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Review Article

Instruments and Taxonomy of Workplace Bullying in Health Care Organizations

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SUMMARY

Purpose: This study was aimed to evaluate the methodological issues and comprehensiveness of workplace bullying instruments and to suggest a taxonomy of psychological abuse.
Methods: Nineteen instruments applied in health care organizations and 469 questionnaire items mainly regarding psychological abuse were collected through a literature review. Three researchers classified the questionnaire items according to a "taxonomy of psychological abuse in the workplace."
Results: Many instruments of workplace bullying were developed in the 2000s using a reflective measurement model, but their psychometric property was not sufficient and the measurement model is questioned. Based on the questionnaire items, the "taxonomy of psychological abuse in the workplace" was modified by adding two new subcategories (unachievable work and unfair treatment) and clarifying some operational definitions. According to the modified taxonomy of 11 (sub)categories, the reviewed instruments assessed 6.5 (sub)categories on average. No instrument measured all (sub)categories. Category 4.2 (disrespect, humiliation, and rejection of the person) was measured in all instruments, followed by Categories 5 (professional discredit and denigration) and 1.2 (social isolation) behaviors.
Conclusion: The current instruments are not comprehensive enough. It is suggested that the modified taxonomy is verified and guide more reliable and inclusive instruments in the future. Furthermore, a formative measurement model, which defines a bullying as an inventory of different types of behaviors, should be used.

Introduction

Workplace bullying is a serious issue in health care organizations [1]. Although interpersonal conflict is not always useless for a progress in an organization, bullying, as a severe interpersonal conflict, causes the devastation of both the individuals and the whole organization. It is well known that bullying in health care organizations exacerbates patient outcomes or near misses as well as the victim's health and quality of life [2].

According to Einarsen et al [3], "bullying at work means harassing, offending, or socially excluding someone or negatively affecting someone's work. In order for the label bullying (or mobbing) to be applied to a particular activity, interaction, or process, the bullying behavior has to occur repeatedly and regularly (e.g., weekly) and over a period of time (e.g., about 6 months)." "Workplace bullying," as a rubric term for negative interpersonal interactions in workplaces, is interchangeably used for terms such as mobbing, harassment, and emotional abuse [4,5]. Although a specific definition of workplace bullying is not completely agreed on yet, it has been consistently conceptualized as a persistent exposure to predominantly psychological abuse at work in the literature [3,6,7]. Among adults in workplaces, psychological abuse with sophisticated behaviors is far more common than physical abuse [8]. The effects of psychological abuse are more serious than physical abuse among organizational members [9]. Unlike physical abuse, psychological bullying behaviors are often subtle, less overt, and hidden, making them difficult to detect [10]. Furthermore, in the existing instruments, psychologically abusive behaviors have been

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differently categorized or labeled. The lack of standardized definitions or categorization of the behaviors makes comparisons of workplace bullying behaviors across time or place problematic [11].

Workplace bullying is universally characterized in terms of repeated occurrence of bullying behaviors over an extended period, a perpetrator's intention to harm a target (victim), and a target's difficulty in defending himself/herself against bullying because of weaker power/strength [2,4,7,12]. The strategies to prevent or intervene in workplace bullying have led to the development of many assessment instruments. The existing instruments generally assess workplace bullying using a subjective (self-labeling) method that simply asks the person who completes the questionnaire of an instrument if he/she would label himself/herself as a victim or an operational (behavioral experience, criterion-based) method that questions the individual's perceived exposure to specific bullying behavioral indicators given in the instrument [13]. An operational method eliminates the possibility of a spurious victim report and reveals the type of bullying behaviors that negatively affect targets, which is essential for developing a managerial intervention in workplace bullying. Therefore, instruments that assess a wide range of specific bullying behaviors are available.

A well-developed reliable taxonomy of workplace bullying could play a critical role in instrument development or refinement. However, workplace bullying has been categorized often with little scientific evidence such as the classical workplace bullying categories presented in Table 1 [6,14,15]. Rodríguez-Carballeira et al [5] adopted widely accepted Einarsen et al's [3] definition of workplace bullying, as mentioned above, and developed a "taxonomy of psychological abuse in the workplace" using a Delphi survey of 30 professional experts in the fields of psychology, law, medicine, and sociology. Six parent categories and their subcategories were identified, which included isolation (1.1. physical isolation and 1.2. social isolation), control and manipulation of information, control abuse of working conditions (3.1. obstructionism and 3.2. dangerous work), emotional abuse (4.1. intimidation and threats and 4.2. disrespect, humiliation, and rejection of the person), professional discredit and denigration, and devaluation of the role in the workplace. As far as the authors know, this is the only taxonomy of psychological abuse in workplaces developed through a systematic investigation procedure. Therefore, the authors used the taxonomy in this study to evaluate the current workplace bullying instruments and vice versa.

This study was aimed to provide health care managers with a list of available workplace bullying instruments and to discuss methodological issues, verify Rodríguez-Carballeira et al's [5] taxonomy based on content analysis of bullying questionnaire items and to suggest a better taxonomy if necessary, and evaluate the comprehensiveness of current psychological bullying instruments by classifying bullying questionnaire items using a taxonomy of psychological abuse.

Methods

Study design

This is a quantitative content analysis for questionnaire items in workplace bullying instruments applying "taxonomy of psychological abuse in the workplace" by Rodríguez-Carballeira et al [5] as a coding scheme.

Data collection

Workplace bullying instruments were searched for electronically and manually. The databases of PubMed, CINAHL, and Embase were used to find the relevant instruments from June 4 to 6, 2016, using MeSH terms (i.e., "bullying" or "hostility" or "workplace violence"), keywords (i.e., "surveys" and "questionnaires"), and title terms (i.e., "health$" or "nurs$"). Articles were limited to human subject articles written in English. A total of 1,033 articles were found from the initial search, including 231 articles from PubMed, 530 articles from CINAHL, and 272 articles from Embase. After excluding duplicates, 897 articles were collected. In addition, the relevant studies' references were manually searched whenever necessary. Original workplace bullying instruments in Korean were searched for among the Korean Citation Index journals in the field of healthcare, and two instruments were found.

The abstracts of the retrieved articles were reviewed to find instruments measuring workplace bullying. An instrument was included for the review if it was used to measure the workplace bullying experience of health care professionals, focusing on psychological abuse rather than physical abuse or other abuse/discrimination for legally protected attributes, such as sex, race and/or ethnicity, age, and disability. Even if an instrument measured psychological abuse, it was excluded if it measured the workplace bullying experiences of students only during their clinical practices or it asked simply whether or not an individual experienced workplace bullying, instead of examining specific bullying behaviors with indicative descriptions. If an instrument had been revised, its latest version was included. The final set for the review in this study included a total of 19 instruments (Table 2) and the relevant 25 studies are listed in Appendix.

Data analysis

All questionnaire items from 19 instruments were aggregated into a spreadsheet. Irrelevant subdomains that assess patients' or visitors' abuse toward health care professionals and physical and/or sexual abuse among health care professionals were excluded in the analysis. However, questionnaire items of physical and/or sexual abuse were sometimes mixed with those of psychological abuse and they were identified in the following classification step. To apply the taxonomy accurately and consistently, the researchers reviewed and discussed an operational definition of the (sub)categories in the taxonomy before item classification. In addition, pilot coding work was conducted with some of the items and any discrepancy was further resolved.

Table 1 *Classical Categories of Workplace Bullying.*

Authors	Categories
Leymann (1996) [6]	(1) Effects on the victim's possibilities to communicate adequately, (2) effects to maintain social contacts, (3) effects to maintain their personal reputation, (4) effects on the victim's occupational situation, & (5) effects on the victim's physical health
Rayner and Hoel (1997) [14]	(1) Threat to professional status (belittling opinion, public professional humiliating, & accusation regarding lack of effort), (2) threat to personal standing (name-calling, insults, intimidation, & devaluing with reference to age), (3) isolation (preventing access to opportunities, physical or social isolation, & withholding of information), (4) overwork (under pressure, impossible deadlines, & unnecessary disruptions), & (5) destabilization (failure to give credit when due, meaningless tasks, removal of responsibility, repeated reminders of blunders, & setting up to fail)
Einarsen (1999) [15]	(1) Personal, (2) work-related bullying, & (3) physically intimidating bullying

Table 2 *Instruments to Measure Workplace Bullying Among Healthcare Workers.*

Instrument	First author	Participation of health care workers	No. of domains (no. of items)	Measurement scale	Validity/reliability
1. LIPT[a]	Leymann (1989, 1990)[A1,A2]	No; Nurses in Fontes et al (2013)[A3]	5 (45): Impact on self-expression & communication (11), attacks on social relationships (5), attacks on reputation (15), attacks on quality of life & occupational position (9), & direct attacks on the person's health (5)	12 mo Yes (frequency, duration)/No Frequency: almost every day-at least 1 time a week-at least 1 time per month-rarely Duration: open question	ⓑ & ① in Zapf (1996)[A4]
2. VAS	Manderino (cited in Manderino & Berkey, 1997)[A5]	Staff RNs	1 (11)	12 mo Frequency: seven-point scale (0 = never to 6 = every day) Perceived stressfulness: seven-point scale (0 = not at all stressful to 6 = extremely stressful)	ⓐ ①, ②
3. Rayner' scale[a]	Rayner (1999)[A6]	No; Health sector employees in Ayoko et al (2003)[A7]	1 (15)	6 mo Behavior frequency: five-point scale (0 = never to 4 = every day)	ⓑ & ① in Ayoko et al (2003)[A7]
4. Counterproductive Work Behaviors Survey	Fox (1999)[A8]	Workers from a variety of jobs including healthcare	2 (11): Minor interpersonal (6) & serious interpersonal (5)	Frequency: six-point scale (1 = never to 6 = extremely often)	①
5. Quine Scale	Quine (1999)[A9]	Community nurses	5 (20): Threat to professional status (4), threat to personal standing (7), isolation (3), overwork (2), & destabilization (4)	12 mo Yes/No	①
6. Abusive Supervision Scale[a]	Tepper (2000)[A10]	No; RNs in Chu (2014)[A11]	1 (15)	Frequency: 1 = I cannot remember him/her ever using this behavior with me, 5 = He/she uses this behavior very often with me	ⓐ, ⓑ, ⓒ; ① in Chu (2014)[A11]
7. Relationship Conflict	Friedman (2000)[A12]	Healthcare workers	1 (5)	Agreement: six-point scale (1 = strongly agree to 6 = strongly disagree)	ⓑ, ⓒ
8. Workplace Violence Questionnaire & Demographics	Anderson (2002)[A13]	RNs	3 (29): Emotional/verbal types (9), sexual abuse (10), & physical abuse (10)	Yes/No	ⓐ ①
9. Sabotage Savvy Questionnaire[a]	Dunn (2003)[A14]	RNs in an operation room	2 (40): Victim experiences (20) & saboteur behaviors (20)	Presence or absence of acts 3 levels (0 = no, 1 = not sure, 2 = yes)	ⓐ ①
10. Generalized Workplace Harassment Questionnaire[a]	Rospenda (2004)[A15]	No; health care occupation in Rospenda et al (2009)[A16]	4 (25): Covert hostility (6), verbal hostility (12), manipulation (4), & physical hostility (3)	12 mo Three-point scale (1 = never to 3 = more than once)	ⓑ ①, ③
11. WAR-Q	Neuman (cited in Rodriguez, 2014)[A17]	No; Certified Registered Nurse Anesthetists in Sakellaropoulos et al (2011)[A18]	1 (60)	Frequency: never, once, a few times, several times	ⓑ
12. Verbal Abuse Scale[a]	Nam (2005)[A19]	Operating room nurses	4 (17): Self-esteem abuse by nurses (7), self-esteem abuse by physicians (6), sexual abuse by physicians (2), & colleague abuse by physicians (2)	Four-point scale (1 = strongly disagree to 4 = strongly agree)	ⓑ ①, ③
13. Interpersonal Relationships at Work[a]	Lee (2006)[A20]	Hospital workers	2 (43): Bullied by others (27), Bullied others (16)	6 mo Frequency: five-point scale (1 = not at all to 5 = many times a week)	ⓑ, ⓓ ①
14. WPVB	Dilek (2008)[A21]	RNs in hospitals	4 (33): Individual's isolation from work (11), attack on professional status (9), attack on personality (9), & direct attack (4)	12 mo Frequency: six-point scale (0 = never to 5 = constantly)	ⓐ, ⓑ ①, ③
15. Lateral Hostility[a]	Alspach (2008)[A22]	No; critical care nurses in Bambi et al (2014)[A23]	1 (23)	12 mo Yes/No	ⓐ & ① in Bambi et al (2014) [A23]
	Hutchinson (2008)[A24]	RNs			

(*continued on next page*)

Table 2 (*continued*)

Instrument	First author	Participation of health care workers	No. of domains (no. of items)	Measurement scale	Validity/reliability
16. Bullying Acts Inventory for the Nursing Workplace[a]	Einarsen (2009)[A25]	No; RNs in Nam et al (2010)[A26]	3 (18): Attack on competence & reputation (5), personal attack (6), & attack through work tasks (7)	12 mo Frequency: seven-point scale ("never" to "constantly")	ⓐ, ⓑ ①, ③
17. NAQ-R[a]			3 (22): Personal bullying (12), work-related bullying (7), & physically intimidating bullying (3)	6 mo Frequency: never–now & then–monthly –weekly–daily	ⓑ, ⓒ ①
18. Japanese version of the IVAPT	Moreno (2013)[A27]	Medical & welfare workers	3 (22): Manipulation of work situation, (13), attacks on public image (7), & assignment of work demands (2)	Five-point scale (0 = never to 4 = very frequently)	ⓑ, ① ①
19. WPBN-TI	Lee (2014)[A28]	Staff RNs	3 (16): Verbal attacks & alienation (10), improper work instructions (4), & physical threats (2)	Four-point scale (1 = strongly disagree to 4 = strongly agree)	ⓐ, ⓑ, ⓓ, ⓔ, ⓕ, ⓖ ①

Note. ⓐ = content validity; ⓑ = construct validity; ⓒ = criterion validity; ⓓ = convergent validity; ⓔ = discriminant validity; ⓕ = concurrent validity, ⓖ = known-group validity; ① = internal consistency (Cronbach α); ② = test–retest reliability; ③ = item–total correlation; IVAPT = Inventory of Violence and Psychological Harassment; LIPT = Leymann Inventory of Psychological Terrorization; NAQ-R = Negative Acts Questionnaire—Revised; RN = registered nurse; VAS = Verbal Abuse Scale; WAR-Q = Workplace Aggression Research Questionnaire; WPBN-TI = Workplace Bullying in Nursing-Type Inventory; WPVB = Workplace Psychologically Violent Behaviors.

[a] Means that the study provides a concept definition.

In the first round, three researchers independently classified the selected 469 questionnaire items according to Rodríguez-Carballeira et al's [5] "taxonomy of psychological abuse in the workplace." The number of each (sub)category in the taxonomy was used as a code. In the first round of item classification, 13.6% ($n = 64$) of the 469 items were not completely agreed on by the three researchers. For these unagreed items, the researchers justified their own item classification and discussed to ensure that all the researchers had a consistent understanding of the items and the taxonomy. During this process, the authors of the taxonomy were contacted by e-mail to verify the researchers' understanding of the taxonomy. Considering the discussion with the authors, the second round of item classification was performed again independently. Disagreement among the researchers or double coding occurred in 11.9% ($n = 56$) in the second round. In the third step, the original taxonomy was modified through careful reviews and discussions about items that were mainly disagreed about or double-coded (Table 3). Finally, a total of 469 items was classified using the modified taxonomy with agreements among all the researchers (Table 4).

Results

A summary of instruments measuring workplace bullying among health care professionals

The 19 instruments reviewed are presented in Table 2. The first instrument was developed in 1989 by Leymann (A1, A2), four were developed in the 1990s, and 14 in the 2000s. Eight instruments were originally developed to measure workplace bullying among registered nurses and three for other health care professionals. The rest were originally developed for general workers and applied to health care professionals later. A definition of a target concept was clearly presented in only 10 instruments. The number of questionnaire items varies from 5 to 60. Psychological abuse was described in various ways, referring to negative attitudes or behaviors using physical gestures or verbal expressions. The measurement scales ranged from a dichotomized scale to a seven-point scale often assessing bullying frequency. The measure of the period of bullying was diverse, spanning up to the past 5 years and requiring different memory burdens. Validity tests were often conducted using factor analysis for construct validity and correlation analysis for the other types of validity including criterion validity, convergent validity, or concurrent validity. The psychometric property of the instruments varied and appeared to be insufficient. Even content validity or construct validity was not always measured, and validity tests other than content or construct validity were not popular.

Modification of Rodríguez-Carballeira et al's taxonomy

Some questionnaire items in the instruments did not clearly correspond with operational definitions of any categories in the original taxonomy. The original taxonomy was then modified: the authors added two new subcategories of unachievable work and unfair treatment (Table 3).

The categories of isolate and emotional abuse were clearly defined with no need for revision, and the relevant items across the instruments could be easily classified. The bulleted items in Table 3 represent each (sub)category. Category 2 (control and manipulation of information) was revised by adding the behavior "withholding useful information" in the operational definition because it was one of the common forms of psychological abuses among the instruments.

In the subcategory of obstructionism, the behaviors "failed to return phone calls/respond to memos" (A20) or "has coworkers

Table 3 *Modified Rodríguez-Carballeira et al's (2010) Taxonomy of Psychological Bullying Behaviors and Exemplary Items from Measurement Instruments.*

Categories	Definition & exemplary items
Work context	
1. Isolate	
1.1. Physical isolation	Physically separating the worker from his or her coworkers as a means of isolating him or her • Tells my coworkers to leave the work area when I enter[A17]
1.2. Social isolation	Hindering or impeding communication & interaction between the worker & his coworkers & restricting his or her participating in communal activities • Not included in important meetings[A14] • Talking ceased on arrival[A14] • Being treated in your workplace as if you are not seen & do not • Exist[A21] * Turned others in your work environment against you[A16] * Interrupted/prevented you from expressing yourself[A20]
2. Control & manipulation of information	Selecting & manipulating the information received by the worker, lying to him or her, stemming or interfering with the information that the worker transmits, *or withholding useful information* • Untrue information exchanged[A14] • Lies to me[A17] * Breaks promises he/she makes[A10] * Took credit for your work or ideas[A14] * Withholding information[A6]
3. Control-abuse of working conditions	
3.1. Obstructionism	Removing or damaging the possessions or work tools of the worker & limiting his or her access to other useful elements, interfering with them or hiding them • Personal items used without consent[A14] • Purposely interfered with someone else doing their job[A8] * Failed to return phone calls/respond to memos[A20] * Has coworkers delay actions on matters that are important to me[A17]
3.2. Dangerous work	Assigning to the worker tasks that are prejudicial to, or put at risk, his or her health *or morality* • Fails to warn me about hazards in the workplace[A17] * Offered you a subtle or obvious bribe to do something that you did not agree with[A16] * You are bound (e) to carry out work that hurt your conscience[A2]
3.3. Unachievable work	*Setting up the worker to fail by giving unmanageable workloads, unrealistic deadlines, or tasks above skill levels* * New jobs are unceasingly assigned to me[A27] * Shifting goalposts without telling[A9] * Being exposed to an unmanageable workload[A25] * Set impossible deadlines[A20] * I was given work above skill level & refused help[A24]
Emotion	
4. Emotional abuse	
4.1. Intimidation & threats	Intimidating the worker by warning him or her of the physical & psychological harm, or other injuries, that will befall them or their environment if they do no act as they are told to or as they are expected to • Intimidated you[A20] • Had someone threaten to hit or throw something at you[A13] • Pressured you to change your beliefs or opinions at work[A16]
4.2. Disrespect, humiliation & rejection of the person	Attacking the worker, addressing him or her with disrespect & rejection through insults, slanderous comments, taunts, mockery, false accusations, rumors & other disparaging remarks • Yelled or screamed at you[A16] • Puts me down in front of others[A10] • Been ridiculed or humiliated[A13] • Blamed you for other's errors[A20] • Mocked or insulted[A28] • Having untrue things said about you[A21] • Made jokes at your expense[A20]
Cognition	
5. Professional discredit & denigration	Discrediting & denigrating the worker's professional reputation & standing, *belittling or undervaluing his or her competency or work* • Persistent unjustified criticism & monitoring of your work[A9] • Does not give me credit for jobs requiring a lot of effort[A10] • Made negative comments to you about your intelligence, competence, or productivity[A16] • Not acknowledged for work[A14]
Behavior	
6. Devaluation of the role in the workplace	
6.1. Inferior tasks or responsibility	Unjustifiably relieving the worker of his or her responsibilities or assigning the worker tasks that are useless or clearly inferior to his category in the organization • Being ordered to do work below our level of competence[A25] • Having duties that you are responsible for taken from you & given to others in lower positions[A21] • Removal of areas of responsibility without consultation[A9]
6.2. Unfair treatment	*Unfair treatment or refusal of claims you are entitled (development opportunity, overtime compensation, sick leave, promotion)* * I was denied development opportunities[A24] * Any opportunities that I may have for a promotion or improvement in my work are blocked or impeded[A27] * Terminated without cause[A14]

Note. Modified subcategories or definitions are in italics.
*Items that required careful interpretation of the behavior intention or that were reclassified according to the modified taxonomy.

Table 4 *Classification of Workplace Bullying Questionnaire Items According to the Modified Taxonomy .*

Instrument ID	Code n														
	1.1	1.2	2	3.1	3.2	3.3	4.1	4.2	5	6.1	6.2	Others	P	S	Total
1	1	8	0	2	2	1	3	13	3	5	0	3	2	2	45
2	0	1	0	0	0	0	1	4	1	0	0	3	0	1	11
3	0	2	1	0	0	1	1	3	2	1	1	2	1	0	15
4	0	0	1	2	0	0	0	4	0	0	0	3	1	0	11
5	0	1	1	1	0	3	2	5	3	1	1	1	1	0	20
6	0	1	2	0	0	0	0	8	3	0	0	1	0	0	15
7	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5
8	0	0	0	0	0	0	2	4	1	0	0	2	10	10	29
9	0	4	9	2	0	0	2	7	6	2	2	5	0	0	39[a]
10	0	2	2	0	1	0	2	8	4	1	1	1	3	0	25
11	1	3	3	7	2	1	2	19	5	0	1	4	5	7	60
12	0	0	0	0	0	0	1	11	3	0	0	1	0	1	17
13	0	2	2	2	0	4	3	14	8	1	1	4	2	0	43
14	1	4	1	3	0	1	2	7	9	3	0	1	1	0	33
15	0	4	2	0	0	1	1	7	4	0	0	4	0	0	23
16	0	2	1	2	0	2	1	3	4	1	1	1	0	0	18
17	0	1	1	0	0	2	2	7	5	2	1	1	0	0	22
18	0	6	1	2	0	2	0	4	5	0	2	0	0	0	22
19	0	3	0	1	0	1	0	5	1	0	1	2	2	0	16
Total	3 (0.6)	44 (9.4)	27 (5.8)	24 (5.1)	5 (1.1)	19 (4.1)	25 (5.3)	136 (29.0)	67 (14.3)	17 (3.6)	12 (2.6)	41 (8.7)	28 (6.0)	21 (4.5)	469

Note. Instrument ID numbers refer to an instrument number in Table 2.
P = physical abuse; S = sexual abuse.
[a] Two items were identical (one as a victim experience and the other as a saboteur behavior) and so they were used once.

delay actions on matters that are important to me" (A17) were assigned because these behaviors limit the worker's access to, or interfere with, useful elements, as mentioned in the definition. The subcategory of dangerous work was revised to include assigning dangerous work that affects a worker's moral integrity in addition to tasks affecting the worker's health. The subcategory of unachievable work was newly added to refer to control abuse of working conditions by setting up workers to fail by giving unmanageable workloads, unrealistic deadlines, or tasks above their skill levels.

The category of professional discredit and denigration was revised to differentiate it from the category of devaluation of the role in the workplace. The behaviors of "belittling his or her knowledge, experience, efforts, performance, etc." described in original Category 5 were often associated with those of "undervaluing the importance of the role of the worker" in original Category 6. Therefore, many relevant questionnaire items were double-coded by the researchers in the first round. Thus, the category of professional discredit and denigration was revised to embrace only the cognitive nature of the category of devaluation of the role in the workplace. The subcategory of unfair treatment was newly added to indicate behaviors of devaluing the role in the workplace, such as unfair treatments or refusal of rights/claims that the worker is entitled to, such as development opportunities, overtime compensation, sick leave, or promotion.

Classification of bullying questionnaire items according to the modified taxonomy

Table 3 presents exemplary items for each category according to the modified taxonomy of psychological abuse. Exemplary items that required more careful interpretation of the intention of a behavior or that were reclassified according to the modified taxonomy are listed with an asterisk (*) in Table 3. For example, the item "interrupted/prevented you from expressing yourself" (A20) was classified as Subcategory 1.2 considering that an intention or consequence of this bullying behavior would be social isolation.

Table 4 presents the results of the entire classification with 469 questionnaire items from the 19 instruments. Among the items, the bullying behaviors under Subcategory 4.2 (disrespect, humiliation, and rejection of the person) were predominantly assessed across the instruments ($n = 136$ items, 29.0%), followed by the behaviors under Categories 5 (professional discredit and denigration, $n = 67$ items, 14.3%) and 1.2 (social isolation, $n = 44$ items, 9.4%). On the other hand, the bullying behaviors under Categories 1.1 (physical isolation, $n = 3$ items, 0.6%) and 3.2 (dangerous work, $n = 5$ items, 1.1%) were least frequently assessed. The bullying behaviors under the new Category 3.3 (unachievable work) were assessed in 11 instruments ($n = 19$ items, 4.1%). The bullying behaviors under another new Category 6.2 (unfair treatment) were found in 10 instruments ($n = 12$ items, 2.6%).

Items classified as "others" included those that described more than one behavior in one item (e.g., "unwarranted criticism, scapegoating," A22), were too broad (e.g., "verbal abuse," A6), referred to organizational culture or climate (e.g., "the atmosphere is often charged with hostility," A12), were ambiguous in terms of the intention or purpose of a bullying behavior (e.g., "gives me the silent treatment," A10), and were unlikely to be bullying behaviors depending on the context (e.g., "nonsupport for your issue," A14).

Regarding the comprehensiveness of each instrument, no instrument measured all aspects of the 11 abuse (sub)categories. On average, an instrument assessed 6.5 of 11 (sub)categories of psychological abuse. The most comprehensive instrument was the Workplace Aggression Research Questionnaire (A17) that assessed all kinds of bullying behaviors, except Category 6.1 (inferior tasks of responsibility). The next most comprehensive instruments inclusively assessed nine different types of bullying behaviors, except two among Categories 1.1 (physical isolation), 2 (control and manipulation of information), 3.2 (dangerous work), or 6.2 (unfair treatment). Such instruments as the Counterproductive Work Behaviors (A8), Relationship Conflict (A12), Workplace Violence Questionnaire and Demographics (A13), and Verbal Abuse Scale (A19) were relatively less comprehensive; they assessed the bullying behaviors using only a few categories.

Discussion

Psychological abuse is not likely to be easily noticeable, but it does considerably affect the victims as well as the organizations. The multidimensional assessment of psychologically abusive behavior (e.g., types, severity, and context) is significant to appropriately intervene in the negative consequences and to ensure a safe and satisfactory workplace. This study reviewed 19 instruments that were relatively focused on the assessment of psychological abuse and have been adopted in health care organizations. The fact that most of the instruments were developed in the 2000s indirectly shows a growing concern regarding workplace bullying in recent years. Furthermore, the fact that a large number of instruments are available to measure bullying among RNs indicates that RNs are one of the most vulnerable groups in terms of workplace bullying [1] or that bullying behavior indicators among RNs are not similar to those among other workers.

Some basic rules of survey questionnaire development were not followed in the current instruments, which led to difficulty in the item classification; namely, two or more behavior indicators were described in one item, and a description was too broad or interpreted differently depending on the context. Of the instruments reviewed, there were few that were comprehensive enough to assess psychological abuse according to the modified Rodríguez-Carballeira et al's [5] taxonomy, which may be partly due to their being no standard definition of workplace bullying [11]. Developing a precise conceptual definition of workplace bullying is most fundamental to obtaining a valid measurement instrument, but it seems to be neglected relying on a researcher's intuitive exploration rather than a systematic approach. A vague definition of workplace bullying results in confusion when deciding measurement indicators; this was found in this study in terms of excluding many types of psychological abuse or including less-relevant bullying indicators.

Another weakness of using these instruments in practice is that most studies did not provide a diagnostic criterion of victims or used a “victim or not” (dichotomy) approach, applying an arbitrary cut-off point [16]. In the original Leymann Inventory of Psychological Terrorization, a victim is a person who experiences one of the bullying behaviors at least once a week and for at least 6 months [4]. Among the reviewed measures, only Einarsen et al [16] diagnosed workplace bullying using seven clusters: no bullying, some work criticism, occasional negative encounters, occasional bullying, work-related bullying, severe bullying, and physical intimidation. Workplace bullying is complex and progressive; thus, victims can be diagnosed into several different stages using a latent cluster approach. Management interventions can be tailored according to workplace bullying stages or clusters.

An operational method that uses bullying indicators is helpful for planning management interventions, but quantitative or objective information regarding the severity of bullying cannot be interpreted in the same way by all individuals. The impact of bullying on victims can vary depending on personal characteristics like personality and social skills; thus, a target's subjective perception is critical for knowing how to intervene in bullying problems. A target's evaluation of negative behaviors (subjectivity) needs to be assessed in addition to the frequency or duration of bullying behaviors [7].

The statistical analysis that was adopted in the reviewed studies, such as factor analysis or internal consistency, assumes covariance among questionnaire items or subdomains, which means that all the instruments were constructed based on a reflective measurement model [17] and no study in the field of workplace bulling has yet been conducted using a formative model. To decide on a measurement model, a few aspects need to be considered. First, reflective indicators are those that appear because of a latent construct (i.e., bullying), whereas formative indicators are those that cause or collectively compose a latent construct. Second, a correlation of subdimensions is not expected to be high in a formative model, but is expected to be high in a reflective model because they reflect the same construct. From these two aspects, workplace bullying is likely to be better measured using a formative approach rather than a reflective model. It is assumed that different types of bullying behaviors are not likely to be highly correlated with each other. For example, a higher frequency of isolation behaviors does not always guarantee a higher frequency of intimidating behaviors.

“There is no clear consensus yet on whether it (bullying) refers to a range of possible behaviors or can be expressed in a single definition” [18, p. 74], which indicates that a decision about a reflective or a formative measurement model should be made in accordance with the conceptualization of bullying. If bullying is defined as an inventory of different types of bullying behaviors, a formative model should be adopted and the comprehensiveness of bullying instruments becomes vital. One advantage of a formative approach is that the relative influences of specific subdomains on the consequences (e.g., psychological or physical health, burnout, medical errors, etc.) can be measured, which enables for managers to make managerial interventions that are more specific and targeted.

The current instruments are not comprehensive enough warranting more comprehensive instruments for workplace bullying. Only a few categories, such as the (sub)categories of disrespect and humiliation, professional discredit, and social isolation, were dominantly assessed in the instruments. These categories are considered representative and popular in psychological abuse. In this study, Rodríguez-Carballeira et al's [5] taxonomy of psychological abuse was modified by content analysis of questionnaire items from 19 instruments. Such types of psychological abuse as “unachievable work” or “unfair treatment” was identified from the existing questionnaire items, which were not clear in the original taxonomy and were newly added. In addition, the category of dangerous work was expanded to include assigning tasks that threaten not only health but also ethical integrity, which would be quite significant for building an ethically safe healthcare environment. The modified taxonomy of psychological abuse is expected to be inclusive with 11 categories and distinctive with little redundancy across the categories. Researchers or managers can apply the modified taxonomy to examine the comprehensiveness of psychological abuse measurements or to compare bullying across times and places. Different interventions should be mindfully developed and provided, based on different types of bullying behaviors.

Conclusion

The International Council of Nurses Code of Ethics for Nurses [19] clearly emphasizes that “the nurse sustains a collaborative and respectful relationship with coworkers in nursing and other fields.” However, workplace bullying is continuing and most bullying victims do not have the power to successfully terminate bullying by themselves. The severity of workplace bullying only becomes worse and more dangerous without effective management efforts, and a reliable assessment of workplace bullying must be the first step for resolving the issue. A workplace bullying instrument needs to comprehensively include all the different types of bullying behaviors to carefully assess the reality of the bullying and to best prevent or intervene in the bullying issue. Accordingly, the modified taxonomy can be used as a framework for refining the existing instruments to ensure the inclusiveness of a broad range of workplace bullying behaviors.

It is recommended that the modified taxonomy is verified and updated in future studies through the participation of subject experts and workers with direct or indirect experiences in the fields. Based on the taxonomy of workplace bullying, more reliable and homogeneous measures are possible. To assess workplace bullying, a few methodological weaknesses found in this study need to be resolved. The construct of workplace bullying should be more fully explored and precisely defined before developing an instrument. Moreover, a formative measurement model with a set of different categories of psychological abuse needs to be tested to develop a bullying instrument in the future.

Conflict of interest

There is no conflict of interest for this work.

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Appendix. Studies of the bullying instruments included in Table 2

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