Work & Stress: An International Journal of Work, Health &amp; Organisations

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/twst20

Do demands and resources affect target's and perpetrators' reports of workplace bullying? A two-wave cross-lagged study

Elfi Baillien a b, Alfredo Rodriguez-Muñoz c, Anja Van den Broeck a b & Hans De Witte d

a Human Relations Research Group, Hogeschool-Universiteit Brussel, Brussels, Belgium
b Research Group Work, Organisational and Personnel Psychology, Katholieke Universiteit Leuven, Belgium
c Faculty of Psychology, Complutense University of Madrid, Spain
d North-West University, Vaal Triangle Campus, South Africa

Available online: 26 Jul 2011

To cite this article: Elfi Baillien, Alfredo Rodriguez-Muñoz, Anja Van den Broeck & Hans De Witte (2011): Do demands and resources affect target’s and perpetrators' reports of workplace bullying? A two-wave cross-lagged study, Work & Stress: An International Journal of Work, Health &amp; Organisations, 25:2, 128-146

To link to this article: http://dx.doi.org/10.1080/02678373.2011.591600

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: http://www.tandfonline.com/page/terms-and-conditions

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae, and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings,
demand, or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.
Do demands and resources affect target’s and perpetrators’ reports of workplace bullying? A two-wave cross-lagged study

Elfi Baillien\textsuperscript{a, b,*}, Alfredo Rodriguez-Muñoz\textsuperscript{c}, Anja Van den Broeck\textsuperscript{a, b} and Hans De Witte\textsuperscript{d}

\textsuperscript{a}Human Relations Research Group, Hogeschool-Universiteit Brussel, Brussels, Belgium; \textsuperscript{b}Research Group Work, Organisational and Personnel Psychology, Katholieke Universiteit Leuven, Belgium; \textsuperscript{c}Faculty of Psychology, Complutense University of Madrid, Spain; \textsuperscript{d}North-West University, Vaal Triangle Campus, South Africa

In this study the causal relationships between work characteristics, in terms of job demands and job resources, and both targets’ and perpetrators’ reports of workplace bullying, are investigated. In line with the Job Demands-Resources model and the bullying literature, we assumed that both high job demands (i.e. workload, role conflict and job insecurity) and low job resources (i.e. task autonomy, social support and skill utilization) increase bullying over time (i.e. normal causation). Our sample included 177 employees of various establishments of a large Belgian organization. The results of structural equation modelling analyses partially supported our hypothesis. As expected, we found that T1 job demands related positively to targets’ reports of bullying at T2 one year later, and that T1 job resources related negatively to T2 targets’ reports of bullying. Unexpectedly, there was no significant cross-lagged effect of T1 job demands and resources on T2 perpetrator’s reports of bullying. No evidence was found for reverse causation or reciprocal effects. Overall, at least for targets, these findings support the validity of the theoretical models postulating a causal link from work characteristics to workplace bullying.

Keywords: workplace bullying; job demands; job resources; two-wave study; work-related stress

Introduction

Various studies in occupational and organizational psychology have focused on workplace bullying, which can be defined as a situation in which a range of negative acts are systematically directed at one or more employees over a period of time (Einarsen, Hoel, Zapf, & Cooper, 2003). These acts may be personal (e.g. insulting criticism) or work-related in nature (e.g. withholding information), or may include social isolation (Cowie, Naylor, Rivers, Smith, & Pereira, 2002). Workplace bullying is by its nature long-standing and refers to the outcome of a series of episodes in which negative acts may intensify over time. It implies an actual or perceived power imbalance between the parties involved: the target is pushed into an inferior position.
vis-à-vis the perpetrator (Einarsen & Skogstad, 1996) and experiences difficulties in defending him- or herself against the negative acts (Leymann, 1996). Workplace bullying has been associated with severe effects for the employees involved (e.g., burnout, decreased job satisfaction; Einarsen, Matthiesen, & Skogstad, 1998; Rodríguez-Muñoz, Baillien, De Witte, Moreno-Jiménez, & Pastor, 2009) as well as for the organization (e.g., increased turnover, decreased productivity; Hoel, Einarsen, & Cooper, 2003). Because of such significant negative consequences, it is highly important to prevent workplace bullying, something that may be facilitated by gaining a better insight into its antecedents, from the perspective of both the targets and the perpetrators.

Research on the antecedents of bullying can be approached from two perspectives. First, studies have revealed a number of individual characteristics that may make targets and perpetrators prone to bullying. With respect to the target, bullying has been related to indicators of “weakness”, such as shyness (Einarsen, Raknes, & Matthiesen, 1994), low social skills (Zapf, 1999), and neuroticism (Mikkelsen & Einarsen, 2002). With respect to the perpetrator, bullying has been associated with a range of personality profiles, such as “the abrasive personality”, “the authoritarian personality” and “the petty tyrant” (see also Ashforth, 1994).

Regarding the second and most dominant perspective, researchers have investigated work-related antecedents, which concern the focus of the current study. This line of research has been inspired by the work environment hypothesis, which attributes workplace bullying to organizational and work characteristics (Hauge, Skogstad, & Einarsen, 2007; Leymann, 1996). Studies following this work environmental perspective have revealed a range of work characteristics that relate particularly to targets’ reports of bullying, such as role conflict (e.g. Notelaers, De Witte, & Einarsen, 2010), job insecurity (e.g. Baillien & De Witte, 2009a), workload (e.g. Hauge et al., 2007), and social support (e.g. Zapf, Knorz, & Kulla, 1996a). Recently, a small number of studies have also investigated perpetrators’ reports of bullying, and detected that work characteristics such as job insecurity, role conflict and workload are associated with bullying enactment too (e.g. Baillien, De Cuypers, & De Witte, 2011; Baillien, Cuyper, & De Witte, 2009; Hauge, Notelaers, Skogstad, & Einarsen, 2009). Indeed, as elaborated in the Three-Way Model (Baillien, Neyens, De Witte, & De Cuypers, 2009), work characteristics may lead to both targets’ and perpetrator’s reports of bullying according to one or more of three processes. In the first process, work characteristics may result in bullying through inefficient coping with frustration (strain), which is likely to be active for perpetrators and passive for targets. In the second process, work characteristics may fuel escalating personal conflicts. In this case, the relatively powerful employee becomes the perpetrator and the less powerful employee becomes the target. In the third process, bullying may be directly stimulated by work characteristics allowing or even promoting such behaviour. Along similar lines, Bowling and Beehr (2006) argued that work characteristics could be perceived as ambient stressors felt by both targets and perpetrators.

To date, however, studies in the realm of the work environment hypothesis have shown three shortcomings. First, unlike longitudinal studies examining personality and previous occurrences of bullying as antecedents of workplace bullying (Bowling, Beehr, Bennett, & Watson, 2010), few of the studies have tapped into the causal relations between job characteristics and workplace bullying. Most have been based
on cross-sectional designs (for exceptions, see Baillien et al., 2011; Hauge et al., 2009). Or, notwithstanding the view that work characteristics are antecedents of bullying, research so far has not provided evidence on how work characteristics and bullying influence each other over time – a concern raised by numerous scholars in the field (e.g. Zapf & Einarsen, 2005). Second, these studies have produced plethora of possible work-related correlates. Following models that specifically explain workplace bullying (e.g. Baillien et al., 2009; Bowling & Beehr, 2006; Salin, 2003), these various work characteristics may indeed be meaningfully linked to either targets’ or perpetrators’ reports of bullying. However, due to this long list of included antecedents, these models appear rather too complex to allow a straightforward statistical test. Workplace bullying research may therefore benefit from other frameworks that could structure the list of work characteristics. Third, studies to date have predominantly focused on targets and have only recently included perpetrators of bullying (Baillien et al., 2011; De Cuyper et al., 2009; Hauge et al., 2009). As a result, relatively little is still known about the work characteristics that may be associated with the enactment of bullying (Rayner, 1999).

The current study aims to account for these limitations. First, we adopted a two-wave longitudinal design and employed cross-lagged analyses (Zapf, Dorman, & Frese, 1996b) to examine the temporal order between work characteristics and workplace bullying. Second, we drew on the Job Demands-Resources model (JD-R model; Bakker & Demerouti, 2007) to examine work characteristics as antecedents of workplace bullying. The JD-R model classifies a list of work characteristics into two meaningful sets (i.e. job demands and job resources), each showing a particular relationship with workers’ well-being and workers’ behaviour. Finally, we aim to add to the literature by further enhancing insight into work characteristics that may be associated with bullying enactment by also exploring the perpetrators’ reports of bullying.

The Job Demands-Resources model

The JD-R model assumes that a broad set of work characteristics, categorized as job demands and job resources, may influence work-related well-being, which in turn relates to individual and organizational outcomes. Job demands are those aspects of the work context that tax workers’ personal capacities, such as workload, role conflict and job insecurity. Job resources, are those aspects of the work context that (1) reduce job demands and their health-impairing impact, (2) are functional in achieving work goals, and (3) stimulate personal growth, development, and learning (Bakker & Demerouti, 2007). They include, for instance, social support, skill utilization and task autonomy. According to the JD-R model, job demands evoke an energy-depleting process; they drain workers’ energy and therefore result in psychological and/or physiological costs, such as strain and burnout (Bakker & Demerouti, 2007). Job resources, in contrast, are motivational in nature, and therefore contribute to workers’ optimal functioning, for instance, in terms of work engagement.

Numerous studies have supported the assumptions of the JD-R model from a cross-sectional (e.g. Schaufeli & Bakker, 2004) and longitudinal (e.g. Hakanen, Schaufeli, & Ahola, 2008) perspective, as well as via day-to-day studies (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009a), while using general (e.g. workload, role
problems) as well as job-specific (e.g. customer contacts, violence) demands and resources (Bakker & Demerouti, 2007). These studies have applied the JD-R model to a diverse set of outcomes. First, job demands and job resources have successfully been used to gain insight in workers’ well-being and health, including psychosomatic complaints and depression (Hakanen et al., 2008). Second, the JD-R model has been applied to work-related attitudes such as organizational commitment, job satisfaction, and turnover intentions (Bakker, Demerouti, De Boer, & Schaufeli, 2003; Hakanen et al., 2008). Finally, some studies have paid attention to workers’ behaviour in terms of absenteeism (Bakker et al., 2003), role performance (Xanthopoulou et al., 2009a) and extra-role performance (Bakker, Demerouti, & Verbeke, 2004), thereby indicating that the JD-R model is not only instructive in explaining workers’ attitudes, health and well-being, but may also be a meaningful framework to predict behavioural outcomes.

One particularly interesting behavioural outcome may then be workplace bullying as reported by both targets and perpetrators, which has been associated with a range of work characteristics that fit the job demands and job resources classification (Hauge et al., 2007; Notelaers et al., 2010).

The JD-R model and workplace bullying

In the bullying literature, workplace bullying has been associated with a plethora of work characteristics. This study aims to apply the categorization of work characteristics offered by the JD-R model to rationalize the list of work characteristics that may be associated with targets’ and perpetrators’ reports of workplace bullying. Specifically, in line with the JD-R literature, we model workload, role conflict and job insecurity as job demands, while skill utilization, task autonomy and social support from colleagues are included as job resources (Bakker & Demerouti, 2007). These work characteristics have all been associated with workplace bullying too (e.g. Hauge et al., 2007; Notelaers et al., 2010).

Traditionally, and following frameworks such as the work environment hypothesis (Leymann, 1996) or the Three-Way Model (Baillien et al., 2009), work characteristics have been assumed to be antecedents of workplace bullying (i.e. normal causation). Drawing on the bullying and JD-R model’s literature, we see a number of reasons why job demands and job resources may trigger targets’ versus perpetrators’ reports of bullying. As respects targets, according to the JD-R model, job demands wear out employees’ energy and strength, which leaves them exhausted. The absence of job resources may, in turn, frustrate the employees’ motivation and cause them to withdraw from work (Hakanen et al., 2008). Both processes may turn employees into easy targets who offer little resistance against unfair treatment and workplace bullying (Hoel & Salin, 2003). Alternatively, as outlined in the bullying literature, employees confronted with high job demands and low job resources may become “annoying targets” who are bullied by their co-workers as a form of retaliation. This can be understood along the ideas of Social Interactionism (Felson & Tedeschi, 1993). Workers who violate existing work-related norms may provoke negative behaviour on the part of their colleagues.

With respect to perpetrators, frameworks such as the Stressor-Emotion model (Spector & Fox, 2005), Cognitive Neo-association Theory (Berkowitz, 1989) and General Strain Theory (Hinduja, 2007) suggest that stressful situations, as in the case
of high job demands and low job resources, may lead employees to engage in workplace bullying in an attempt to cope with their frustration or to regain control. To summarize, job demands and the absence of job resources are considered to cause bullying by both targets and perpetrators; a viewpoint we tend to share. Specifically, we assume:

**Hypothesis 1:** Job demands are positively associated with targets’ (Hypothesis 1a) as well as perpetrator’s (Hypothesis 1b) reports of bullying over time.

**Hypothesis 2:** Job resources are negatively associated with targets’ (Hypothesis 2a) and perpetrator’s (Hypothesis 2b) reports of bullying over time.

Beside the generally assumed causal order from work characteristics to workplace bullying, some authors have pointed at reversed and reciprocal causal relationships between these variables too (Zapf et al., 1996b), underlining the need to test such associations over time. As respects *reversed causation*, bullying could impact on work characteristics through a “loss process” (Hobfoll, 1989). In this, targets or perpetrators of bullying may create additional demands and use up their job resources as a result of their own behaviour. One example is that bullying as experienced by targets affects their well-being, for instance, in terms of dedication and job satisfaction (Rodriguez-Muñoz et al., 2009). Reduced well-being may in turn result in additional job demands such as role conflicts or job insecurity and fewer resources such as autonomy and social support (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). In a similar vein, spending time on bullying others may, for instance, increase workload and impair social support from others. Moreover, the perception of job demands and job resources may also be particularly affected by the targets’ rather pessimistic perception of the work environment (Zapf et al., 1996b). Over time targets tend to see themselves as increasingly “blameless”, whilst attributing the reasons for the negative events to an external source such as the organization or the work environment (Rayner, 1999).

Finally, job demands, job resources and targets’ versus perpetrators’ reports of bullying may be related in a *reciprocal causal* way in which the above-mentioned processes are combined into a negative feedback loop (Zapf et al., 1996b): High levels of job demands and low levels of job resources lead to bullying, while bullying simultaneously increases job demands and decreases job resources. In addition to investigating the possible causal relations between job demands, job resources and workplace bullying as outlined in our hypotheses, the current study also aimed to test for the reversed and reciprocal causal relations.

**Method**

**Participants and procedure**

The hypotheses were tested using a two-wave study design. The respondents ($N = 1080$) were randomly sampled in different establishments of a large organization, belonging to the financial sector, with headquarters in Belgium. The establishments were chosen based on company records on earlier workplace bullying incidents, and included those with both a high and low number of bullying incidents. Data were
collected over a one-year period (T1, November 2007 and T2, November 2008) by means of paper and pencil questionnaires. Participation was voluntary. Access to the departments and the workers was facilitated by the Human Resources department. To encourage the respondents’ willingness to participate, they were instructed to mail their questionnaires under sealed envelopes directly to the authors’ research department. To guarantee confidentiality, Time 1 (T1) and Time 2 (T2) responses were linked by means of anonymous codes provided by the respondents at both times. These codes included their year of birth and gender as well as answers to questions such as “name the first and the last characters of your birthplace” and “name the first and last character of your mother’s surname”.

At T1, a total of 508 respondents returned their questionnaire, which contained a longitudinal code (response rate 47%); 251 of them (response rate 50%) participated in the T2 survey. After eliminating respondents who had changed their job since T1 measurement (n = 25) and who did not answer all crucial items relevant to the current study, we obtained a definitive two-wave sample of 177 respondents. More male (56%) than female employees (44%) participated. Participants’ mean age was 44 years (SD = 8.7). White-collar workers dominated the sample (54%), followed by managers (45%). A logistic regression analysis tested if participation in the two waves versus drop-out after wave 1 (0 = retention; 1 = drop-out) was predicted by age, gender (0 = female; 1 = male), blue-collar position (0 = white-collar workers/managers; 1 = blue-collar workers), management position (0 = blue-collar workers/white-collar workers; 1 = managers) and all study variables at Time 1. Age, gender and position were entered in Step 1. Workload, role conflict, job insecurity, skill utilization, task autonomy, social support of the colleagues, targets’ reports of bullying and perpetrators’ reports of bullying were entered in Step 2. Chi-square ($\chi^2$) was not significant for Step 1 ($\chi^2(4) = 4.27; ns$) as well as for Step 2 ($\chi^2(8) = 4.05; ns$): Participants of both waves did not differ in any of the variables under study, suggesting limited selection effects.

**Measures**

We adopted a “complete panel design” in which all variables were measured at both Time 1 and Time 2 (i.e. De Lange, De Witte, & Notelaers, 2008).

**Workplace bullying.** Targets’ reports of workplace bullying were tapped by means of seven items from the Short-Negative Acts Questionnaire (“S-NAQ”; Notelaers & Einarsen, 2008). The items describe negative acts in terms of personal bullying (e.g. “gossiping”) and work-related bullying (e.g. “being withheld information”) that may be perceived as bullying when they occur on a regular basis. On a scale of 1 (never) to 5 (daily), respondents indicated how frequently they had been exposed to each of these negative acts during the last six months. Perpetrators’ reports of bullying were measured by means of seven items similar to the S-NAQ items. These items were, however, slightly adapted to an active formulation (e.g. “withholding information”) (see De Cuyper et al., 2009). Respondents rated how frequent (1 = never; 5 = daily) they themselves have engaged in each of the seven acts, during the last six months.

**Job demands.** Workload (e.g. “Do you have to work fast?”) and role conflict (e.g. “Do you get conflicting assignments?”) were each assessed by means of three items.
of the Short Inventory of Psychosocial Hazards (SIMPH; Notelaers, De Witte, Van Veldhoven, & Vermunt, 2007). Job insecurity (e.g. “I feel insecure about the future of my job”) was tapped by means of three items from De Witte (2000). All items were rated on a four-point Likert type scale, ranging from 1 (never) to 4 (always).

**Job resources.** Skill utilization (e.g. “My work requires me to learn new skills”) was measured using three items of the SIMPH (Notelaers et al., 2007). Autonomy (e.g. “I can plan my own work”) and social support from colleagues (e.g. “I feel appreciated by my colleagues”) were each tapped by means of three items (Rigotti et al., 2003). For all items, respondents indicated whether or not they endorsed the statement on a four-point Likert scale ranging from 1 (never) to 4 (always).

**Statistical analyses**

Data were analysed using structural equation modelling (SEM) in AMOS 16.0 (Arbuckle, 2007). Following the two-step approach procedure recommended by Anderson and Gerbing (1988), we first tested the measurement models by means of item-level confirmatory factor analyses (CFA) for the two measurement points separately. We started by testing a measurement model in which all items loaded on one latent factor, which fitted poorly to the observed data, both at T1, $\chi^2(455) = 1272.20$; CFI = .50, RMSEA = .10, and T2, $\chi^2(455) = 1541.34$; CFI = .39, RMSEA = .11 (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Then, as respects the job demands, we compared an uncorrelated first-order CFA model, in which the three job demands (workload, role conflict, and job insecurity) were represented as independent constructs, with a second-order CFA model, in which the three job demands loaded on one overall job demands factor. The same strategy was followed for the three job resources (autonomy, skill utilization and social support from the colleagues). These analyses showed that a second-order CFA model with a four-factor measurement structure (i.e. targets’ reports of bullying, perpetrators’ reports of bullying, job demands and job resources) fitted acceptably to the observed data in T1: $\chi^2(442) = 605.19$; CFI = .91, RMSEA = .05, and T2: $\chi^2(442) = 659.78$; CFI = .89, RMSEA = .05. This second-order CFA model showed a significantly better fit as compared to the first-order model, for T1: $\Delta \chi^2 (12) = 178, p < .001$; for T2: $\Delta \chi^2 (12) = 160, p < .001$. Thus, CFA supported the representation of job demands and job resources in two overall factors.

Second, we tested the hypotheses by comparing the competing models regarding the causal relationships between job demands, job resources and workplace bullying. As workplace bullying is a highly skewed variable (Notelaers, Einarsen, De Witte, & Vermunt, 2006), an asymptotic distribution free (ADF) estimation was used, as recommended in situations of violation of the normality assumption (Weston & Gore, 2006). Carrying out estimates when there is a large number of variables may yield insufficient power or under-identification, particularly in small samples (Bentler & Chou, 1987). Therefore, we reduced the complexity of our SEM models by using manifest variables (Jöreskog & Sörbom, 1993), an approach that has been used in previous studies in the realm of the JD-R model (Xanthopoulou et al., 2009b). Synchronous correlations between constructs in the same wave were allowed in all models, to test the longitudinal relations.
We tested four competing models. The first model was the baseline or stability model (M1) which included temporal stabilities and synchronous (i.e. within-wave) effects of the variables over time, without any cross-lagged associations. Second, we tested the normal causation model (M2). This model resembled M1, but included additional cross-lagged paths from T1 job demands and job resources to T2 targets’ and perpetrators’ reports of bullying. Third, the reversed causation model (M3) resembled M1, but included cross-lagged paths from T1 targets’ and perpetrators’ reports of bullying to T2 job demands and job resources. Finally, in the reciprocal causation model (M4) the relations specified in M1 were extended with additional reciprocal cross-lagged paths from job demands and job resources to targets’ and perpetrators’ reports of bullying and vice versa. Age was used as a covariate in all SEM analyses, based on its significant correlation with T1 job demands ($r = .19$, $p < .05$), to T2 job resources ($r = .24$, $p < .01$) and T2 bullying perpetrator ($r = -.15$, $p < .05$) (see Table 2).

For each model, model fit was assessed with various indices. First, we assessed $\chi^2$: A non-significant $\chi^2$ test reveals a perfect model fit. Since $\chi^2$ is sensitive to sample size (Hu & Bentler, 1995), we additionally inspected the Comparative Fit Index (CFI), the Tucker–Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). Levels of .90 or higher for CFI and TLI, and .08 or lower for RMSEA indicate a reasonably good model fit (Byrne, 2002). The different competing nested models were compared by means of the $\chi^2$ difference test (Weston & Gore, 2006) and the Akaike measure (AIC): The model with the smallest AIC value is traditionally considered to be the best model (Akaike, 1987). Following Burnham and Anderson (2002), we considered that there was little difference between the models when the AIC differences were no higher than 2, and a significant difference in favour of the model with the lowest AIC when the AIC differences were higher than 4.

**Results**

**Descriptive statistics**

Means, standard deviations and correlations between the variables are presented in Table 1. First, regarding the test-retest correlations of the variables under study, the autocorrelations ranged between .73 (for job resources) and .45 (for job demands); indicating that the variables were relatively stable over time. As respects workplace bullying, in line with expectations, perpetrators’ reports of bullying showed a low positive correlation with job demands and a negative correlation with resources at T1, and presented no significant association with these variables at T2. However, and in line with the hypotheses derived from the JD-R model, targets’ reports of bullying were negatively associated with job resources and positively associated with job demands, except for T1 bullying and T2 job demands. Finally, there were positive correlations between targets’ and perpetrators’ reports of workplace bullying at both Table 1 and Table 2.

**Cross-lagged relationships between the study variables**

Table 2 shows the fit indices of the competing models, as well as the model comparisons.
Table 1. Descriptive statistics and correlations among the study variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>$M$ (SD)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td>1.44 (.49)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Age</td>
<td>44.29 (8.77)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Job Demands T1</td>
<td>1.84 (.33)</td>
<td>-.06</td>
<td>.19**</td>
<td>(.73)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Job Resources T1</td>
<td>3.16 (.46)</td>
<td>-.08</td>
<td>.13</td>
<td>-.23**</td>
<td>(.81)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Bullying, Target T1</td>
<td>1.43 (.43)</td>
<td>.09</td>
<td>-.05</td>
<td>.27**</td>
<td>-.36**</td>
<td>(.79)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Bullying, Perpetrator T1</td>
<td>1.35 (.29)</td>
<td>-.01</td>
<td>-.13</td>
<td>.17*</td>
<td>-.16*</td>
<td>.39**</td>
<td>(.63)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Job Demands T2</td>
<td>2.28 (.31)</td>
<td>-.07</td>
<td>.14</td>
<td>.45**</td>
<td>.11</td>
<td>.08</td>
<td>.06</td>
<td>(.71)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Job Resources T2</td>
<td>3.10 (.45)</td>
<td>-.06</td>
<td>.24**</td>
<td>-.13</td>
<td>.73**</td>
<td>-.35**</td>
<td>-.13</td>
<td>.23**</td>
<td>(.80)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Bullying, Target T2</td>
<td>1.41 (.40)</td>
<td>.07</td>
<td>-.09</td>
<td>.28**</td>
<td>-.32**</td>
<td>.55**</td>
<td>.22**</td>
<td>.23**</td>
<td>-.45**</td>
<td>(.75)</td>
<td></td>
</tr>
<tr>
<td>10. Bullying, Perpetrator T2</td>
<td>1.35 (.27)</td>
<td>-.03</td>
<td>-.15*</td>
<td>.14</td>
<td>.08</td>
<td>.26**</td>
<td>.50**</td>
<td>.17*</td>
<td>-.11</td>
<td>.39**</td>
<td>(.55)</td>
</tr>
</tbody>
</table>

Note: Gender was coded as 1 = male; 2 = female.

* $p < .05$; ** $p < .01$. 
<table>
<thead>
<tr>
<th>Factor Model</th>
<th>$\chi^2$ (df)</th>
<th>$p$</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
<th>AIC</th>
<th>Comparison</th>
<th>Δ$\chi^2$ (df)</th>
<th>$\Delta$AIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1. Baseline or stability model</td>
<td>52.91 (17)</td>
<td>.001</td>
<td>.831</td>
<td>.651</td>
<td>.113</td>
<td>110.96</td>
<td>M1/C1 M2</td>
<td>37.58** (4)</td>
<td>30.13</td>
</tr>
<tr>
<td>M2. Normal causation model</td>
<td>14.83 (13)</td>
<td>.207</td>
<td>.983</td>
<td>.952</td>
<td>.041</td>
<td>80.83</td>
<td>M1/C1 M2</td>
<td>15.67** (4)</td>
<td>8.92</td>
</tr>
<tr>
<td>M3. Reversed causation model</td>
<td>37.24 (13)</td>
<td>.001</td>
<td>.895</td>
<td>.710</td>
<td>.102</td>
<td>102.04</td>
<td>M1/C1 M3</td>
<td>26.57** (4)</td>
<td>17.25</td>
</tr>
<tr>
<td>M4. Reciprocal causation model</td>
<td>26.63 (9)</td>
<td>.010</td>
<td>.934</td>
<td>.797</td>
<td></td>
<td>93.73</td>
<td>M1/C1 M4</td>
<td>11.80* (4)</td>
<td>8.31</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>95.23</td>
<td>M2/C1 M4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>95.23</td>
<td>M3/C1 M4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05; **p < .01.
The results show that the normal causation model ($M_2$) was the best fit in terms of GFI and RMSEA. It provided the best fit to the data as compared to the stability model, the reversed causal model, and the reciprocal causal model. In terms of parsimony, examination of the AIC provided results consistent with the $\chi^2$ comparisons: the normal causation model ($M_2$) showed the lowest AIC. As expected, the model with cross-lagged relationships between T1 job demands and T1 job resources and T2 bullying ($M_2$) explained our data best. Figure 1 shows all standardized cross-lagged effects observed in this model. Specifically, in line with Hypotheses 1a and 2a, we found a significant effect of T1 job demands and T1 job resources on T2 targets’ reports of bullying. However no cross-lagged effect was found for perpetrators’ reports of bullying, thereby failing to support Hypotheses 1b and 2b.

Drawing on the significant correlations between targets’ and perpetrators’ reports of bullying (Table 1), we additionally tested the cross-lagged relations from Target T1 to Perpetrator T2 and vice versa in our final model. Controlling for these paths seemed reasonable, as scholars in the field have pointed out that targets could become perpetrators of bullying towards their aggressors as a form of revenge (Matthiesen & Einarsen, 2007). Alternatively, perpetrators might become targets of bullying through retaliation of their co-workers (Archer, Ireland, & Power, 2007). However, controlling for this aspect did not alter our results: targets’ reports of bullying at T1 did not predict perpetrators’ reports of bullying at T2, and perpetrators’ reports of bullying at T1 did not predict targets’ reports of bullying at T2.

Figure 1. Simplified final structural model. Standardized lagged effects. All values are significant at $p < .001$. 
Discussion

This study aimed to further the understanding of the association between work characteristics and workplace bullying. Specifically, we aimed to add to the literature (a) by employing a theoretical framework to model various work characteristics, (b) by examining workplace bullying from the perspective of both targets and perpetrators and (c) by investigating these relationships over time. Indeed, previous studies in the realm of workplace bullying have identified a plethora of work characteristics that have found to be associated with bullying, mainly approached from the target’s perspective. Due to the cross-sectional nature of these studies, however, the widely assumed causal relationship in which these work characteristics actually trigger or discourage rather than co-occur with bullying remained to be studied. Against this backdrop, our study investigated and compared various causal relationships (i.e. normal, reversed, and reciprocal causation) between work characteristics and targets’ versus perpetrators’ reports of bullying in a two-wave design with a time lag of one year.

Based on the JD-R model, in this study we classified the plethora of work-related correlates of bullying into two sets – job demands and job resources. The model furthermore predicts how job demands and job resources may be associated with workplace bullying. From a theoretical perspective, the present study also aligns with recent calls in the literature for the examination of causal relationships between job demands and job resources and individual and organizational outcomes (Bakker & Demerouti, 2007).

In general, in line with Hypotheses 1a and 2a (concerning targets), our findings support a normal causation model with cross-lagged paths from T1 job demands and T1 job resources to T2 targets’ reports of bullying. While (high) job demands increase the likelihood of being bullied over time, (high) job resources seem to prevent the future occurrence of targets’ reports of workplace bullying. Overall, these findings align with the premises of the JD-R model, in which job demands encourage and job resources discourage a range of negative outcomes due to their impact on employees’ energy and motivation (Bakker & Demerouti, 2007). This seems to support our assumptions in terms of the “easy” or “annoying” target: exposure to job demands may deplete employees’ energy, while a lack of job resources may cause them to withdraw from work. This may then turn these employees into vulnerable targets for would-be perpetrators (Hoel & Salin, 2003). Alternatively, employees with high job demands and low job resources may violate existing norms, which, in turn, may justify bullying from the point of view of their co-workers as a form of retaliation (Felson & Tedeschi, 1993). From the JD-R model’s perspective, our results moreover attest to the predictive validity of the JD-R model in view of targets of workplace bullying.

The results favoured the normal causation model rather than the alternative models of reversed and reciprocal causation. This aligns with the work environment hypothesis that inspired many of the previous, primarily cross-sectional, studies in the realm of workplace bullying. In line with the work environment hypothesis, the present findings show that a stressful work environment triggers workplace bullying, rather than the other way around (e.g. Hauge et al., 2007; Hoel & Salin, 2003; Notelaers et al., 2010). These findings furthermore refine earlier assessments in the workplace bullying literature claiming that targets’ reports of bullying are associated
with a lack of resources (Zapf & Einarsen, 2005). Our results contradict the “loss-spiral” advocated in the realm of the JD-R model (Hobfoll, 1989) for workplace bullying. Specifically, with regard to the direction of effects, bullying did not have a detrimental effect on the work environment by increasing the amount of job demands and decreasing job resources encountered over time. Rather, it seems that high job demands and low job resources create circumstances in which an employee may get involved in bullying.

The findings, however, confirmed our hypotheses regarding targets’ reports of bullying, suggesting that being the target of workplace bullying may be triggered by high job demands and low job resources with regard to the target. Unexpectedly, our findings did not reveal any associations between job demands, job resources and perpetrators’ reported bullying, as outlined in Hypotheses 1b and 2b, respectively. This contradicts earlier assumptions that bullying enactment may be a way to deal with stressful work characteristics or to regain control over the situation (Berkowitz, 1989; Hinduja, 2007; Spector & Fox, 2005). Different reasons could account for these results, from both a methodological and theoretical perspective, as we will now discuss.

With regard to methodology, social desirability may have reduced the likelihood of obtaining accurate responses, particularly from perpetrators (Hauge et al., 2009). Our findings may therefore be weighted towards a sub-group of perpetrators who are willing to admit their behaviour. Social desirability implies an underestimation of effects as it may have reduced the variance in our scales owing to fairly positive answering patterns. In other words, relationships could be stronger when accounting for social desirability. Moreover, our results could perhaps have been affected by the fairly low Cronbach’s alpha for the perpetrators’ reports of bullying measurement, which was below the .70 cut-off recommended by Nunnally and Berstein (1994) and may have reduced the correlations with predictors (Zapf et al., 1996b). In this respect, it has been suggested that an average inter-item correlation is a good measure of a scale’s internal consistency, even better than coefficient alpha, and the recommended values for that should be within the range .15 to .50 (Clark & Watson, 1995, p. 316). Mean inter-item correlations observed in the present study for perpetrators’ reports of bullying were .21 at time 1, and .17 at time 2. Thus, the low alpha values observed in the current research for this variable do not seem to threaten the validity of our findings.

With regard to theory, one explanation for not finding an association between demands and resources and perpetrators’ reported bullying could be that job demands, which promote an energy-depletion process, and job resources, which promote motivation and counteract energy depletion, are particularly relevant to bullying for targets, but not for perpetrators. In other words, high job demands and low job resources may lead to individuals becoming “easy” or “annoying” targets. However, the perpetration of bullying may primarily stem from other processes. In this context, the Three-Way Model described two other routes, besides stressful work characteristics, via which the work environment may lead to bullying both from the targets’ and perpetrator’s perspective (Baillien et al., 2009). First, work characteristics could trigger bullying through stimulating personal conflicts at work – for example, when high levels of role conflict and job ambiguity cause controversy between two or more employees. As illustrated in the Three-Way Model, such conflicts could escalate into workplace bullying when managed badly. In this case,
the most powerful party is most likely to become perpetrator, whereas the weaker party is likely to get trapped in the target position. Second, the team and organizational climate could directly stimulate bullying enactment through allowing or even promoting such behaviour. Examples of such characteristics are, among others, a culture of gossip in which rumours flourish on the work floor, or a non-existing anti-bullying policy that signals that the management gives priority to other matters. Studies to date have indeed revealed interesting associations between components of both processes and bullying, although solely based on targets’ perceptions (Baillien & De Witte, 2009b). Future studies may therefore benefit from exploring these aspects from the perpetrator’s perspective too, and examining whether these processes are more relevant for the emergence of bullying perpetration than work characteristics.

**Limitations and future research**

Some limitations of the current study need to be addressed. First, it relies on self-report data provided by a single source, raising concerns about common-method variance (Podsakoff et al., 2003). We, however, reduced the problems associated with common-method bias, for example, by emphasizing during data collection that participation would be anonymous (Podsakoff et al., 2003). Moreover, CFA in which all items loaded onto a single factor fitted our data poorly. Future research could nevertheless further improve our design by including multiple source data and objective measurements, such as, for example, managerial reports or observational studies.

Second, this research applied a two-wave panel design with a one-year time lag. This time lag was inspired by other longitudinal studies in the realm of work-related stress (De Lange, Taris, Kompier, Houtman, & Bongers, 2004). Replicating our findings in studies applying shorter time lags may, however, be a fruitful avenue for future research, as to date little is known about the causal interval of the workplace bullying process. Also, future studies could apply multi-wave designs with, for example, three or more measurement points that could provide more insight in the processes underlying the causal relations between job demands, job resources and workplace bullying (Taris & Kompier, 2003).

Third, our study applied the JD-R model to rationalizing work characteristics into two meaningful categories – job demands and job resources – that may promote higher or lower levels of bullying respectively, as reported by both targets and perpetrators. Besides main effects, the JD-R model furthermore postulates an interaction between job demands and job resources (Bakker & Demerouti, 2007). Specifically, job resources may buffer the health-impairing impact of job demands, such that workers experiencing high job demands may experience lower levels of stress if they have various job resources. Alternatively, job demands may boost the health-enhancing effect of job resources: That is, workers may increasingly benefit from job resources over time when working under demanding conditions. However, as we were specifically focusing upon the various causal relationships between work characteristics and bullying as a step towards gaining more insight into causes of the bullying, testing that interaction was beyond the scope of our study. Building on the current study’s finding that the JD-R model could indeed be linked to bullying over
time, future studies may disentangle other specific characteristics of the JD-R model such as the buffering or boosting hypotheses.

And lastly, as our data were collected in one organization dominated by white-collar workers, future studies may aim to tap into a representative sample to increase the generalizability of the results.

Practical implications

Despite these limitations and suggestions for future research, our findings may yield important implications not just for research but also for practitioners who wish to counteract workplace bullying. Our results indicate that an approach based on the JD-R model may be relevant to the prevention of bullying at work, particularly from the targets’ perspective. Our results suggest that both a reduction of job demands and an increase of job resources may be relevant in preventing or reducing bullying as reported by targets. This may be primarily achieved through job redesign. In this approach, HR practitioners could examine which demands and resources are most relevant in the jobs of the bullied employees and seek to adapt their jobs accordingly. For example, following the study of Bowling and Beehr (2006), targets confronted with high role conflict may benefit from clear job descriptions, while the jobs of targets suffering from low social support may be enriched by including other job resources such as opportunities to use their skills.

Alternatively, targets of workplace bullying could be stimulated to remedy their own jobs in terms of demands and resources (i.e. job crafting; Wrzesniewski & Dutton, 2001). As such, employees may be granted permission to turn down unreasonable requests in order to reduce role conflict, or be encouraged to seek out help from colleagues to increase social support. Finally, employees may be trained to cope better with job demands and to make the best out of available job resources. Regarding this approach, studies on the role of personal resources in the realm of the JD-R model have indicated that, for example, “intrinsic value orientation” may buffer detrimental associations with workload and increase beneficial associations with autonomy (Van den Broeck, Van Ruysseveldt, Smulders, & De Witte, in press). Intrinsic goal orientation may be fostered by pointing employees to the intrinsic motivating character of their tasks (Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004).

Previous studies have already indicated that the JD-R model may be a useful tool for tailoring interventions in job redesign in order to reduce occupational health problems (Bakker & Demerouti, 2007). The current results suggest that interventions based on this model may also have beneficial effects beyond mere well-being, which is in accordance with several intervention studies that have shown that organizations can reduce bullying by restructuring stressful work environments (e.g. Saam, 2010). Importantly, our findings indicate that interventions aiming at reducing workplace bullying are likely to be most successful when they focus on both reducing job demands and increasing job resources, at least with regard to targets.

To summarize, we believe that this study will make a valuable contribution to the literature by providing evidence for the causal relations between work characteristics, approached from a well-established theoretical framework, and bullying. The results largely support the hypothesis that high job demands and
low job resources either separately or together cause bullying, but only for targets. Although future research is warranted to gain insight into the antecedents of bullying by perpetrators, the current study enhances understanding of the bullying phenomenon and provides insights into how it may be reduced or prevented.

References


