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Beyond behavioural mobbing indicators: revision and shortening of the SDM Questionnaire for measuring and diagnosing workplace bullying

BACKGROUND

Currently, the predominant approach in mobbing research employs "behavioural experience methods" (BEM), which have certain limitations. BEM primarily gauge the frequency of exposure to negative behaviours, while neglecting the perception and harm caused by these behaviours. This study aimed to refine and abbreviate the original, 64-item Polish SDM (*Skala Doświadczania Mobbingu*) mobbing questionnaire, which encompasses behavioural, cognitive, and emotional mobbing indicators..

PARTICIPANTS AND PROCEDURE

The study was conducted on a sample of 2,500 Polish employees. A mixed-method approach, incorporating both quantitative – exploratory factor analysis (EFA), item response theory (IRT), confirmatory factor analysis (CFA) – and qualitative methods, along with a cross-validation procedure, was employed in the study.

RESULTS

EFA revealed that the SDM Questionnaire has a hierarchical structure with two primary factors: behavioural (IDM scale measuring exposure to mobbing) and cognitive-emotional (ODC scale; 7 items, α = .92; measuring harm and victimization). The IDM scale includes person-related (IDM_P: 7 items, α = .91) and work-related (IDM_W: 6 items, α = .86) subscales. The SDM-20 shows a good fit (RMSEA = 0.067 [90% CI: 0.063, 0.071]; SRMR = 0.037; CFI = 0.941; TLI = 0.933), and exhibits robust, positive correlations with the NAQ-R mobbing test, as well as the ICAWS, QWI, and OCS scales measuring job stressors.

CONCLUSIONS

The revised 20-item SDM Questionnaire is an innovative, validated, reliable, and concise yet comprehensive psychometric tool for measuring and diagnosing mobbing. The instrument allows a distinction to be made between mobbing targets and mobbing victims.

KEY WORDS

measurement methods; mobbing/workplace bullying; mobbing targets; mobbing victims

BACKGROUND

The validity and reliability of mobbing research (often referred to as 'workplace bullying', especially in English-speaking countries and literature), as well as the accuracy and depth of mobbing diagnoses, largely depend on the advancement and soundness of the measurement tools implemented in mobbing studies (Nielsen et al., 2010; Notelaers & Van der Heijden, 2021). Accurate and reliable methods used by researchers and practitioners should be firmly grounded in both scientific theory and practice, with their 'psychometric goodness' established through purposefully designed validation studies (Nielsen et al., 2020). Unfortunately, not all methods employed in mobbing research and diagnosis are well founded in scientific theory and empirical evidence (Ciby & Raya, 2015; Nielsen et al., 2011). Moreover, not all implemented methods have undergone testing in validation studies or cultural adaptation to prove their validity and adequacy in specific cultural and socio-organizational contexts (Durniat, 2020). Furthermore, some researchers and practitioners draw attention to the fact that the currently dominant behavioural paradigm for measuring and diagnosing mobbing does not sufficiently reflect the complex and interactive nature of the phenomenon under study (Durniat, 2021a, 2021b; Leon-Perez et al., 2021). Additionally, the implementation of solely behavioural indicators of mobbing does not allow us to distinguish between mobbing targets and victims, which is a significant flaw (Durniat, 2021a; Nielsen et al., 2020).

Some scholars argue that despite its critical importance, the methodological issues connected with the development of mobbing measurement tools have not received adequate attention or the expected scientific refinement (Durniat, 2021b; Keashly & Harvey, 2005; León-Pérez et al., 2021; Nielsen et al., 2011). This is mostly attributed to the fact that mobbing has rapidly become a popular research topic, eagerly taken up by numerous academics who rushed to carry out mobbing studies, sometimes implementing hastily created, questionable, and unvalidated methods and methodologies (Einarsen et al., 2020; Keashly, 2018; Leon-Perez et al., 2014; Nielsen & Einarsen, 2018). Meanwhile, mobbing is a complex, interactional phenomenon: exposure to negative mobbing behaviours induces negative perceptions, emotions and psychological harm. As such, it is partially objective and partially subjective, constituting a major methodological challenge for both researchers and practitioners (Durniat, 2021a; Nielsen & Einarsen, 2012; Nielsen et al., 2020; Saunders et al., 2007). Consequently, measuring and diagnosing mobbing requires the implementation of accurate, reliable, and cautiously developed psychometric tools that appropriately reflect its complex and interactional nature (Durniat, 2014, 2020).

Starting from a theoretical standpoint, examining various mobbing definitions formulated by researchers, practitioners, and legal bodies worldwide reveals several universal criteria for defining the mobbing phenomenon (Ciby & Raya, 2015; Einarsen et al., 2020; Saunders et al., 2007). Among the most central and least debated elements of mobbing definitions are: (1) exposure of employees to unwanted negative behaviours, (2) the persistence and endurance of these behaviours, and (3) the harm caused by this exposure. More contentious criteria include (4) an imbalance of power between mobbing targets and perpetrators, and (5) targets' self-attribution as being mobbing victims. Most debatable, particularly from a practical perspective, is the criterion of (6) perpetrators' intention to cause harm, which is challenging to examine and assess (Durniat, 2021a; Einarsen et al., 2020; Saunders et al., 2007). Actually, to this day, scholars have been arguing over the accuracy and significance of particular mobbing defining features, and this discussion is fuelled by numerous, sometimes conflicting arguments (cf. Durniat, 2021b; Nielsen et al., 2020; Notelaers & Van der Heijden, 2021; Saunders et al., 2007).

However, 17 years ago, Australian researchers emphasized that:

"The inducement of harm is an essential and necessary component in all definitions of bullying. Notwithstanding the type of negative behaviour that occurs and the degree of persistence of the behaviour, researchers and practitioners generally agree that a negative workplace experience can only be defined as bullying if the target of the behaviour experiences some form of psychological, emotional or physical harm" (Saunders et al., 2007, pp. 342–343).

Moreover, a wealth of research provides compelling empirical evidence that exposure to mobbing behaviours induces severe psychological stress and leads to the development of negative cognitive and emotional symptoms (e.g., loss of confidence, diminished self-esteem, feelings of guilt and shame, fear, anxiety) and psychosomatic reactions (e.g., headaches, backaches, concentration problems, sleep disorders, chronic fatigue, concentration difficulties) (Høgh et al., 2012; Mikkelsen et al., 2020). Consequently, empirical evidence strongly supports the construct validity of harm as a key criterion in defining mobbing (Nielsen & Einarsen, 2012; Saunders et al., 2007). However, a more recent review of mobbing definitions revealed that only a minority (16%) of academic definitions include negative consequences of exposure to mobbing behaviours as defining mobbing features (Notelaers & Van der Heijden, 2021). Furthermore, even when the criterion of harm is present in some of the most recognizable mobbing definitions, it has not been operationalized in mobbing research tools, which is a significant flaw (Durniat, 2021a; 2021b). This deficiency undermines the

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construct validity of research conducted using such instruments (Notelaers & Van der Heijden, 2021).

Also, it should be highlighted that mobbing can manifest in various forms, including overt and subtle behaviours, as well as manipulative and context-dependent actions, making them challenging to observe and assess externally (Durniat, 2015, 2021a; Durniat & Kulczycka, 2006; Keashly & Harvey, 2005). Additionally, the perception of apparently similar behaviours can vary depending on the target's personality, sensitivity, individual experiences, as well as socio-cultural background (cf. Durniat & Mañas-Rodríguez, 2017; Einarsen et al., 2020; Salin et al., 2019). It is, therefore crucial to understand how specific behaviours are perceived and assessed by individual mobbing targets. In a recent paper on methodological issues connected with measurement of mobbing, Nielsen and colleagues emphasize that:

"In any instance, the definitional core of bullying rests on the subjective perception that targets experience these behaviours as hostile and humiliating, and that they are directed towards oneself, regardless of how one may label the experience (…)" (Nielsen et al., 2020, p. 255).

Consistently, some other mobbing researchers explain that:

"The reasoning for including the subjective perception of the victim as a prerequisite to conceptualize bullying is in line with the transactional perspective of stress (Lazarus & Folkman, 1984) which considers the victim's appraisals as an important aspect to assess the severity of an incident" (León-Pérez et al., 2021, p. 59).

However, the intra-individual process of mobbing interaction has hitherto received relatively little attention in mobbing research and literature (Taris, 2022). Likewise, even the most respected and internationally recognizable mobbing measurement tools have not adequately reflected the mobbing target's subjective perceptions, which is a significant limitation.

Extensive reviews of various methods employed in numerous studies suggest that mobbing has been measured using either 'self-labelling methods' (SLM) or 'behavioural experience methods' (BEM) (León-Pérez et al., 2014, 2021; Nielsen et al., 2011; Nielsen, & Einarsen, 2018). SLM rely on respondents' declarations and their overall sense of being victimized by mobbing, either with or without reference to a specific mobbing definition. This methodological approach raises concerns because it is heavily influenced by individuals' personality traits, emotional states, misinterpretations, and subjects' awareness of the phenomenon, especially when respondents are not provided with a clear definition of mobbing (Durniat, 2021a; Keashly, 2018; Nielsen et al., 2011). On the other hand, BEM measure respondents' exposure to a range of negative behaviours without explicitly using the term 'mobbing' or 'bullying' (treating it as a latent variable). Among the most respected and internationally recognizable BEM instruments are Leymann's Inventory of Psychological Terrorization (LIPT; Leymann, 1990, 1996) and the Negative Acts Questionnaire-Revised (NAQ-R; Einarsen et al., 2009). While this approach provides more objective and comparable results, it is not without methodological flaws, which have been extensively discussed in other scientific papers (León-Pérez et al., 2021; Nielsen et al., 2010, 2011, 2020).

One of the most significant shortcomings of BEM is that they solely measure the frequency of exposure to a set range of negative behaviours, neglecting the crucial, albeit more 'subjective' aspect of mobbing interaction: the targets' perceptions of these behaviours and the emotions evoked by that exposure (Durniat, 2020, 2021b; León-Pérez et al., 2021; Saunders et al., 2007). To address this issue, some scholars recommend an integrative approach, combining BEM with an SLM approach in a single study (e.g. Einarsen et al., 2009; León-Pérez et al., 2014), a practice employed in a great deal of mobbing research (Nielsen & Einarsen, 2018; Nielsen et al., 2011, 2020). However, this solution still lacks the desired methodological refinement and carries the risk of biases and distortions. Research shows that mobbing targets, especially men, are not willing to admit to being victimized as labelling oneself as a victim seems to be threatening to the targets' self-esteem; moreover, mobbing victims often experience deep and long-lasting feelings of shame and guilt (Durniat, 2015; Felblinger, 2008; Lewis, 2004; Salin, 2003). Therefore, the harm and victimization by mobbing should be measured as a latent variable rather than researched straightforwardly through one item, which is a direct question about labelling oneself as a victim of mobbing. This is one of the significant gaps that requires more advanced methodological solutions (Durniat, 2014, 2021a, 2021b).

In Poland, a psychometric tool called the SDM Questionnaire (derived from the Polish name *Skala Doświadczania Mobbingu*) exists, which goes beyond the 'self-labelling' and 'behavioural experience' approaches (Durniat, 2014, 2021a). This instrument has been developed and refined since 2004 (cf. Durniat, 2020; Durniat & Kulczycka, 2006; Kulczycka & Durniat, 2004) and can be termed an 'interactional mobbing method' (Durniat, 2021a, 2021b). The SDM Questionnaire is rooted in scientific mobbing theory (especially inspired by Leymann's work and the LIPT questionnaire), clinical experience, and empirical research (a series of qualitative and quantitative studies) (Durniat, 2014, 2015, 2020; Durniat & Kulczycka, 2006). Crucially, the insights and knowledge gained through practical experience and dozens of clinical interviews with mobbing victims while acting in the National Anti-Mobbing Association led

the researchers to the conclusion that the mobbing phenomenon is not solely characterized by exposure to a range of negative and unwanted behaviours. Rather, it is an interactional phenomenon in which this exposure evokes a pattern of detrimental cognitive appraisals and emotions in the mobbing target, which are symptoms of harm and victimization by mobbing (Durniat, 2014, 2015, 2021a; Durniat & Kulczycka, 2006).

The psychological definition which served as the theoretical framework for constructing the original Polish SDM Questionnaire states:

"Mobbing is a psychological abuse taking place between at least two partners of social interaction, systematically applied by the perpetrator (less often perpetrators) against the target (less often targets) in repetitive verbal and behavioural attacks. Mobbing has a mainly subjective character, but its effects are manifested by psychological destabilization of the victim, by a sense of injustice and bewilderment as well as by experiencing strong psychological stress. Mobbing is a process: systematically, while victimization is escalating, the feeling of the target's self-esteem diminishes, together with work and social competences; all accompanied by a feeling of defencelessness" (Durniat & Kulczycka, 2006, p. 463).

It is noteworthy that the definition cited above is in accordance with the Polish legal definition of mobbing, which also refers to the targets' harm and victimization (cf. Polish Labour Code art. 94 §2). Furthermore, in accordance with Polish law and international literature on the subject, mobbing is understood not to consist of physical intimidation, sexual harassment or economic harassment; nor should it be confused with discrimination, although these phenomena sometimes overlap or coincide (Durniat, 2020; Durniat & Kulczycka, 2006). The theoretical foundations, development, results of validation studies, and psychometric properties of the 64-item SDM Questionnaire are thoroughly detailed in other works (e.g. Durniat, 2020; Durniat & Kulczycka, 2006).

For the purposes of this paper it is important to emphasize that the SDM Questionnaire features an innovative structure, encompassing both behavioural items, which indicate exposure to negative workplace behaviours (implying being a mobbing target), and cognitive, emotional, and psychosomatic items, which indicate harm and victimization experienced by the target due to this exposure (implying being a mobbing victim). Importantly, all items demonstrating psychological harm and victimization were derived from exploratory empirical research, specifically semi-structured interviews with mobbing victims, and these items received the highest scores from a panel of five experts (members of the National Anti-Mobbing Association), which confirmed the theoretical validity of the constructed test

(Durniat, 2014, 2020; Durniat & Kulczycka, 2006). As a result, the Polish mobbing tool reflects well theoretical models and definitions of mobbing as a complex, dynamic, and interactional phenomenon (Durniat, 2014, 2021a; Durniat & Kulczycka, 2006; Einarsen et al., 2020). Therefore, the SDM test addresses a gap in the international methodology, offering an innovative and more comprehensive approach to measuring and diagnosing mobbing.

This paper presents the main results of a study conducted in the years 2022-2024 on a sample of 2500 Polish employees. The study aimed to refine the structure and create a shortened and validated version of the Polish SDM mobbing test. This research was motivated by current scientific trends to develop a concise yet comprehensive and reliable psychometric instrument suitable for both academic research and practical applications (Kruyen et al., 2013).

PARTICIPANTS AND PROCEDURE

MEASUREMENTS

SDM Mobbing Questionnaire. The basic version of the SDM Questionnaire, whose factorial structure was established in 2008, comprises 64 items distributed across two main scales: the IDM scale (derived from the Polish *Inwentarz Działań Mobbingowych*; 43 behavioural items; Cronbach's α = .96), which assesses exposure to mobbing behaviours, and the ODC scale (derived from the Polish word *odczucia*; 21 cognitive-emotional items; Cronbach's α = .97), which measures the harm and victimization resulting from such exposure (Durniat, 2020). The IDM scale is further divided into subscales of isolating and intimidating behaviours (19 items, Cronbach's α = .93), humiliating and ridiculing behaviours (17 items, Cronbach's α = 0.93), and behaviours hindering professional performance (7 items, Cronbach's α = .80). Responses are given on a five-point scale from 1 (*never*) to 5 (*very often*). The level of exposure to mobbing behaviours (high = mobbing targets) is determined by the results of the IDM scale, while psychological harm (high = mobbing victims) is indicated by the results of the ODC scale (cf. Durniat, 2020).

Negative Acts' Questionnaire Revised (NAQ-R). The NAQ-R (Einarsen et al., 2009), adapted to Polish by Warszewska-Makuch (2007), was implemented in the study. The test comprises 22 items capturing negative behaviours indicating exposure to work-related mobbing (7 items), person-related (12 items) mobbing, or physical intimidation (3 items). The NAQ-R measures the frequency of the respondents' exposure to each of the listed negative acts during the last six months on a five-point frequency scale from 1 (*never*) to 5 (*daily*). The NAQ-R can be treated as either a one-dimensional scale (with

Cronbach's α = .90) or a three-dimensional test (cf. Einarsen et al., 2009).

Three short scales of job stressors. The study utilized three short self-report measures of job stressors: the Interpersonal Conflict at Work Scale (ICAWS; 4 items; Cronbach's α = .74), the Quantitative Workload Inventory (QWI; 5 items; Cronbach's α = .81) measuring workload and work pace, and the Organizational Constraints Scale (OCS; 11 items; Cronbach's α = .85). The scales were originally developed by Spector and Jex (1998) and adapted into Polish by Baka and Bazińska (2016). The reliability of the Polish versions of the scales was satisfactory (with Cronbach's α ranging from .80 to .90). Participants rate the frequency of job stressors on a five-point scale from 1 (*less than once a month or never*) to 5 (*several times a day*), with higher scores indicating higher levels of stress.

DATA COLLECTION AND STUDY PARTICIPANTS

The data for this study were collected in the second half of 2022 by six trained pollsters from a population of adult employees working in various companies located in Wrocław and its surroundings. The selection of participants was purposeful, to achieve the highest possible level of representativeness of the Polish working population. All respondents completed a paper version of the 64-item SDM Questionnaire, and a subsample of 300 participants additionally completed the NAQ-R, ICAWS, QWI, and OCS scales to verify the SDM test's construct validity. Participation in the study was voluntary and anonymous, with informed consent obtained. The study protocol was approved by the Ethical Committee of the Institute of Psychology, University of Wrocław. Detailed sociodemographic data for the entire sample and subsamples are presented in Table 1.

RESEARCH PROCEDURE AND STATISTICAL SOLUTION

A mixed approach (quantitative and qualitative) and a cross-validation procedure were implemented in the study, wherein the whole sample was randomly split in half to create two subsamples: the developmental sample ($N1$ = 1250) used for exploratory factor analysis (EFA) and the validation sample ($N2$ = 1250) used for confirmatory factor analysis (CFA). In the initial phase, the structure of the complete 64-item SDM Questionnaire was explored using EFA with parallel analysis (PA). In order to develop a shortened version of the instrument, an in-depth item analysis was conducted within each of the scales, which involved three steps. The first step was based on item loadings and cross-loadings across latent factors. Items

with low loadings (below .50) or relatively high cross-loadings (> .30) were considered to be excluded (Peterson, 2000). The second step involved item response theory analysis (IRT), based on the graded partial credit model. The estimates included items' discrimination and difficulty, outfit and infit statistics, and bias-corrected root mean square deviation (RMSD) scores that illustrate how well the items fit the unidimensional model. Items with infit and outfit parameters below .80 or above 1.20 were considered to be excluded in the second step, while the value of 1 indicates a perfect fit. In the case of RMSD, values below .05 denote a small misfit (Köhler et al., 2020). The third step involved qualitative analysis of items' content to ensure that they represented well the theoretical meaning of the intended subscales and that they were consistent with the legal definition of mobbing (cf. Polish Labour Code art. 94 §2). Item content analyses were conducted by two lawyers, labour court judges, and a psychologist, a member of an academic anti-mobbing commission.

After implementing steps 1-3 (EFA, loadings and cross-loadings analysis, IRT analysis and content analysis), a shortened scale was proposed based on data from subsample 1, and CFA was performed on subsample 2. Then, CFA and IRT analyses were repeated on the whole sample.

EFA was conducted based on weighted least squares (WLS) with oblimin rotation. The number of factors was decided on the bases of PA, scree plot and eigenvalues above 1. CFA was conducted using the robust maximum likelihood estimator (MLR) with robust standard errors. CFA models were estimated in R using the lavaan package. IRT parameters were obtained using the TAM package (Robitzsch et al., 2021). In CFA, model fit was assessed based on typically used indices, i.e., the root mean square error of approximation (RMSA), standardized root mean square residual (SRMR), the comparative fit index (CFI) the Tucker-Lewis Index (TLI), as well as the Gamma-Hat Scaled, which is known to behave better in the case of model misspecification (Fan & Sivo, 2007). Values lower than .08 for SRMR and RMSEA and higher than .90 for CFI and TLI and Gamma-Hat indicated an acceptable fit to the data (Hu & Bentler, 1999; Peterson, 2000).

Subsequently (step 4), the reliability of the revised and shortened 20-item SDM Questionnaire was estimated using Cronbach's alpha coefficient. As a rule of thumb, values exceeding .70 provide evidence of adequate scale reliability. The final phase (step 5) involved revision of the questionnaire's construct validity (tested on subsample 3), by correlating the results of the shortened SDM with NAQ-R, ICAWS, OCS, and QWI. A positive pattern of correlations was predicted. All statistical analyses were computed in R using appropriate packages (R Core Team, 2022; Revelle, 2023; Rosseel, 2012).

Table 1

Socio-demographic data of the research sample (N = 2500) and sub-samples: N1 = 1250 (for EFA), N2 = 1250 (for CFA), and N3 = 300 (for verification of convergent construct validity)

Demographic category	Total sample (*N* = 2500)		Sub-sample (*N1* = 1250) for EFA		Sub-sample (*N2* = 1250) for CFA		Sub-sample (*N3* =300) for construct validity tests	
	Count	%	Count	%	Count	%	Count	%
Gender								
Woman	1351	54.0	672	53.8	679	54.3	200	66.7
Man	1119	44.8	563	45.0	556	44.5	100	33.3
Missing data	30	1.2	15	1.2	15	1.2	–	–
Age								
Up to 25 years	569	22.8	290	23.2	279	22.3	32	10.7
26-35 years	897	35.9	449	35.9	448	35.8	124	41.3
36-45 years	561	22.4	280	22.4	281	22.5	85	28.3
Above 45 years	465	18.9	225	18.0	240	19.2	59	19.7
Missing data	8	0.3	6	0.5	2	0.2	–	–
Branch								
Industry	594	23.8	286	22.9	308	24.6	81	27.0
Commerce	311	12.4	162	13.0	149	11.9	31	10.3
Services	616	24.6	320	25.6	296	23.7	70	23.3
Administration	257	10.3	130	10.4	127	10.2	40	13.3
Education	241	9.6	127	10.2	114	9.1	45	15.0
Health service	138	5.5	57	4.6	81	6.5	28	9.3
Others	309	13.8	152	12.2	157	12.6	5	1.7
Missing data	34	1.4	16	1.3	18	1.4	–	–
Sector								
Public	898	35.9	453	36.2	453	35.6	143	47.7
Private	1529	61.2	763	61.0	763	61.3	149	49.7
Missing data	73	2.9	34	2.7	34	2.7	8	2.7
Position								
Director	75	3.0	37	3.0	38	3.0	14	4.7
Supervisor	386	15.44	182	14.6	204	16.3	67	22.3
Specialist	757	30.3	381	30.5	376	30.1	102	34.0
Subordinate	1193	47.7	600	48.0	593	47.4	109	36.3
Missing data	89	3.6	50	4.0	39	3.1	8	2.7
Seniority								
Up to 1 year	319	12.8	163	13.0	156	12.5	11	3.7
Above 1 to 3 years	588	23.5	291	23.3	297	23.8	50	16.7
Above 3 to 6 years	333	13.3	162	13.0	171	13.7	56	18.7
Above 6 to 10 years	341	13.6	165	13.2	176	14.1	49	16.3
Above 10 years	889	35.6	454	36.3	435	34.8	130	43.3
Missing data	30	1.2	15	1.2	15	1.2	4	1.3

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Table 2

Results of the EFA of the 64-item SDM Questionnaire with oblimin rotation; 2- and 3-factor solutions (N1 = 1250)

The content of items	Item's original assignment to IDM or ODC scale with numbers	Three-factor solution			Two-factor solution		Conclusion
		F1	F2	F3	F1	F2	
I am burdened with more tasks and duties than other employees.	IDM_1	−0.09	0.26	0.42	0.19	0.29	Considered for exclusion
I am silenced while talking.	IDM_2	0.25	0.12	0.34	0.49	0.11	Left within IDM
I am an object of jokes and mockery.	IDM_3	0.57	−0.05	0.04	0.63	−0.10	Left within IDM
I am ignored while other employees are selected for courses or training.	IDM_4	0.19	0.05	0.36	0.44	0.05	Left within IDM
Tasks are set for me with unrealistic deadlines or time limits.	IDM_5	−0.07	0.14	0.62	0.35	0.18	Left within IDM
I am set tasks which are beyond my capabilities in order to discredit me.	IDM_6	0.48	0.02	0.23	0.65	−0.01	Left within IDM
My credibility and authority at work are challenged.	IDM_7	0.47	0.09	0.24	0.65	0.06	Left within IDM
I am publicly criticized.	IDM_8	0.49	0.10	0.17	0.63	0.06	Left within IDM
I am avoided and ostracized by others at work.	IDM_9	0.46	0.11	0.17	0.60	0.07	Left within IDM
I was deprived of my due bonus or reward at work.	IDM_10	0.23	−0.01	0.51	0.58	0	Left within IDM
I was threatened with dismissal with no rational justification.	IDM_11	0.40	0.03	0.3	0.62	0.01	Left within IDM
I was warned against making a complaint and threatened that it would make my position at work even worse.	IDM_12	0.47	0.03	0.23	0.64	0	Left within IDM
I am treated as black sheep – the cause of all the trouble.	IDM_13	0.72	−0.03	0.04	0.77	−0.09	Left within IDM
Important data and information needed to complete tasks are concealed from me.	IDM_14	0.46	−0.04	0.33	0.7	−0.06	Left within IDM
My work is excessively criticized.	IDM_15	0.44	0.06	0.33	0.68	0.04	Left within IDM
I am forbidden to exercise my rights at work (e.g., right to leave, bonus, proper working hours).	IDM_16	0.16	0.14	0.47	0.49	0.16	Left within IDM
I am assigned to do trivial and pointless tasks at work.	IDM_17	0.04	0.07	0.62	0.45	0.10	Left within IDM

Table 2 continues

Shortening and revision of the SDM mobbing test

Table 2

Table 2 continued

The content of items	Item's original assignment to IDM or ODC scale with numbers	Three-factor solution			Two-factor solution		Conclusion
		F1	F2	F3	F1	F2	
I am accused of having a difficult and argumentative personality.	IDM_18	0.50	0.01	0.22	0.67	−0.03	Left within IDM
I am being ignored and not spoken to even when present.	IDM_19	0.66	0.02	0.07	0.73	−0.03	Left within IDM
I am talked to in a rude and humiliating manner.	IDM_20	0.54	0.13	0.15	0.66	0.09	Left within IDM
A lot of gossip is spread about me.	IDM_21	0.66	0.05	0	0.68	−0.01	Left within IDM
My career is impeded and delayed.	IDM_22	0.26	0	0.48	0.59	0	Left within IDM
My opinions and suggestions are met with shouting and loud comments.	IDM_23	0.49	0.08	0.2	0.64	0.04	Left within IDM
I am made to accept responsibility for the faults of others.	IDM_24	0.25	0.18	0.42	0.54	0.18	Left within IDM
Some people try to mock me.	IDM_25	0.8	−0.01	−0.02	0.81	−0.08	Left within IDM
Some allusions are directed at me, without things being said openly.	IDM_26	0.54	0.13	0.17	0.68	0.09	Left within IDM
Some people want to spoil my relationships with others.	IDM_27	0.57	0.15	0.11	0.67	0.10	Left within IDM
Every mistake I make is seized upon and blown out of proportion.	IDM_28	0.49	0.13	0.27	0.69	0.10	Left within IDM
My promotion is impeded or blocked completely.	IDM_29	0.29	0.09	0.43	0.59	0.09	Left within IDM
When I arrive at work, all conversation stops.	IDM_30	0.72	0.01	−0.03	0.72	−0.05	Left within IDM
I receive inconsistent or contradictory orders.	IDM_31	0.21	0.12	0.48	0.53	0.13	Left within IDM
I am the object of humiliating gestures and glances.	IDM_32	0.88	−0.03	−0.18	0.78	−0.11	Left within IDM
Every mistake I make is publicized and commented upon.	IDM_33	0.64	0.10	0.06	0.71	0.05	Left within IDM
Any contact with me, including eye contact, is avoided.	IDM_34	0.79	0.01	−0.08	0.76	−0.06	Left within IDM
Bad things are said about me.	IDM_35	0.72	0.09	−0.02	0.73	0.02	Left within IDM
A lot of lies are spread about me.	IDM_36	0.77	0.05	−0.05	0.77	−0.02	Left within IDM
My commitment to work is underestimated.	IDM_37	0.34	0.19	0.34	0.58	0.18	Left within IDM

Table 2 continues

Table 2

Table 2 continued

The content of items	Item's original assignment to IDM or ODC scale with numbers	Three-factor solution			Two-factor solution		Conclusion
		F1	F2	F3	F1	F2	
My opinions and remarks are mocked or ignored.	IDM_38	0.78	0.01	-0.01	0.8	-0.06	Left within IDM
The directions and instructions that I am given are impossible to follow.	IDM_39	0.54	0.04	0.23	0.72	0	Left within IDM
I am excluded from matters which are important to the organisation.	IDM_40	0.41	0.01	0.32	0.64	-0.01	Left within IDM
I am the target of sneers and mockery concerning my private life.	IDM_41	0.69	-0.01	-0.04	0.68	-0.07	Left within IDM
I am blackmailed and forced into unacceptable actions and practices.	IDM_42	0.61	0.05	0.07	0.67	0	Left within IDM
Some things are done with the intention of lowering my feeling of worth and dignity.	IDM_43	0.65	0.12	0.04	0.70	0.07	Left within IDM
I am much more exhausted by the atmosphere at work than by performing my duties.	ODC_1	-0.05	0.63	0.15	0.05	0.64	Left within ODC
I have nightmares concerning my work.	ODC_2	0.02	0.72	-0.04	-0.01	0.71	Left within ODC
On my way to work I am nervous and I feel like going home.	ODC_3	-0.07	0.84	0.02	-0.05	0.84	Left within ODC
After leaving the workplace I feel mentally exhausted and shattered.	ODC_4	-0.13	0.85	0.07	-0.09	0.87	Left within ODC
I do not enjoy Sunday any more as I am frightened by the thought of the coming week.	ODC_5	-0.11	0.83	0.03	-0.09	0.84	Left within ODC
I am so irritated that I can't fulfil even simple tasks at work.	ODC_6	-0.09	0.76	0.06	-0.05	0.78	Left within ODC
I am treated unfairly and my behaviour is misinterpreted.	ODC_7	0.33	0.47	0.06	0.38	0.44	Considered for exclusion
The presence of some people paralyses me with fear.	ODC_8	0.10	0.77	-0.10	0.04	0.75	Left within ODC
The blame for some wrongdoings is unfairly and absurdly given to me.	ODC_9	0.36	0.44	0.10	0.44	0.42	Considered for exclusion
I have difficulty with falling asleep because I am always thinking about work.	ODC_10	0.04	0.74	-0.06	0	0.74	Left within ODC

Table 2 continues

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Table 2

Table 2 continued

The content of items	Item's original assignment to IDM or ODC scale with numbers	Three-factor solution			Two-factor solution		Conclusion
		F1	F2	F3	F1	F2	
I feel less and less confident at work.	ODC_11	−0.02	0.78	0.08	0.04	0.79	Left within ODC
Problems at work make me wake up during the night.	ODC_12	0.19	0.68	−0.12	0.11	0.66	Left within ODC
Problems at work make me stop believing in my worth.	ODC_13	0.17	0.70	−0.08	0.12	0.68	Left within ODC
The atmosphere at work makes me feel exhausted.	ODC_14	−0.08	0.78	0.13	0.01	0.79	Left within ODC
In the presence of some people at work my hands start shaking and I feel tense.	ODC_15	0.12	0.72	−0.07	0.07	0.71	Left within ODC
I have the feeling that some people at work want to get rid of me.	ODC_16	0.34	0.44	0.03	0.36	0.41	Considered for exclusion
I am losing confidence in my abilities to the extent that I wonder whether this is the right line of work for me.	ODC_17	0.13	0.71	−0.03	0.11	0.69	Left within ODC
I experience sudden aches such as headaches stomach aches, and chest pains at work.	ODC_18	−0.04	0.80	−0.02	−0.05	0.81	Left within ODC
Some people have a damaging influence on both my mental and physical health.	ODC_19	0.07	0.77	−0.02	0.06	0.76	Left within ODC
I can't speak my mind freely and calmly in the presence of some people at work.	ODC_20	0.08	0.74	−0.03	0.06	0.73	Left within ODC
I keep thinking about difficult and harmful situations at work.	ODC_21	0.03	0.73	0.04	0.06	0.73	Left within ODC

Note. The chosen, two-factor solution is shadowed.

EXPLORATORY FACTOR ANALYSIS RESULTS

Initially, the structure of the whole 64-item SDM Questionnaire was examined using EFA. Parallel analysis suggested a 3-factor solution, which was confirmed by an inspection scree plot. At the same time, Kaiser's criterion of eigenvalues > 1 and the scree plot indicated the presence of two structures to be considered: a two-factor and a three-factor model. Bartlett's test of sphericity for the entire SDM Questionnaire was significant, with χ^2 = 59339.89, df = 2016, and p < .001. The Kaiser-Meyer-Olkin (KMO) measure was high at 0.98, signifying a highly satisfactory level of common variance (Peterson, 2000). Considering the theoretical foundation of the instrument's design, the expectation was that the questionnaire would unveil two primary factors: one reflecting exposure to mobbing behaviours (all IDM items), and the other capturing the indicators of harm and victimization (all ODC items). Therefore, the two potential solutions (involving two- and three-factor structures), underwent further scrutiny and comparison (cf. Table 2).

When comparing the two-factor and three-factor solutions, several key observations emerged: (1) The ODC scale consistently formed a single factor in both solutions. Therefore, the distinction between the two- and three-factor solutions rested on determining whether one or two factors should be constructed from the items that make up the SDM scale. (2) Upon comparing the factor loading values of individual SDM items, it became evident that the two-factor solution was superior. These observations, in conjunction with the theoretical underpinnings underlying the development of the SDM Questionnaire, provide a robust basis for selecting the two-factor solution, which reflects very well the interactional nature of the measured phenomenon: the behavioural factor (all IDM items) indicates the exposure to mobbing behaviours, while the cognitive-emotional factor (all ODC items) reflects the target's experience of harm and victimization resulting from this exposure. At this step, four cross-loading items were considered for exclusion (cf. Table 2).

EFA FOR BEHAVIOURAL FACTOR (IDM)

Theory suggests that mobbing behaviours are of different nature. Thus, the remaining 42 IDM items constituting the behavioural scale were subjected to further explorations. Bartlett's sphericity test for the IDM items was significant, with χ^2 = 34674.26, df = 741, p < .001. The KMO measure reached a highly satisfactory value of 0.97. On the basis of Kaiser's criterion and Cattell's method (visual assessment of the scree plot) and parallel analysis, the two-factor solution emerged as the most suitable choice. The chosen solution divided the items into two theoretically coherent dimensions: person-related mobbing behaviours and work-related mobbing behaviours (cf. Table S1 in Supplementary materials).

EFA FOR COGNITIVE-EMOTIONAL FACTOR (ODC)

Subsequently, the structure of the ODC scale with the remaining 18 items was subjected to further examination. For the ODC scale, the KMO score remained at a high level of 0.97, and Bartlett's test of sphericity demonstrated significance (χ^2 = 17905.29, df = 153, p < .001). Given that parallel analysis strongly suggested a one-factor solution, such a solution was retained for further analyses (cf. Table S2 in Supplementary materials).

SUMMARY OF IRT, EFA, CFA AND QUALITATIVE ANALYSIS RESULTS

Given that the main goal of the conducted analyses was to shorten the questionnaire, a mixed approach, combining quantitative and qualitative considerations, was employed, with a primary focus on theory and the content of the items. First, the item parameters (difficulty, discrimination, infit, outfit) obtained in IRT were juxtaposed with their loadings obtained in EFA and CFA. Next, the content of individual items was analysed. The qualitative analysis aimed at retaining a sufficiently broad range of typical mobbing behaviours and most typical symptoms of harm and victimization by mobbing. At the same time, we did not want to retain items that were questioned by experts due to legal reasons. For example, statements like "I was deprived of my due bonus or reward at work" or "I am forbidden to exercise my rights at work (e.g., right to leave, bonus, proper working hours, etc.)" were identified as potentially violating basic labour law provisions rather than anti-mobbing regulations. Moreover, attention was paid to avoid selecting items that were overly general and nonspecific (e.g. "I am treated as a black sheep – the cause of all the trouble) or redundant (e.g. "A lot of gossip is being spread about me", which is redundant compared to "A lot of lies are spread about me"). A table listing all the rejected items with their IRT parameters and the justification for the items' exclusion is presented in Table S3 (see Supplementary materials).

Finally, 20 items were selected as the most optimal to create a shortened version of the SDM test (cf. Table 3).

The shortened and revised version of the instrument comprises 13 items constituting the behavioural

Table 3

Summary of the EFA (subsample 1), CFA (subsample 2 and whole sample), and IRT (whole sample) parameters of the selected 20 SDM test items

Item		FL in EFA (SubS 1)	FL in CFA (SubS 2)	FL in CFA (WS)	IRT parameters (whole sample)				
ENG	PL				a	b	Infit	Outfit	RMSD
My opinions and remarks are mocked or ignored.	Moje opinie i wypowiedzi zostają ośmieszone i wydrwione.	0.795	0.802	0.793	2.850	1.732	1.062	0.926	0.016
A lot of lies are spread about me.	Rozpowszechnia się kłamstwa na mój temat.	0.731	0.753	0.787	2.470	1.597	1.074	0.973	0.018
Some people try to mock me.	Podejmowane są próby ośmieszenia mnie.	0.756	0.789	0.777	2.615	1.694	1.080	0.929	0.017
Some allusions are directed at me, without things being said openly.	Kieruje się do mnie różnego rodzaju aluzje bez wyrażania się wprost.	0.517	0.766	0.759	1.972	1.554	1.050	0.963	0.022
Every mistake I make is publicized and commented upon.	Każdy mój błąd jest nagłaśniany i publicznie komentowany.	0.608	0.771	0.767	2.127	1.629	1.046	0.965	0.019
Any contact with me, including eye contact, is avoided.	Unika się wszelkiego kontaktu ze mną, w tym także wzrokowego.	0.727	0.735	0.745	2.134	1.783	1.028	0.985	0.018
I am the object of humiliating gestures and glances.	Jestem obiektem upokarzających gestów i spojrzeń.	0.840	0.751	0.743	2.814	1.820	1.107	0.913	0.018
My career is impeded and delayed.	Utrudnia się lub uniemożliwia mój rozwój zawodowy.	0.725	0.766	0.760	2.215	1.197	1.067	0.865	0.016
I am excluded from matters which are important to the organisation.	Odsuwa się mnie od spraw ważnych dla firmy.	0.458	0.719	0.709	1.561	1.401	1.047	0.975	0.018
My promotion is impeded or blocked completely.	Opóźnia się i utrudnia mój awans zawodowy.	0.825	0.712	0.716	1.890	1.218	1.070	0.883	0.022
I am made to accept responsibility for the faults of others.	Obarcza się mnie odpowiedzialnością za błędy popełnione przez innych.	0.416	0.678	0.689	1.287	1.322	1.034	0.982	0.017
Important data and information needed to complete tasks are concealed from me.	Ukrywa się przede mną informacje niezbędne do realizacji moich zadań.	0.375	0.677	0.680	1.463	1.562	1.049	0.972	0.016

Table 3 continues

Table 3

Table 3 continued

Item		FL in EFA (SubS 1)	FL in CFA (SubS 2)	FL in CFA (WS)	IRT parameters (whole sample)				
ENG	PL				a	b	Infit	Outfit	RMSD
I receive inconsistent or contradictory orders.	Otrzymuję sprzeczne, nie dające się pogodzić polecenia.	0.457	0.686	0.683	1.408	1.444	1.025	0.987	0.015
I feel less and less confident at work.	W pracy czuję się coraz mniej pewnie.	0.809	0.823	0.821	2.401	1.261	1.030	0.949	0.012
Some people have a damaging influence on both my mental and physical health.	Niektóre osoby z pracy wywierają niszczący wpływ na moje zdrowie psychiczne i fizyczne.	0.750	0.783	0.792	1.920	1.247	1.031	0.959	0.017
I am losing confidence in my abilities to the extent that I wonder whether this is the right line of work for me.	Czuję, że sam przestaję wierzyć w swoje kompetencje i umiejętności.	0.751	0.811	0.797	2.162	1.411	1.040	0.894	0.016
On my way to work I am nervous, and I feel like going home.	W drodze do pracy czuję zdenerwowanie i mam ochotę zawrócić.	0.817	0.771	0.782	1.872	1.165	1.033	0.967	0.017
I can't speak my mind freely and calmly in the presence of some people at work.	W obecności niektórych osób nie potrafię się spokojnie i swobodnie wypowiadać.	0.735	0.774	0.767	1.657	1.261	1.003	0.995	0.018
After leaving the workplace I feel mentally exhausted and shattered.	Po wyjściu z pracy czuję się psychicznie rozbity i roztrzęsiony.	0.849	0.764	0.778	1.987	1.150	1.032	0.960	0.018
Problems at work make me stop believing in my worth.	Przestaję wierzyć, że jestem wartościowym człowiekiem.	0.746	0.787	0.778	2.175	1.520	1.048	0.905	0.019

Note. FL – factor loading; SubS – subsample; WS – whole sample; a – item discrimination; b – item difficulty; infit – mean square inlier-sensitive fit; outfit – mean square outlier-sensitive fit; RMSD – bias corrected root mean square deviation.

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scale (IDM), which is further divided into two sub-scales reflecting exposure to person-related mobbing (IDM_P; 7 items) and work-related mobbing (IDM_W; 6 items), and 7 items constituting the scale of harm and victimization (ODC). The latent correlation coefficients between SDM-20 scales are as follows: 0.832 between IDM_P and IDM_W, 0.724 between IDM_W and ODC, and 0.735 between IDM_P and ODC. To gain full confidence in the new, revised 20-item version of the SDM test, its factor structure was re-estimated in CFA on the entire sample (N = 2500), demonstrating appropriate fit (RMSEA = 0.067 [90% CI: 0.063, 0.071]; SRMR = 0.037; CFI = 0.941; TLI = 0.933).

DESCRIPTIVE STATISTICS AND RELIABILITY OF THE SDM-20

In the final step, the reliability (measured as internal consistency using Cronbach's α) and descriptive statistics of the three scales constituting the revised and shortened SDM test were computed, and the results are presented in Table 4.

CONSTRUCT VALIDITY OF THE SDM-20

Correlational analyses revealed a pattern of robust and positive relationships between the SDM-20 and all the variables of interest employed in the validation study (cf. Table 5).

As expected, the strongest positive correlations were found between the SDM-20 and the NAQ-R test results, as both instruments measure the same psychological phenomenon. Very strong positive correlations were noted between the overall SDM-20 results and the overall NAQ-R results (with Pearson's r ranging from .71 to .80). Furthermore, as anticipated, the strongest positive correlations were observed between the theoretically corresponding subscales (i.e., work-oriented and person-oriented behaviours) of the two independent mobbing tests (cf. Table 5).

Table 4

Descriptive statistics and reliability of the revised, shortened 20-item SDM Questionnaire (N = 2500)

Scale	M	95% CI	Mdn	Min	Max	Q1	Q3	IQR	SD	Sk	Ku	Cronbach's α
IDM_P	9.54	[9.37; 9.70]	7	7	35	7	10	3	4.29	2.43	6.75	.91
IDM_W	9.78	[9.60; 9.96]	8	6	30	6	12	6	4.53	1.45	1.82	.86
ODC	12.12	[11.89; 12.35]	10	7	35	7	15	8	5.83	1.47	1.92	.92

Note. Q1 – first quartile; Q3 – third quartile; IQR – interquartile range; Sk – skewness; Ku – kurtosis; Cronbach's α – reliability measure; IDM_P – scale of person-orientated mobbing; IDM_W – scale of work-oriented mobbing; ODC – scale of harm and victimization.

Table 5

Means, standard deviations, and correlation matrix (Pearson's r) between the SDM-20, the NAQ-R, the ICAWS, the OCS and QWI (N3 = 300), p < .001

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. SDM-IDM_Work	9.58	4.28	1.00									
2. SDM-IDM_Personal	9.49	4.23	.74	1.00								
3. SDM-ODC	12.44	6.11	.66	.67	1.00							
4. NAQ-R Overall	31.39	12.40	.71	.80	.73	1.00						
5. NAQ-R_Work	12.79	5.58	.71	.67	.69	.94	1.00					
6. NAQ-R_Personal	14.96	6.37	.67	.84	.70	.96	.81	1.00				
7. NAQ-R_Physical	3.64	1.38	.45	.66	.50	.77	.61	.75	1.00			
8. ICAWS	5.28	2.25	.49	.60	.52	.76	.66	.75	.68	1.00		
9. OCS	19.68	8.56	.59	.49	.57	.67	.71	.57	.44	.58	1.00	
10. QWI	15.93	5.25	.37	.26	.41	.41	.49	.32	.21	.31	.51	1.00

Note. SDM-IDM_Work – scale of work-related behaviours; SDM-IDM_Personal – scale of person-related behaviours; SDM-ODC – scale of harm and victimisation NAQ-R Overall – Negative Acts Questionnaire-Revised overall result; NAQ-R_Work – subscale of work-related bullying; NAQ-R_Personal – subscale of person-related bullying; NAQ-R_Physical – subscale of physical intimidation; ICAWS – Scale of Interpersonal Conflict at Work; OCS – Scale of Organizational Constraints; QWI – Quantitative Workload Inventory.

Next, a convergent pattern of relationships was identified between the SDM-20 and the three measures of job stressors. As expected, the highest correlations were observed between the SDM-20 and the ICAWS, which measures stressors arising from interpersonal conflicts (r ranging from .49 to .60), as well as the OCS, which measures organizational constraints (r ranging from .49 to .59). Weaker correlations (r ranging from .26 to .41) were found with the QWI, which focuses on stressors related to workload.

The observed pattern of relationships supports the convergent construct validity of the revised and shortened SDM-20 mobbing test.

DISCUSSION

Mobbing is a complex, interactional, partly objective, and partly subjective psychological phenomenon, involving exposure to negative behaviours that elicit adverse perceptions and detrimental emotions, leading to harm and victimization. Therefore, it should be measured and diagnosed using theoretically comprehensive, multifactorial, empirically rooted, and validated psychometric instruments (Durniat, 2020; Nielsen et al., 2011; Notelaers & Van der Heijden, 2021).

The "behavioural experience methods" commonly implemented in international mobbing research do not entirely conform to theoretical interactional models and definitions of mobbing (Durniat, 2014, 2021a; León-Pérez et al., 2014, 2021; Nielsen et al., 2020). Such tools focus solely on employees' exposure to negative acts without capturing the extent to which these behaviours are threatening and harmful to the target's integrity, self-esteem, and mental health. An integrative approach to mobbing research, as proposed by some researchers (e.g., Einarsen et al., 2009; León-Pérez et al., 2014), combining BEM with SLM, seems more comprehensive and advanced. However, this methodology is not flawless; its primary weakness lies in its inability to reliably measure the subjective (cognitive and emotional) aspects of the mobbing interaction (Durniat, 2021a, 2021b; Notelaers & Van der Heijden, 2021).

Interestingly, the authors of the SDM mobbing test suggest that harm and victimization caused by mobbing – which are often unrecognised or unacknowledged by mobbing targets – should be measured indirectly as a latent variable rather than being investigated through a single straightforward question. Therefore, it is crucial to properly operationalize that variable and advance the methodology currently used in mobbing research (Durniat, 2020, 2021a; Nielsen et al., 2020). The SDM test emerges as an instrument that possesses the capacity to gauge both the objective exposure to negative behaviours, as indicated by IDM scale results (being a mobbing target), and the subjective perceptions of these behaviours and the resultant harm experienced by targets, as evaluated by ODC scale results (being victimized by mobbing).

The objective of this study, which was to revise the structure and reduce the length of the 64-item SDM Questionnaire, was pursued through a cross-validation procedure, implemented within a mixed-method research framework. This framework incorporated quantitative methods such as EFA, IRT, and CFA, complemented by qualitative analyses. These processes culminated in the development of a revised 20-item version of the questionnaire, closely aligned with the theoretical framework for mobbing elucidated in this paper. The hierarchical model of the revised and abbreviated SDM Questionnaire, corroborated through CFA, adeptly captures the intricate and interactive nature of the mobbing phenomenon. This intricate interplay is delineated by the exposure to mobbing behaviours, represented by all items in the IDM scale. This exposure is further segmented into two conceptually coherent dimensions: one pertains to person-related mobbing behaviours, while the other encompasses work-related mobbing behaviours. Additionally, this model encompasses the target's subjective experiences of harm and victimization resulting from the exposure to these behaviours, as conveyed by all items in the ODC scale.

It is noteworthy that the two-factor structure of the shortened and revised IDM scale is theoretically consistent with the two basic factors of the NAQ-R, which also differentiates between person- and work-related mobbing. Moreover, this structure is more coherent and clearer than the previous three-factor solution offered in the 64-item version of the SDM test. Furthermore, qualitative analysis ensured that the items selected for the SDM-20 have legal validity, which is of paramount importance for a construct defined by both psychology and law.

Finally, the convergent construct validity of the shortened SDM test was verified using correlation analyses. A robust and positive pattern of relationships was found between the SDM-20 and all variables of interest: exposure to mobbing behaviours (NAQ-R), interpersonal conflict (ICAWS), organizational constraints (OCS), and quantitative workload (QWI). As expected, the strongest positive correlations existed between all scales of the SDM-20 and NAQ-R, an internationally recognized tool for assessing workplace mobbing. Notably, the innovative SDM-ODC scale, assessing harm and victimization, displayed significant and strong associations with NAQ-R results, affirming its construct validity. As anticipated, weaker connections were observed between the SDM-20 and the NAQ-R_Ph, a subscale of physical intimidation. These findings align with the initial design of the Polish mobbing tool, which excluded acts of physical violence under the as-

sumption that workplace mobbing is predominantly characterized by psychological rather than physical aggression (Durniat & Kulczycka, 2006). Similarly, numerous empirical studies have shown that workplace mobbing is weakly associated with physical forms of aggression (cf. Einarsen et al., 2009; Leon-Perez et al., 2014; Notelaers & Van der Heijden, 2021).

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LIMITATIONS OF THE STUDY

The study detailed in this paper has several limitations, with a notable constraint pertaining to the development and application of self-report methodology. Self-report surveys have often been criticized for relying on subjects' declarations rather than objective assessments of behaviours, perceptions, and emotions. Subjects' responses can be influenced by various factors such as personality traits, sensitivity levels, desire for social approval, inclinations toward deception, among others. Consequently, there is potential for self-report bias to distort the obtained results.

However, it is crucial to emphasize that in mobbing research, our understanding of the phenomenon primarily depends on information gathered directly from mobbing targets or victims. This reliance on self-report data stems from the inherent challenges in externally observing, comprehending, and accurately evaluating the nuances, perceptions, and severity of particular mobbing behaviours, especially those that are discreet, subtle, or highly contextual in nature (Durniat, 2021b; Nielsen & Einarsen, 2018; Nielsen et al., 2020).

Furthermore, research indicates that employees in the role of witnesses often underestimate the prevalence and seriousness of negative workplace behaviours, while perpetrators have little incentive to openly admit their conduct, particularly since mobbing is subject to legal regulations, leading to fear of repercussions (Durniat, 2021a, 2021b; Saunders et al., 2007). Moreover, individuals may struggle to acknowledge and admit wrongdoing to themselves due to the emotional turmoil and self-criticism such admissions can evoke. This complex interplay underscores the practical necessity of relying on self-report data, despite its inherent limitations (cf. Durniat & Kulczycka, 2006; Nielsen & Einarsen, 2018).

However, it is crucial to highlight that mobbing diagnosis should not rely solely on questionnaire results (Durniat, 2021b; Leon-Perez et al., 2014). Reported mobbing cases require careful investigation and implementation of qualitative methods, especially in-depth interviews involving all parties of the mobbing interaction: alleged targets, perpetrators, and witnesses (Durniat, 2020, 2021b; Nielsen et al., 2020).

Additionally, it is acknowledged that the universal applicability of the SDM-20 might be limited. Despite its purported suitability for various workplaces and professions, behaviours considered unacceptable and harmful in most organisations may be accepted in some workplaces or organisations with different cultural norms and patterns of behaviour (Durniat, 2021b; Durniat & Mañas-Rodríguez, 2017; Einarsen et al., 2020). Therefore, mobbing research and diagnoses should include careful analyses of organisational culture to understand the specific meaning of various behaviouMoreover, for future research, it is recommended to validate the diagnostic validity of the SDM-20 by testing its results against external and independent criteria, such as clinical mobbing diagnoses or experts' opinions from members of anti-mobbing commissions or associations.

Lastly, it is worth highlighting that both the basic and the revised, abbreviated 20-item version of the SDM test were developed and validated within a specific socio-organizational context in Poland. To assess the generalizability and applicability of this novel, more sophisticated, and comprehensive approach to mobbing measurement, further research should include international adaptations, cross-cultural investigations, and validation studies.

CONCLUSIONS

The revised and shortened 20-item SDM Questionnaire meets all prescribed criteria and prerequisites for psychometric instruments, encompassing theoretical, construct, and factorial validity, reliability, cultural and legal appropriateness, conciseness, and practicality. Notably, this revision represents a substantial reduction in questionnaire items, amounting to over two-thirds of the original 64-item length. Nevertheless, the 20 items retained cover a broad spectrum of mobbing behaviours, along with essential indicators concerning the harm and victimization resulting from that exposure.

It is worth emphasizing that the Polish mobbing assessment tool outperforms traditional behavioural questionnaires by more accurately aligning with interactional models of mobbing and adhering closely to the key theoretical criteria stipulated by interactional mobbing definitions (Einarsen et al., 2020; León-Pérez et al., 2014, 2021; Nielsen et al., 2020).

Given the prevailing methods in mobbing research, the original Polish tool offers an innovative and comprehensive approach to the measurement and diagnosis of the mobbing phenomenon. A notable feature of the Polish test is its incorporation of an operationalized latent variable representing harm and victimization, a pioneering development in the psychometric tradition of mobbing assessment. By virtue of its content and structure, the SDM-20 enables critical differentiation between mobbing targets, as discerned through IDM scale results, and mobbing victims, as identified by the ODC scale results. This distinction

serves as an exceedingly valuable attribute and represents an entirely novel contribution (cf. Durniat, 2020, 2021a, 2021b; Nielsen et al., 2020).

Thus, the original Polish mobbing assessment tool successfully addresses several theoretical and methodological gaps inherent in the currently dominant international approach to the measurement and diagnosis of mobbing. The Polish SDM Questionnaire may stand as an exemplar of an innovative tool for mobbing assessment and should stimulate scientific discourse and inspire international research endeavours aimed at crafting more comprehensive and advanced methods for researching and diagnosing mobbing.

DATA AVAILABILITY STATEMENT

The dataset that supports the findings of this has been registered with DOI: 10.5281/zenodo.11267385

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Supplementary materials are available on the journal's website.

Disclosures

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