

Identifying Victims of Workplace Bullying by Integrating Traditional Estimation Approaches Into a Latent Class Cluster Model

Journal of Interpersonal Violence

XX(X) 1–23

© The Author(s) 2013

Reprints and permissions:

sagepub.com/journalsPermissions.nav

DOI: 10.1177/0886260513506280

jiv.sagepub.com



Jose M. Leon-Perez,¹ Guy Notelaers,^{2,3} Alicia Arenas,⁴ Lourdes Munduate,⁴ and Francisco J. Medina⁴

Abstract

Research findings underline the negative effects of exposure to bullying behaviors and document the detrimental health effects of being a victim of workplace bullying. While no one disputes its negative consequences, debate continues about the magnitude of this phenomenon since very different prevalence rates of workplace bullying have been reported. Methodological aspects may explain these findings. Our contribution to this debate integrates behavioral and self-labeling estimation methods of workplace bullying into a measurement model that constitutes a bullying typology. Results in the present sample ($n = 1,619$) revealed that six different groups can be distinguished according to the nature and intensity of reported bullying behaviors. These clusters portray different paths for the workplace bullying process, where negative work-related and person-degrading behaviors are strongly intertwined. The analysis of the external validity showed that integrating previous estimation methods into a single

¹ISCTE-Instituto Universitário de Lisboa, Portugal

²Radboud University Nijmegen, Netherlands

³University of Bergen, Norway

⁴University of Seville, Spain

Corresponding Author:

Jose M. Leon-Perez, Department of Human Resources and Organizational Behavior, ISCTE-Instituto Universitário de Lisboa, Av. das Forças Armadas, 1649-026 Lisbon, Portugal.

Email: Jose.Leon-Perez@iscte.pt

measurement latent class model provides a reliable estimation method of workplace bullying, which may overcome previous flaws.

Keywords

workplace bullying, mobbing, latent class cluster, interpersonal conflict, working conditions

In recent years, workplace bullying has emerged as a complex phenomenon that has severe negative consequences both for the employee's health and well-being and for the organization's productivity (Einarsen, Hoel, Zapf, & Cooper, 2011). Hence, the last decade has seen some significant developments in the comprehension of the bullying phenomenon, which can be defined as

a social interaction through which one individual (seldom more) is attacked by one or more (seldom more than four) individuals almost on a daily basis and for periods of many months, bringing the person into an almost helpless position with potentially high risk of expulsion. (Leymann, 1996, p. 168)

However, scholars suggest that measurement issues have been neglected in the rush to find solutions and consequences in the field of workplace bullying, fuelling the debate on how best to assess workplace bullying and accurately separate bullying targets from nonbullied employees (e.g., Nielsen, Notelaers, & Einarsen, 2011; Nielsen et al., 2009; Notelaers, Einarsen, De Witte, & Vermunt, 2006; Notelaers, Vermunt, Baillien, De Witte, & Einarsen, 2011). The latter is rather important for risk assessment in organizations. The implementation of a risk control cycle for workplace bullying depends on an accurate estimate of the phenomenon (Notelaers, 2011).

Consequently, in line with these recent methodological and statistical developments in the workplace bullying domain, we propose an integrative approach to measure workplace bullying by combining traditional measurement strategies with estimations of different types of exposure groups.

Workplace Bullying Measurement

Nielsen et al. (2011) identified two main approaches that have been used to measure workplace bullying in recent years: the *self-labeling method* (SLM) and the *behavioral experience method* (BEM). In the SLM approach, the bullying label is based on the perception of the respondent. Thus, many scholars have opted for directly asking respondents if they think they have been

bullied during the last 6 months, usually after a given definition of workplace bullying (e.g., report if you have been bullied at work over the last 6 months according to the definition of bullying provided and the following response categories: “no”; “yes, occasionally”; “yes, now and then”; “yes weekly”; and “yes, several times a week”; for example, Nielsen et al., 2011; Vie, Glaso, & Einarsen, 2011). This approach has been used in several representative survey studies as the SLM is easy to administer and its face validity is convincing (e.g., the Fifth European Working Conditions Survey; Eurofound, 2010; see also Zapf, Escartín, Einarsen, Hoel, & Vartia, 2011). However, it has been criticized for being a subjective approach in which personality, emotional factors, cognitive factors, and misperceptions may figure as potential biases; furthermore, it provides no insight into the nature of the behaviors involved in the bullying situation (Nielsen et al., 2009; Nielsen et al., 2011). In addition, one of the main criticisms of using the SLM to establish bullying prevalence is that cut-off points for distinguishing targets from nontargets are rather arbitrary (Nielsen et al., 2011). Depending on the study, scholars use different response categories to distinguish between victims and nonvictims.

In turn, many scholars have opted for specific inventories and questionnaires to measure workplace bullying. In such questionnaires, bullying is operationalized by a wide range of negative behaviors of psychological nature (usually related to emotional abuse, professional discredit, and social isolation of the victim) without immediate referral to bullying (Einarsen, Hoel, & Notelaers, 2009). This method is known as the behavioral experience method, which has become the predominant estimation method for gauging workplace bullying as it is considered more objective than the SLM. Indeed, the BEM approach (a) avoids priming effects and therefore potential response biases (Nielsen et al., 2011), and (b) offers an insight into the type of bullying behaviors that different targets experience (Notelaers et al., 2011). Yet, this approach neglects the definitional core of workplace bullying, for example, the fact that a subject conceives himself or herself as being bullied (Notelaers & Einarsen, 2012). However, research has shown a high disparity in the prevalence rate of workplace bullying when these inventories have been used across countries and also within the same country (see Nielsen et al., 2009; Zapf et al., 2011). Nielsen et al. (2009) and Nielsen et al. (2011) have argued that methodological factors play a crucial role in explaining these vast differences in bullying prevalence. Specifically, its prevalence varies depending on the criteria adopted to establish whether a person has been bullied. For example, Björkqvist, Osterman, and Hjelt-Back (1994) proposed that those individuals scoring above a cut-off point were targets of workplace bullying, whereas Leymann (1996) indicated that exposure to at least one negative act on a weekly basis was required to label an individual as a victim of workplace

bullying. As some authors have pointed out, these criteria seem rather arbitrary because the number of negative behaviors and experiences of individuals required to label a situation as bullying—and then establishing the prevalence of the phenomena—will vary from one instrument to another in function of the length of the questionnaire (Nielsen et al., 2011; Notelaers et al., 2006; Zapf et al., 2011).

As a consequence, the latent class cluster (LCC) approach was proposed by Notelaers et al. (2006) to identify different target groups of workplace bullying in a nonarbitrary way according to a statistical cut-off criteria. They found no less than six different target groups in a Belgian sample of more than 6,000 employees. These groups differed both in the nature of the bullying behaviors received and the extent of their exposure to them. Similar cluster solutions have also been obtained in subsequent studies conducted in Norway (Nielsen et al., 2009) and the United Kingdom (Einarsen et al., 2009), supporting to some extent the theoretical conceptualization of workplace bullying as a gradual process rather than an all-or-nothing phenomenon (cf. Leymann, 1996; Zapf & Gross, 2001).

Notelaers et al. (2011) have stressed that the aforementioned approach treats both the SLM and the BEM as two different, almost incompatible, estimation methods for workplace bullying by contrasting the one with the other, whereas other domains focusing on negative behavior, such as sexual assaults (Stein & Barrett-Connor, 2000), adverse childhood experiences (Chapman et al., 2004), or exposition to violence (Walsh, Senn, & Carey, 2012), have followed a mixed approach more in line with the triangulation of measurement approaches. The idea of using a mixed approach is not new since, considering that each approach has its advantages and drawbacks, some authors have proposed to combine both estimation methods (SLM and BEM) as both provide supplementary information on workplace bullying (e.g., Nielsen et al., 2011). However, our aim is to integrate the self-labeling estimation method of workplace bullying (SLM) with the Spanish version (Moreno-Jiménez, Rodríguez-Muñoz, Martínez-Gamarra, & Galvez, 2007) of the Negative Acts Questionnaire–Revised (NAQ-R; Einarsen et al., 2009), as a behavioral estimation method of workplace bullying (BEM), in a LCC approach. Such a combination may have potential advantages. On one hand, the evaluation of workplace bullying, as other forms of workplace maltreatment, is often in the eyes of the beholder (Einarsen et al., 2011). Thus, the subjective core of the workplace bullying concept, such as seeing yourself as a target of hostile and humiliating negative behaviors (Leymann, 1996; Nielsen et al., 2011), is taken into account when SLM is used as an indicator of workplace bullying. A recent study has shown that the labeling process seems crucial in the relationship between exposure to bullying behaviors and

health (Vie et al., 2011). On the other hand, considering the negative behaviors as indicators of bullying ascertains the identification of the type and the severity of exposure to workplace bullying (Notelaers et al., 2006).

From a methodological point of view, the SLM method is no longer used as an error-free measure of workplace bullying. By conceiving the SLM as an indicator together with exposure to negative behaviors (BEM), the construct of workplace bullying is measured by two types of indicators. Moreover, in a LCC approach, a probabilistic relationship between the indicator and exposure groups is established. Finally, in contrast to the earlier classification approach in the domain of workplace bullying, a LCC approach results in a nonarbitrary estimation for the identification of target groups of workplace bullying (Notelaers et al., 2006).

Aim

This study aims to increase knowledge about measuring bullying and, in particular, the identification of victims. We propose an integrative approach to measure workplace bullying, by combining traditional measurement strategies for the estimation of different types of exposure groups. This may have important implications for establishing the prevalence of the phenomenon and for implementing subsequent prevention measures to deal with bullying at work. In line with earlier findings concerning the NAQ-R (e.g., Einarsen et al., 2009; Nielsen et al., 2009; Notelaers et al., 2006; Notelaers et al., 2011), we expect that the result of applying a LCC approach to our sample will be latent clusters or target groups differing both in the nature and frequency of negative behaviors. Finally, we will validate our findings by inspecting the latent cluster criterion validity. In this regard, we expect severe targets to differ by at least one standard deviation (*SD*) from not exposed respondents with respect to measures of conflict and well-being (Zapf, Knorz, & Kulla, 1996).

Method

Participants and Procedure

Participants were recruited from five organizations (24 different workplaces) that were voluntarily involved in a wider study on working conditions developed in Andalusia (Spain). With the consent of the organizations, data were collected using an anonymous paper-and-pencil questionnaire in a room provided by the organization. Such questionnaire was accompanied by both an unmarked envelope and a cover letter explaining the purpose of the study, which was to analyze the working conditions of the organization in which

they were employed. In each survey session, a return box was installed for 1 week in the workplace, in which participants were asked to deposit the completed questionnaires in the unmarked envelopes during their working hours. Researchers collected them at the end of each survey session. Participation was voluntary and respondents did not receive any payment. To ensure confidentiality, they were told that data would be aggregated for the analysis and the questionnaire would not be shown to their superiors. All participating organizations followed the same procedure.

Our final sample was composed of 1,619 employees (response rate = 65%), whose age varied from 19 to 60 years ($M = 39.93$; $SD = 10.81$). Participants (50.3% male; 49.7% female) were employed in public services companies (43.9%), health care organizations (30.9%), and private manufacturing companies (25.2%). Most of them had a permanent full-time contract (83.3%) and reported being in the same organization for more than 5 years (76.9% vs. 13%, between 2 and 5 years, respectively; 10.1%, less than 2 years).

Measures

Next to sociodemographic questions (age, gender, type of contract, and job tenure were controlled in subsequent analyses), all participants in the study filled in the following scales in their Spanish versions.

Exposure to workplace bullying was measured using the reduced Spanish version of the Negative Acts Questionnaire (Moreno-Jiménez et al., 2007). This questionnaire consists of 14 specific negative behaviors measuring exposure to bullying within the last 6 months. The items refer to personal (e.g., “having insulting or offensive remarks made about your person, attitudes or your private life”) as well as work-related bullying (e.g., “having information withheld that affects your performance”). Participants scored the frequency of each negative act (response categories were as follows: 1 = *never*, 2 = *now and then*, 3 = *monthly*, 4 = *weekly*, and 5 = *daily*). Internal consistency yielded a Cronbach’s alpha of .87.

For measuring *self-reported workplace bullying*, participants indicated whether they had been bullied at work over the last 6 months (according to four response options: “not bullied”; “yes, but only rarely”; “yes, sometimes”; and “yes, frequently”) after a definition of bullying that is congruent with current definitions of workplace bullying (see Notelaers, 2011):

Bullying (harassment, offending someone) is a problem in some workplaces and for some workers. To label something bullying it has to occur repeatedly over a period of time, and the person confronted has to have difficulties defending him/herself. It is not bullying if two parties of approximately equal “strength” are in conflict or the incident is an isolated event. (Einarsen & Skogstad, 1996, p. 191)

Interpersonal conflict was measured by using a 9-item scale (see Friedman, Tidd, Currall, & Tsai, 2000) validated in Spain (Benitez, Leon-Perez, Ramirez-Marin, Medina, & Munduate, 2012) that measures both *task-related conflict*, which refers to disagreements concerning the content of interrelated tasks, including differences in their views about the distribution of resources or the procedures they have to follow (e.g., “How often do people in your work group/unit disagree about the work being done?”), and *relationship conflict*, which refers to conflicts concerning perceptions of interpersonal incompatibilities and hostility (e.g., “How often do you experience hostility at work?”). All items were rated on a 5-point Likert-type scale ranging from 1 = *almost never* to 5 = *very often*. The internal consistency for both the total scale ($\alpha = .91$) and the two aforementioned dimensions, task-related conflict ($\alpha = .71$) and relationship conflict ($\alpha = .93$), was satisfactory.

Psychological well-being was measured by using the 12-item version of the General Health Questionnaire (GHQ; Goldberg, 1992) validated in the Spanish context (Sanchez-Lopez & Dresch, 2008). The GHQ is a self-administered screening instrument for psychiatric disorders in nonclinical populations that provides a more general measure of psychological well-being (e.g., “Have you recently been feeling unhappy and depressed?”). We used a 4-point Likert-type scale (0, 1, 2, 3) and, after recoding some inverted items, we used the total score of the scale in the subsequent analyses. It is important to notice that a higher score reflects less psychological well-being. Indeed, according to normative values in Spain, a score above 12 is referred to as a “high score” that indicates probable psychological disturbance (Rocha, Pérez, Rodríguez-Sanz, Borrell, & Obiols, 2011). The scale obtained a satisfactory internal consistency ($\alpha = .71$).

Analysis

We used a latent class cluster approach to classify targets of workplace bullying by using the LatentGold 4.5 (Vermunt & Magidson, 2009). LCC analysis is a statistical method that empirically classifies respondents into mutually exclusive groups with respect to a given trait (e.g., exposure to workplace bullying) that is not directly observed (manifest). In other words, the classes are not directly observable, they are latent. Thus, the use of such analysis allows us to find out whether a participant is a victim of workplace bullying according to his or her responses to a list of negative acts or bullying behaviors (cf. Notelaers et al., 2006).

The LCC rationale assumes that someone who is a target of (severe) workplace bullying will respond differently to such questions from someone who is not bullied. Furthermore, it assumes that a respondent who is bullied has a

higher probability of reporting such behaviors, while someone who is not bullied has a lower probability of endorsing these items. Hence, the relationship between being a target of workplace bullying and reporting being exposed to such behaviors is a probabilistic one (cf. Vermunt & Magidson, 2002).

Hence, in LCC analysis, one empirically investigates whether the assumption about the relationship between the latent variable (being bullied) and the number of reported or observed bullying behaviors is acceptable. LCC analysis enables the researcher to identify mutually exclusive groups that adequately describe the dispersion of observations in the n -way contingency table of discrete variables (e.g., negative behaviors). The goal of LCC analysis is to determine the smallest number of latent classes (T) that sufficiently explain (or account for) the associations observed between the manifest variables (negative behaviors; Magidson & Vermunt, 2004).

Results

Determining the Number of Latent Clusters

The starting point for a LCC model is that a typology cannot be established: Everybody resides in the same group. Thus, a two-cluster model (not bullied/bullied), a three-cluster model (for instance, not bullied/occasionally bullied/victim of bullying), and n -cluster models are estimated. Thus, clusters are subsequently added until an LCC model is found that statistically fits the data (Vermunt & Magidson, 2002). As in all measurement models, the discrete latent variable must adequately explain the initial relationship between the indicators. An alternative model fitting sequence involves increasing the number of latent variables (factors) instead of just the number of classes (clusters). In contrast to a person-oriented approach, latent class factor analysis (LCFA) is a variable-centered approach and thus analogue with a traditional factor modeling approach though LCFA can include categorical indicators and categorical latent variables. The latter may be more adequate because scholars have argued for a structure that distinguishes person- and work-related bullying (Moreno-Jiménez et al., 2007).

The iterative procedure of adding clusters is clearly visible in Table 1. The statistical L^2 follows a chi-square distribution with the degrees of freedom (df) equal to the number of lambda terms set equal to zero, testing the residual frequency that is not accounted for by the parameters in the model. Therefore, the lower the L^2 relative to the number of degrees of freedom, the better the fit (e.g., the more the expected frequencies fit the actual frequencies). Table 1 shows that the statistical L^2 drops systematically when more exposure groups

Table 1. Models and Their Fit Statistics.

| Model | BIC (LL) | N par | L^2 | Class. Err. |
|------------------------|------------------|------------|------------------|-------------|
| 1-Cluster | 40,968.33 | 59 | 21,225.38 | 0 |
| 2-Cluster | 36,530.82 | 75 | 16,670.41 | 0.02 |
| 3-Cluster | 35,391.69 | 91 | 15,413.83 | 0.06 |
| 4-Cluster | 34,919.56 | 107 | 14,824.24 | 0.07 |
| 5-Cluster | 34,670.26 | 123 | 14,457.49 | 0.11 |
| 6-Cluster | 34,668.25 | 139 | 14,338.03 | 0.11 |
| 7-Cluster | 34,688.84 | 155 | 14,241.16 | 0.15 |
| 2-DFactor(5, 5) | 34,900.29 | 84 | 14,973.82 | 0.21 |
| 2-DFactor(5, 5) | 34,897.83 | 86 | 14,956.67 | 0.22 |
| 2-DFactor(5, 5) | 34,889.03 | 84 | 14,962.56 | 0.22 |
| 2-DFactor(5, 5) | 34,706.38 | 87 | 14,757.89 | 0.19 |
| 2-DFactor(5, 5) | 34,831.55 | 88 | 14,875.71 | 0.23 |
| 2-DFactor(5, 5) | 34,781.13 | 89 | 14,817.95 | 0.23 |
| 2-DFactor(5, 5) | 34,702.66 | 89 | 14,739.48 | 0.19 |
| 2-DFactor(5, 5) | 34,761.85 | 89 | 14,798.67 | 0.23 |
| 2-DFactor(5, 5) | 34,640.10 | 89 | 14,676.92 | 0.19 |
| 2-DFactor(5, 5) | 34,696.04 | 88 | 14,740.20 | 0.18 |
| 2-DFactor(5, 5) | 34,674.30 | 89 | 14,711.12 | 0.19 |
| 2-DFactor(5, 5) | 34,627.20 | 90 | 14,656.68 | 0.19 |
| 6-Cluster items | 34,632.83 | 141 | 14,287.93 | 0.11 |

Note. Models with better fit in each category are presented in bold. BIC = Bayesian information criterion. Class. Err. = Classification Errors. Models are divided into one-factor models (N -cluster), bifactorial models with five clusters in each factor with differences in the items loading into each factor, 2-DFactor(5, 5), and the final model with six clusters in which the error correlation between Items 4 and 14 is equal to 1.

are distinguished. Similarly, the Bayesian information criterion (BIC), a criterion for model selection among a finite set of models, suggests that a six-cluster class solution fits better with data and indicates a sufficient measurement model. Adding more clusters leads to a deterioration of fit because both L^2 and BIC increase (lower BIC implies fewer explanatory variables and/or better fit).

In addition, different confirmatory latent factor approaches lead to a model where BIC is even lower. In our case, a two-factor model, consisting of five latent classes each, was the most appropriate measurement model. However, considering that several cross-loadings occurred in this model and both factors were strongly related (the correlation was .93), it can be argued that the

discriminant validity of this model was rather weak. Thus, although the final model (the last six-class cluster solution in Table 1, in which one error correlation between Items 14 and 4 was established as model fit indices suggested) yielded a higher BIC, it seemed more appropriate because (a) it yielded a lower rate of erroneous classification, (b) it reduced L^2 by a further 3%, and (c) the inspection of the bivariate residuals showed that all initial associations (cf. one-cluster model) were better explained by this model (more information is available upon request to authors).

Meaning of the Clusters

Since bullying is defined as repeated exposure to negative behavior, we display the conditional probabilities of responding *weekly or more often* to each negative behavior (item) in Table 2. These probabilities portray the probability of responding weekly or more often to the negative behaviors given the cluster membership. Table 2 also summarizes the probabilities of agreeing that *sometimes or weekly* someone has been bullied according to the self-labeling question.

First, respondents in the “not exposed” (to negative behaviors) *latent class* cluster had almost a zero probability of responding weekly or more often to all the items. In fact, the average probability of responding *never* to the items was about 90%. Approximately 32% of the respondents belong to this cluster. Respondents in the “rarely exposed” cluster had almost zero probability to be weekly or more often subjected to negative behaviors. However, the likelihood of responding never to some negative behaviors decreased to .50. Approximately 34% of the present sample was rarely exposed to negative behaviors.

The next LC cluster was labeled as the exposed to “negative working conditions” cluster because items related to a high-pressure working environment in which bad managerial practices exist (see Table 2, Items 1, 9, and 10) were reported more frequently than in the former cluster. In addition, direct aggressive behaviors (Items 12, 13, and 14) were also more likely to be reported in this cluster compared with former clusters. Participants grouped into this cluster had almost a zero probability of labeling themselves as victims of workplace bullying. Noteworthy, negative behaviors related to personal bullying and professional discredit (e.g., Items 2, 3, 5, 7, and 8) were not likely to be reported in this cluster. According to the modal assignment rule, in this latent class model, approximately 14% of the respondents were classified as being under “negative working conditions.”

In the following latent cluster, many negative behaviors had a probability different from zero to be reported weekly or more often (Items 1, 2, 4, 6,

Table 2. Conditional Probability of Responding Weekly or More Often to Items According to Each Cluster.

| Cluster items | Not exposed | Rarely exposed | Negative working conditions | Work-related bullying | Severe bullying | Bullying and aggression |
|-------------------------------------|-------------|----------------|-----------------------------|-----------------------|-----------------|-------------------------|
| 1. Having your opinions ignored | 0.0002 | 0.0102 | 0.0561 | 0.3167 | 0.5763 | 0.6261 |
| 2. Spreading gossip about you | 0.0002 | 0.0093 | 0.0000 | 0.1656 | 0.4776 | 0.0061 |
| 3. Offensive personal remarks | 0.0000 | 0.0001 | 0.0053 | 0.0126 | 0.1948 | 0.0843 |
| 4. Being socially ignored/ excluded | 0.0000 | 0.0003 | 0.0087 | 0.1027 | 0.4713 | 0.3907 |
| 5. Repeated reminders of errors | 0.0000 | 0.0004 | 0.0022 | 0.0143 | 0.3215 | 0.0430 |
| 6. Withholding information | 0.0003 | 0.0276 | 0.0188 | 0.3455 | 0.6153 | 0.4659 |
| 7. Being ridiculed about your work | 0.0000 | 0.0004 | 0.0000 | 0.0221 | 0.2754 | 0.0054 |
| 8. Work below competence ordered | 0.0008 | 0.0434 | 0.0064 | 0.1989 | 0.3957 | 0.3546 |
| 9. Excessive monitoring | 0.0001 | 0.0049 | 0.5053 | 0.1767 | 0.6598 | 0.8365 |
| 10. Unmanageable workload | 0.0003 | 0.0063 | 0.2848 | 0.1100 | 0.3416 | 0.8423 |
| 11. Pressure not to claim | 0.0000 | 0.0003 | 0.0173 | 0.0386 | 0.3632 | 0.2582 |
| 12. Intimidating behavior | 0.0000 | 0.0000 | 0.0174 | 0.0002 | 0.1049 | 0.0136 |
| 13. Being shouted at | 0.0000 | 0.0001 | 0.0367 | 0.0097 | 0.2729 | 0.4626 |
| 14. Threats of violence/ aggression | 0.0000 | 0.0000 | 0.0149 | 0.0000 | 0.0520 | 0.5538 |
| 15. Self-labeling (being bullied) | 0.0026 | 0.0148 | 0.0005 | 0.3593 | 0.7864 | 0.6317 |
| Size of the cluster | .32 | .34 | .14 | .12 | .05 | .03 |

8-11). Yet, direct aggressive behaviors were still unlikely to be reported at all (e.g., Items 12-14). As Table 2 shows, some negative behaviors related to work-related bullying had a relatively high probability of being reported weekly or more often (e.g., Items 1, 6, 8, and 9). In addition, respondents grouped into this cluster had an increased probability (.39) of recognizing that they were subjected to bullying according to the definition of workplace bullying (self-labeling question). Twelve percent of respondents were exposed to “work-related bullying.”

Approximately 5% of the respondents in the present sample were exposed to “severe bullying” since they reported being exposed to both

Table 3. Descriptive Statistics and Bivariate Correlations of the Main Variables Used in the Study.

| Variables | <i>M</i> | <i>SD</i> | SLM | NAQ | TC | RC | GHQ |
|-------------------------------|----------|-----------|-----|--------|--------|--------|--------|
| 1. Workplace bullying (SLM) | 1.30 | 0.72 | — | 0.64* | 0.40* | 0.54* | 0.31* |
| 2. Workplace bullying (NAQ) | 1.52 | 0.54 | — | (0.87) | 0.42* | 0.53* | 0.25* |
| 3. TC | 2.44 | 0.81 | — | — | (0.71) | 0.70* | 0.09* |
| 4. RC | 2.17 | 1.18 | — | — | — | (0.93) | 0.11* |
| 5. Psychological health (GHQ) | 11.62 | 4.18 | — | — | — | — | (0.71) |

Note. SLM = self-labeling method; NAQ = Negative Acts Questionnaire; TC = task conflict; RC = relationship conflict; GHQ = General Health Questionnaire. The internal consistency (Cronbach's alpha) of each variable is given in parentheses.

* $p < .01$ (two-tailed).

work-related and personal bullying behaviors. Overall, they had the highest probability of responding weekly or more often for most items (see Table 2), except for the Item 14, which had in practice zero probability of being reported weekly or more often. In addition, participants grouped into this cluster had the highest probability (.79) of labeling themselves as victims of workplace bullying.

The last cluster was also characterized by a very high probability of being subjected weekly or more often to several negative behaviors. However, for some negative behaviors, this probability was close to zero (Items 2, 3, 7, 8, and 12). Thus, respondents in this cluster were more likely to be intensively exposed to work pressure (e.g., Items 1, 6, 9 and 10) and direct aggressive behaviors (e.g., Items 13 and 14) than to other negative behaviors (e.g., Items 4, 8, and 11). In addition, respondents in this cluster had the second highest likelihood of answering that they were subjected to workplace bullying weekly or more often according to the definition given in the questionnaire. We proposed to label this cluster as “bullying and aggression,” in which approximately 3% of the present sample could be categorized.

Criterion Validity

We performed an analysis of variance (ANOVA) to analyze the criterion-related validity of the clusters solution according to different variables: task conflict, relationship conflict, and psychological well-being. Table 3 shows descriptive statistics and bivariate correlations of these variables.

Table 4. Pairwise Comparison of Latent Class Clusters for Standardized Criterion Variables (z Values).

| Clusters variables | F (df between, df within) | Not exposed | Rarely exposed | Negative working conditions | Work-related bullying | Severe bullying | Bullying and aggression |
|-----------------------|---------------------------|-------------|-------------------|-----------------------------|-----------------------|-----------------|-------------------------|
| Task conflict | 94.22 (5, 1324) | -0.26 | -0.14 | -0.49 | 0.83 ^a | 1.41 | 0.82 ^a |
| Relationship conflict | 185.52 (5, 1325) | -0.41 | -0.14 | -0.52 | 1.06 ^a | 1.63 | 1.25 ^a |
| GHQ | 68.96 (5, 1327) | -0.18 | 0.11 ^a | -0.55 | 0.11 ^a | 1.56 | 0.91 |

Note. GHQ = General Health Questionnaire. All differences are significant at the .05 level except the pairs indicated by superscript "a."

The ANOVA revealed that all results were statistically significant since the between-group variance was significantly higher than the within-group variance. In Table 4, the standardized scores are displayed to facilitate the interpretation of the results. We used a least significant difference (LSD) pairwise comparison procedure to gauge whether every single latent class cluster was significantly different from the other latent class clusters. Apart from some latent class clusters, the test confirmed that most of the exposure groups (latent class clusters) were significantly different from each other.

Results indicated that employees classified in the first three clusters (not exposed, rarely exposed, and negative working conditions) reported lower levels of interpersonal conflict (both task conflict and relationship conflict) compared with the remaining clusters, which scored quite high on these variables, reaching at least 0.80 SD. Indeed, severely bullied employees reported the highest levels of interpersonal conflict at work (task conflict = 1.41 SD; relationship conflict = 1.63 SD), even more than the mean z score of those employees grouped into the cluster exposed to workplace bullying and aggression (task conflict = 0.82 SD; relationship conflict = 1.25 SD). In sum, employees exposed to more frequent bullying behaviors reported higher levels of interpersonal conflict.

Regarding the psychological well-being (GHQ) variable, the severely bullied had a lower (1.56 SD) well-being than the next cluster of those exposed to both bullying and aggression (0.91 SD). The work-related bullying cluster did not significantly differ from the rarely exposed cluster (both 0.11 SD), whereas it differed significantly from the negative working condition cluster (-0.55 SD). Indeed, participants grouped into the cluster labeled as exposed to negative working conditions reported the lowest

problematic score on psychological well-being. Finally, like with conflicts, the not exposed respondents had favorable scores for well-being too. Overall, only participants grouped into the clusters exposed to severe bullying and exposed to bullying and aggression reported problematic scores (higher than 12; Rocha et al., 2011), whereas those employees categorized in the remaining clusters did not reported problematic scores because they either had a negative or roughly zero mean *z* score on such outcome variables.

Discussion

Previous findings and recent methodological developments have questioned the accuracy of the current instruments for determining whether an individual has been bullied (e.g., Nielsen et al., 2011; Notelaers et al., 2006). Both the self-labeling (asking directly if respondents perceived having been bullied according to a given definition of workplace bullying) method and the behavioral experience method (measuring the frequency of exposition to several negative behaviors considered bullying behaviors) have often been contrasted (e.g., Mikkelsen & Einarsen, 2001; Salin, 2001). To overcome the weaknesses and to enforce the strength of both approaches (self-labeling and behavioral), we integrated both into a latent class approach.

The results of the latent class analysis revealed two highly interrelated factors that in fact constituted a latent class cluster solution with six exposed groups. These were described according to the nature of negative behaviors and the perception of the participants of being bullied: 32% of the participants had not been bullied (not exposed to negative behaviors at work); 34% had been rarely exposed to bullying behaviors; 14% had been exposed to negative working conditions; 12% had been occasionally subjected to work-related bullying; 5% had been exposed to a high number of negative behaviors in a systematic way, and thus these employees could be categorized as victims of workplace bullying (severe workplace bullying); and 3% reported being subjected to both bullying behaviors and direct forms of violence, and thus employees grouped into this cluster were considered as exposed to workplace bullying and aggression.

In addition, different criterion variables considered in the literature as bullying outcomes, such as interpersonal conflict and psychological well-being, were investigated to assess the criterion-related validity of the clusters. In general, the results underlined that the obtained exposure groups were statistically different from each other with respect to the level of interpersonal conflict and psychological well-being that employees experienced. Indeed, a more detailed examination of the results allowed us to conclude that the

criterion-related validity of the presented latent class solution supported the existence of mutually distinct exposure groups.

Theoretical Implications

To our knowledge, this is the first study that combines self-labeling and behavioral estimation methods into a single measurement model, for example, latent class cluster approach, which seems to have several theoretical implications apart from overcoming previous methodological drawbacks on workplace bullying measurement. First, rather than an all-or-nothing phenomenon, the latent class cluster solution aligns with the theoretical notion that workplace bullying is a process consisting of different stages. Second, rather than seeing a single endpoint, being a victim of workplace bullying, the latent class cluster solution indicates two types of bullying targets/victims: those exposed to a wide range of negative behaviors that include mainly “personal derogation” and professional discredit (severe bullying), and those exposed to great extent to several negative behaviors related to high pressure and bad managerial practices at work as well as aggressive behaviors (bullying and aggression).

The latter seems to be congruent with the two types of workplace bullying that were proposed by Einarsen (1999): *dispute-related bullying*, which occurs as a result of escalated interpersonal conflicts, and *predatory bullying*, which refers to cases where no critical incident occurs or triggers the bullying situation. In that sense, although the cross-sectional nature of our data deserves caution on doing causal inferences, our first type of targets (severe bullying) may become bullying victims through a conflict escalation process (dispute-related bullying). According to this conflict escalation hypothesis, bullying is a process triggered by a conflict that, when is poorly managed or unsatisfactorily resolved, can lead to personal attacks to destroy the reputation of the other party, who, after a series of failed attempts to cope with bullying behaviors, may experience severe trauma (Zapf & Gross, 2001). Therefore, it is reasonable to think that there is a path from nonexposed or rarely exposed to severe bullying, through work-related bullying since the level of both types of conflicts is higher as one moves from one cluster to another as well as at the same time less psychological well-being is reported. However, further research may use longitudinal studies to capture better this possible relationship between conflict and bullying since alternative explanations may also be plausible (e.g., a higher exposition to bullying behaviors may increase the level of perceived interpersonal conflict).

On the other hand, our results suggest a second path from nonexposed or rarely exposed to experiencing bullying and aggression, through exposition

to negative working conditions. This cluster (“negative working conditions”) is partly characterized by excessive monitoring and unmanageable workload and aggression. Taking into account that workplace bullying in Spain is more often a top–down process from superiors to their subordinates (Moreno-Jimenez, Rodríguez-Muñoz, Garrosa, & Morante, 2005), some negative behaviors may be relatively common between employees and may either not be perceived as a major problem per se or not be recognized as bullying behaviors by the targets (employees in the “negative working conditions” cluster had the lowest probability to perceive themselves as bullied) since they may be seen as usual managerial practices or part of the working conditions in a “macho culture” (Escartin, Zapf, Arrieta, & Rodríguez-Carballeira, 2011; Giorgi, Arenas, & Leon-Perez, 2011). However, the deterioration of interpersonal relationships at work as a result of being exposed to a negative work environment (e.g., employees grouped in the “severe bullying and aggression” cluster reported higher levels of interpersonal conflict than employees in the “negative working conditions” cluster) may lead to being bullied. This case may correspond to a predatory bullying situation in which the target did not do anything provocative, and negative behaviors are exerted by bullies to demonstrate power or as part of destructive leadership and bad managerial practices (Einarsen, 1999). Of course, since the latent class cluster solution only gives a snapshot of a possible ongoing process because of the cross-sectional design of the present study, it is for future longitudinal studies to discern whether such different pathways exist.

In addition, our results seems to suggest that cultural and personal factors may play an important role in determining both the probability and the perception of being bullied when employees are exposed to negative and hostile work environments. Thus, further research should explore the tolerance to types of bullying behaviors (e.g., although employees grouped into the two last clusters seem to have a clear stress response, employees in the work-related bullying and negative working condition clusters did not report problematic scores on well-being). Furthermore, our results seem to indicate that further studies need to explore the role of management and leadership styles in the development of bullying situations across cultures since “predatory bullying is probably caused by a combination of a social climate where hostility and aggressiveness prevail and an organizational culture tolerant to bullying” (Einarsen, 1999, p. 23).

In sum, findings from this study should trigger a debate about how to best capture the process of workplace bullying and differentiate it from other related phenomena. Although this debate requires further research from a longitudinal, methodological, and cross-cultural perspective, our results seem to match the bullying process described in early theoretical models

(e.g., Einarsen, 1999; Leymann, 1996). In addition, the importance of incorporating the self-labeling into bullying measures is marked in this study since Vie et al. (2011) have recently found that individuals report more psychosomatic and psychological health complaints when they label themselves as victims of workplace bullying. Similarly, our results revealed that targets of severe workplace bullying (victims) perceived the lowest level of psychological well-being. In fact, the difference between not bullied and targets of severe workplace bullying augments to almost 2 *SDs*, which is comparable with other studies (Einarsen et al., 2009; Notelaers et al., 2006) and aligns with a German study that focused on samples of victims of bullying (Zapf et al., 1996). Moreover, employees exposed to bullying and aggression also reported higher scores on psychological distress, which is congruent with previous studies indicating that workplace violence and stressful working conditions are associated with psychological deterioration beyond transient emotional disturbance (e.g., Aquino & Thau, 2009; Bowling & Beehr, 2006; Rospenda, Richman, & Shannon, 2009).

Finally, our results suggest that workplace bullying and workplace violence, traditionally seen as aggression (cf. Hershcovis, 2011), are different but interrelated phenomena. This finding is substantiated by the interpersonal conflict criterion variables in our study. Moreover, participants in the cluster “severely bullied” reported higher psychological distress than those facing less bullying and more aggression. However, further research may focus on the similarities and differences between overlapping aggressive and counter-productive behaviors at work, which is beyond the scope of the present study (see Aquino & Thau, 2009; Barling, Dupré, & Kelloway, 2009; Bowling & Beehr, 2006; Einarsen et al., 2011; Rospenda et al., 2009).

Limitations

Although we used a Spanish validated version of the NAQ-R, we notice, in comparison with previous findings, the absence of a sometimes bullied cluster that is characterized by occasional social isolation, personal derogation, and work-related bullying behaviors. The Spanish version of the NAQ-R has fewer items than the original (Einarsen et al., 2009). The original NAQ-R lists 22 items and has more items that tap into the domain of social isolation. Hence, it could be argued that some important domains for measuring workplace bullying are not well covered by the Spanish version of the NAQ-R. This issue together with the introduction of the self-labeling method in our model suggests that comparisons with previous findings from applying a latent cluster approach to the original NAQ-R need caution. For example, the authors of the Belgian (Notelaers et al., 2006), Flemish (Notelaers et al.,

2011), and Norwegian (Nielsen et al., 2009) studies distinguished between targets of primordially work-related bullying and targets of severe workplace bullying, whereas the authors of the British study (Einarsen et al., 2009) identified targets of severe workplace bullying experienced psychological abuse with and without aggression. This latter violence cluster shows some similarities with the present “severe bullying and aggression” group mentioned in our study. Such congruence may exist because the samples from Spain and the United Kingdom share a more similar industrial relations context and human resources practices—and they have greater differences with Scandinavian countries such as Sweden or Norway (Beale & Hoel, 2010; Rodriguez-Ruiz & Martinez-Lucio, 2010). Thus, further research should also address whether the differences found in the results of the present study compared with the aforementioned Scandinavian studies may also be explained by cultural factors apart from methodological issues.

Future research will also have to overcome some other limitations of this study, such as the difficulty of inferring causality and vulnerability to correlation inflation as a result of common method variance due to both the cross-sectional nature of the data and the use of self-report measures (for a discussion, see Brannick, Chan, Conway, Lance, & Spector, 2010). In that sense, although in our case the use of self-report measures is needed for addressing perceived bullying as a type of workplace victimization (see Aquino & Thau, 2009), further studies may be benefited from including other bullying measures as a methodological triangulation technique (for a review of workplace bullying measures, see Cowie, Naylor, Rivers, Smith, & Pereira, 2002). However, it should be noted that some of these data collection procedures may entail ethical challenges (Cowie et al., 2002).

Finally, our sample was not representative of the Spanish workforce, which may make generalizing our results difficult. Indeed, employees from the health care sector were overrepresented in our study, which perhaps contributed to find a “bullying and aggression” cluster if these employees considered third-party violence (e.g., from patients and patients’ relatives) as part of the bullying process. For that reason, further studies should compare cluster solutions in specific work settings where different bullying behaviors may occur, as well as should improve our design to obtain more representative data.

Conclusion and Practical Implications

While this study does have its limitations, its findings seem to have important practical implications. In that sense, our data support the present estimation method as offering a helpful picture of workplace bullying as a gradual process rather than an all-or-nothing phenomenon. This is particularly important

when introducing specific interventions focusing on either a specific cluster/group or on different aspects of the phenomenon. In other words, the cluster solution may be used to introduce differential interventions at work depending on the cluster in which the employees are included: from increasing bullying awareness and training employees' in conflict management strategies to avoid possible workplace bullying cases (e.g., clusters not exposed and rarely exposed) or promoting social support, conflict resolution procedures and leadership development (e.g., employees exposed to negative working conditions and work-related bullying), to provide psychological assistance when bullying has occurred and there is (a high probability of) health deterioration (e.g., clusters facing severe bullying with or without aggression). Moreover, as each cluster differs in the conditional probabilities of being bullied, the present integrative method may be used as a prevention tool by occupational health and safety professionals to identify groups at risk of workplace bullying (cf. Notelaers et al., 2011).

In conclusion, we consider that the integrative estimation method proposed captures the key definitional features of workplace bullying better than traditional estimation methods since both individuals' perceptions and exposition to bullying behaviors are taken into account to establish whether a person has been bullied. Thus, integrating previous estimation methods into a single measurement model overcomes previous flaws and provides a more reliable estimation method of workplace bullying.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The present study was funded by the Consejería de Empleo de la Junta de Andalucía (Spain). J. M. Leon-Perez would also like to thank the Portuguese Foundation for Science and Technology (FCT) for their financial support (Strategic Project PEst-OE/EGE/UI0315/2011).

References

- Aquino, K., & Thau, S. (2009). Workplace victimization: Aggression from the targets's perspective. *Annual Review of Psychology, 60*, 717-741.
- Barling, J., Dupré, K. E., & Kelloway, E. K. (2009). Predicting workplace aggression and violence. *Annual Review of Psychology, 60*, 671-692.
- Beale, D., & Hoel, H. (2010). Workplace bullying, industrial relations and the challenge for management in Britain and Sweden. *European Journal of Industrial Relations, 16*, 101-118.

- Benitez, M., Leon-Perez, J. M., Ramirez-Marin, J. Y., Medina, F. J., & Munduate, L. (2012). Validation of the Interpersonal Conflict at Work Questionnaire among Spanish employees. *Estudios de Psicología, 33*, 263-276.
- Björkqvist, K., Osterman, K., & Hjelt-Back, M. (1994). Aggression among university employees. *Aggressive Behavior, 20*, 173-184.
- Bowling, N. A., & Beehr, T. A. (2006). Workplace harassment from the victim's perspective: A theoretical model and meta-analysis. *Journal of Applied Psychology, 91*, 998-1012.
- Brannick, M. T., Chan, D., Conway, J. M., Lance, C. E., & Spector, P. E. (2010). What is method variance and how can we cope with it? A panel discussion. *Organizational Research Methods, 13*, 407-420.
- Chapman, D. P., Whitfield, C. L., Felitti, V. J., Dube, S. R., Edwards, V. J., & Anda, R. F. (2004). Adverse childhood experiences and the risk of depressive disorders in adulthood. *Journal of Affective Disorders, 82*, 217-225.
- Cowie, H., Naylor, P., Rivers, I., Smith, P. K., & Pereira, B. (2002). Measuring workplace bullying. *Aggression and Violent Behavior, 7*, 33-51.
- Einarsen, S. (1999). The nature and causes of bullying at work. *International Journal of Manpower, 20*, 16-27.
- Einarsen, S., Hoel, H., & Notelaers, G. (2009). Measuring exposure to bullying and harassment at work: Validity, factor structure and psychometric properties of the Negative Acts Questionnaire-Revised. *Work & Stress, 23*, 24-44.
- Einarsen, S., Hoel, H., Zapf, D., & Cooper, C. L. (2011). The concept of bullying at work: The European tradition. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace: Developments in theory, research, and practice* (pp. 3-30). London, England: CRC Press.
- Einarsen, S., & Skogstad, A. (1996). Bullying at work: Epidemiological findings in public and private organizations. *European Journal of Work and Organizational Psychology, 5*, 185-201.
- Escartin, J., Zapf, D., Arrieta, C., & Rodríguez-Carballeira, A. (2011). Workers' perception of workplace bullying: A cross-cultural study. *European Journal of Work and Organizational Psychology, 20*, 178-205.
- Eurofound. (2010). *Fifth European Working conditions Survey (EWCS)*. Retrieved from <http://www.eurofound.europa.eu/surveys/ewcs/2010/index.htm>
- Friedman, R. A., Tidd, S. T., Currall, S. C., & Tsai, J. C. (2000). What goes around comes around: The impact of personal conflict styles on work conflict and stress. *International Journal of Conflict Management, 11*, 32-55.
- Giorgi, G., Arenas, A., & Leon-Perez, J. M. (2011). An operative measure of workplace bullying: The Negative Acts Questionnaire across Italian companies. *Industrial Health, 49*, 686-695.
- Goldberg, D. P. (1992). *General Health Questionnaire (GHQ-12)*. Windsor, UK: NFER-Nelson.
- Hershcovis, M. S. (2011). "Incivility, social undermining, bullying . . . oh my!": A call to reconcile constructs within workplace aggression research. *Journal of Organizational Behavior, 32*, 499-519.

- Leymann, H. (1996). The content and development of mobbing at work. *European Journal of Work and Organizational Psychology, 5*, 165-184.
- Magidson, J., & Vermunt, J. K. (2004). Latent class models. In D. Kaplan (Ed.), *The Sage handbook for quantitative methodology* (pp. 175-198). Thousand Oaks, CA: Sage.
- Mikkelsen, E. G., & Einarsen, S. (2001). Bullying in Danish work-life: Prevalence and health correlates. *European Journal of Work and Organizational Psychology, 10*, 393-413.
- Moreno-Jimenez, B., Rodriguez-Muñoz, A., Garrosa, E., & Morante, M. E. (2005). Organizational antecedents of workplace bullying: An exploratory study. *Psicothema, 17*, 627-632.
- Moreno-Jiménez, B., Rodríguez-Muñoz, A., Martínez-Gamarra, M., & Galvez, M. (2007). Assessing workplace bullying: Spanish validation of a reduced version of the Negative Acts Questionnaire. *Spanish Journal of Psychology, 10*, 449-457.
- Nielsen, M. B., Notelaers, G., & Einarsen, S. (2011). Measuring exposure to workplace bullying. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace: Developments in theory, research, and practice* (pp. 149-175). London, England: CRC Press.
- Nielsen, M. B., Skogstad, A., Matthiesen, S. B., Glasø, L., Aasland, M. S., Notelaers, G., & Einarsen, S. (2009). Prevalence of workplace bullying in Norway: Comparisons across time and estimation methods. *European Journal of Work and Organizational Psychology, 18*, 81-101.
- Notelaers, G. (2011). *Workplace bullying: A risk control perspective* (Unpublished doctoral dissertation). University of Bergen, Norway.
- Notelaers, G., & Einarsen, S. (2012). The world turns at 33 and 45: Defining simple cutoff scores for the Negative Acts Questionnaire—Revised in a representative sample. *European Journal of Work and Organizational Psychology*. Advance online publication. doi:10.1080/1359432X.2012.690558
- Notelaers, G., Einarsen, S., De Witte, H., & Vermunt, J. K. (2006). Measuring exposure to bullying at work: The validity and advantages of the latent class cluster approach. *Work & Stress, 20*, 288-301.
- Notelaers, G., Vermunt, J. K., Baillien, E., Einarsen, S., & De Witte, H. (2011). Exploring risk groups workplace bullying with categorical data. *Industrial Health, 49*, 73-88.
- Rocha, K. B., Pérez, K., Rodríguez-Sanz, M., Borrell, C., & Obiols, J. E. (2011). Propiedades psicométricas y valores normativos del General Health Questionnaire (GHQ-12) en población general española [Psychometric properties and normative data of the General Health Questionnaire (GHQ-12) in the Spanish general population]. *International Journal of Clinical and Health Psychology, 11*, 125-139.
- Rodríguez-Ruiz, O., & Martínez-Lucio, M. (2010). The study of HRM in Spain: The Americanization of Spanish research and the politics of denial? *International Journal of Human Resources Management, 21*, 125-143.
- Rospenda, K. M., Richman, J. A., & Shannon, C. A. (2009). Prevalence and mental health correlates of harassment and discrimination in the workplace results from a national study. *Journal of Interpersonal Violence, 24*, 819-843.

- Salin, D. (2001). Prevalence and forms of bullying among business professionals: A comparison of two different strategies for measuring bullying. *European Journal of Work and Organizational Psychology, 10*, 425-441.
- Sanchez-Lopez, M. P., & Dresch, V. (2008). The 12-Item General Health Questionnaire (GHQ-12): Reliability, external validity and factor structure in the Spanish population. *Psicothema, 20*, 839-843.
- Stein, M. B., & Barrett-Connor, E. (2000). Sexual assault and physical health: Findings from a population-based study of older adults. *Psychosomatic Medicine, 62*, 838-843.
- Vermunt, J. K., & Magidson, J. (2002). Latent class cluster analysis. In J. Hagenaars & A. McCutcheon (Eds.), *Applied latent class analysis* (pp. 89-106). Cambridge, MA: Cambridge University Press.
- Vermunt, J. K., & Magidson, J. (2009). *Latent Gold 4.5*. Belmont, MA: Statistical Innovation.
- Vie, T. L., Glaso, L., & Einarsen, S. (2011). Health outcomes and self-labeling as a victim of workplace bullying. *Journal of Psychosomatic Research, 70*, 37-43.
- Walsh, J. L., Senn, T. E., & Carey, M. P. (2012). Exposure to different types of violence and subsequent sexual risk behavior among female sexually transmitted disease clinic patients: A latent class analysis. *Psychology of Violence, 2*, 339-354.
- Zapf, D., Escartín, J., Einarsen, S., Hoel, H., & Vartia, M. (2011). Empirical findings on prevalence and risk groups of bullying in the workplace. In S. Einarsen, H. Hoel, D. Zapf, & C. L. Cooper (Eds.), *Bullying and harassment in the workplace: Developments in theory, research, and practice* (pp. 75-106). London, England: CRC Press.
- Zapf, D., & Gross, C. (2001). Conflict escalation and coping with workplace bullying: A replication and extension. *European Journal of Work and Organizational Psychology, 10*, 497-522.
- Zapf, D., Knorz, C., & Kulla, M. (1996). On the relationship between mobbing factors, and job content, the social work environment and health outcomes. *European Journal of Work and Organizational Psychology, 5*, 215-237.

Author Biographies

Jose M. Leon-Perez is post-doctoral researcher at the Business Research Unit, ISCTE-Instituto Universitário de Lisboa (Portugal). His research interests concern both the impact of psychosocial factors on employee well-being and the evaluation of the effectiveness of organizational interventions to promote well-being at work.

Guy Notelaers is an associate professor at the Department of Psychosocial Science, University of Bergen (Norway). He also works as consultant on statistical analysis, particularly in the domain of latent class modeling and structural equation modeling. His research aims at integrating the risk control cycle into occupational and organizational psychology.

Alicia Arenas is an assistant professor at the Department of Social Psychology, University of Seville (Spain). Her research focuses on occupational health and how to

promote strategies to prevent and cope with discrimination, social exclusion and harassment at the workplace.

Lourdes Munduate is professor of work and organizational psychology at the Department of Social Psychology, University of Seville (Spain). Her research focuses on the use of power and influence tactics in conflict management and collective negotiation, and negotiating business relationships within a cultural context.

Francisco J. Medina is an associate professor at the Department of Social Psychology, University of Seville (Spain). His research interests include conflict management, negotiation and mediation.