work environment, and bullying behaviours, may have been affected during this unique situation, which may limit the generalisability of the findings.

Although the sample size was large, only a subset of participants, those that reported having witnessed bullying, responded to the bystander behaviour measures. This limited the effective N of the longitudinal analyses concerning these variables, which subsequently affected the power of the study's main analyses. The lowest N was found for the correlations between the bystander behaviour constructs over $t1$ and $t2$ ($N=91-92$), whereas the cross-time correlations for the demands and resources all ranged from 1138 to 1142. The number of respondents completing the demands and resources measures at $t1$ and the bystander behaviour measures at $t2$ was $N=176$. Nevertheless, despite the small effective N , the study can be seen as a first indication of relationships between the perceived work environment and bystander behaviours in workplace bullying over time. Future studies on bystander behaviour in workplace bullying could strive for even larger samples, to achieve more inferential power.

Furthermore, in relation to generalisability, we combined two samples: one from a southern regional province

of Sweden and one from Kantar Sifo's panel. The response rate was quite high in one of these samples but substantially lower in the other. It is possible that the sampling procedure affected who participated in the survey. Although we believe that the gain in statistical power outweighed the potential issue of combining the two different samples, the generalisability of the results to Swedish health care workers may be limited. Further, the pattern of relationships may to some extent be specific to the health care sector, and the generalisability of the results to other work sectors could be limited. In particular, the results concerning emotional demands would be of interest to explore in other work sectors, considering the pattern of relationships demonstrated in the present study, and that emotional demands previously have been identified as challenge demand within health care work (Bakker & Sanz-Vergel, 2013).

We conducted an attrition analysis to explore whether study dropout was significantly related to any of the study variables (see supplementary material, Table 1). Respondents reporting lower levels of active bystander behaviours or emotional demands, and higher levels of passive bystander behaviours, were slightly more prone to drop out of the study. While the effect sizes were small, it is possible that this could have influenced the results, possibly attenuating or strengthening the relationship between emotional demands and the bystander roles. Likewise, in relation to the diversity of our sample, we controlled for age and gender in the analyses, but we were unable to incorporate other factors that have been shown to be of importance in bullying exposure, such as ethnicity (Rosander & Blomberg, 2022). We encourage future studies to take an intersectional approach to the study of workplace bullying and bystander behaviour. Moreover, the findings of the present study open interesting avenues for future research concerning the work environment hypothesis of workplace bullying (Einarsen et al., 1994; Leymann, 1996; Skogstad et al., 2011). For instance, bystander behaviours could be possible boundary conditions for when the work environment relates to bullying. For example, the strength of the relationship between work environment factors and workplace bullying may depend on the type of bystander behaviours (active or passive) exhibited in response to the workplace bullying. Future studies could explore whether bystander behaviours interact with work environment factors in the prediction of workplace bullying.

Another limitation is that the data comprised self-reports, which may have affected the accuracy of both bullying reports and bystander behavioural responses. For instance, social desirability may have increased the tendency to report prosocial behaviour rather than avoidant behaviours. Moreover, we used response options that concerned frequency when measuring the bystander roles (e.g., engaging in defender behaviours "sometimes" or "often"). This

implies that the bystander had observed bullying on multiple occasions. These response options may be less suitable for a bystander that only had observed a single instance of workplace bullying. Although bullying by definition concerns repeated acts (Einarsen & Skogstad, 1996), they may not always be visible to bystanders. The frequency and degree of bullying that the bystander had witnessed could possibly influence their tendency to engage in active or passive bystander behaviours. The results should be interpreted in light of this limitation, and future studies could continue to further develop measures of bystander behaviour in workplace bullying. Self-reports can also be sensitive to common method bias (Podsakoff et al., 2003). Future studies should combine self-reports with reports from others about bystander behaviour in a particular scenario, objective measures such as number of filed incident reports, and data from the whole workgroup (e.g., Ng et al., 2022), to further strengthen the validity of inferences related to bystander behaviour. Nevertheless, the results of the study can be seen as a first important indication that bystander behaviour is associated with the organisational context.

Conclusions

In this study, we investigated how job demands, and job resources were related to bystander behaviour in response to workplace bullying in the health care sector. The results showed that social support was positively related to active behaviours, whereas influence at work was negatively related to both active and passive behaviours. Perceived illegitimate tasks were negatively related to active and positively related to passive behaviours, whereas emotional demands had an unanticipated opposite pattern of relationships. Taken together, the findings indicate that factors in the work environment can be important determinants of bystander behaviour in response to workplace bullying. The results of this study suggest that bystander behaviour needs to be studied from both an individual and organisational perspective.

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Data Availability Statement The data that support the findings of this study are available on reasonable request from the corresponding author. The data are not publicly available due to containing information that could compromise the privacy of research participants.

Code Availability The code for the main analyses are available from the corresponding author upon request.

Declarations

Ethical Approval This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Swedish Regional Ethical Review Board (ref no. 2018/385).

Informed Consent Informed consent was obtained from all individual participants included in the study. This includes consent to publish the data provided in research articles in scientific journals.

Competing Interest The authors have no relevant financial or non-financial interests to disclose.

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