



Mental Health Problems Among Whistleblowers: A Comparative Study

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Abstract

Whistleblowers play a very important and indispensable role in society and health care sector, but their act may elicit retaliation and other negative effects, which may impact their mental health. The main aim of the present comparative study is to assess to what extent whistleblowers ($N = 27$) more often suffer from severe mental health problems than other population-based groups in the Netherlands, i.e., matched controls ($N = 135$), cancer patients ($N = 130$), persons with (partial) work disabilities ($N = 194$), physically “healthy” persons ($N = 200$), and general population ($N = 1026$), using the 36-Item Short-Form Health Survey scales (for general mental health) and the Symptom Checklist-90-Revised scales (for specific mental health problems: depression, anxiety, agoraphobia, interpersonal sensitivity and distrust, and sleeping problems). Logistic regression analyses showed that the prevalence of general mental health problems was much higher than among matched controls and people with work disabilities but similar to cancer patient when controlling for demographics. About 85% suffered from severe to very severe anxiety, depression, interpersonal sensitivity and distrust, agoraphobia symptoms, and/or sleeping problems, and 48% reached clinical levels of these specific mental health problems. These specific mental health problems were much more prevalent than among the general population.

Keywords

Whistleblowers, anxiety, depression, sleeping problems, health, comparative

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Introduction

It is generally recognized that whistleblowers play a very important and indispensable role in society. However, previous and predominantly qualitative research has shown that in practice blowing the whistle may have very negative ongoing consequences for whistleblowers themselves. Blowing the whistle is associated with many stressors or loss of resources (Hobfoll, 1989) such as retaliation, job loss and severe financial problems, stressful legal processes, serious relational problems with the partner (divorce), children, and (ex-)colleagues, and severe mental health problems (Jackson et al., 2010; Lennane, 1993; Lewis & Vandekerckhove, 2015; McDonald & Ahern, 2002; Rothshield & Miethel, 1999; Wilkes et al., 2011). Rothshield and Miethel (1999) reported the following prevalence of (mental health) problems among whistleblowers with different backgrounds: severe depression or anxiety (symptoms), 84%; feelings of isolation or powerlessness, 84%; distrust of others, 78%; declining physical health, 69%; severe financial decline, 66%; and problems with family relations, 53%. However, to what extent whistleblowers more often suffer from severe mental health problems than “normal” groups or identified groups at risk for mental health problems is unknown. Knowledge about possible differences or similarities in prevalence of mental health problems may help to determine if and what (additional) protective or supportive interventions for whistleblowers are needed. In contrast to the effects of other stressful events on mental health such as workplace violence by patients (Phillips, 2016), cancer (Swartzman, Booth, Munro, & Sani, 2016), and disasters (Neria, Galeo, & Norris, 2009), the consequences of blowing the whistle on mental health received very little attention in mental health or psychiatric research. Comparative quantitative studies using standardized and validated instruments are absent: A literature search using PubMed and PsycInfo did not identify one single comparative study. To fill this gap of information, we conducted a multi-comparative cross-sectional study. The aim of this study is to assess to what extent whistleblowers more often suffer from mental health problems than “normal” groups such as population-based samples of pairwise-matched controls, physically “healthy” people and of the general population, and well-known groups at risk for mental health problems groups such as cancer patients and people with work disabilities. We assessed common (mental) health problems as described in previous studies among whistleblowers and studies on the effects of stressful events, such as anxiety and depression symptoms, and sleeping problems.

Method

Participants

Eligible were whistleblowers who reported a case of misconduct relevant for society to a lesser or greater extent and eventually reported the misconduct outside the organization (such as an Inspection Agency or Media). In this

perspective, whistleblowers who met these criteria and have contact with the Dutch Expert Group Whistleblowers were invited. To ensure privacy, invitation and information letter, questionnaires, and reminders were sent by the Expert Group ($N=31$, period April–August 2016) to their home addresses and 16 responded (51.6%). To obtain a higher number of respondents, the formerly Advice Point Whistleblowers (Adviespunt Klokkenluiders) established by the Dutch Government in 2016 was asked to participate using the same procedures but using e-mail and 11 responded. To what extent these whistleblowers received the invitations and letters is unknown to us. Written informed consent was obtained from all individual participants included in the study.

We compared the mental health status of whistleblowers with five other adult groups. We first compared general mental health and global health between (1) whistleblowers and population-based samples of (2) matched controls; (3) cancer patients; (4) persons with (partial) work disabilities (because of physical and/or mental problems); and (5) physically “healthy” persons. These four comparison groups were extracted from the Longitudinal Internet Studies for the Social Sciences-panel (LISS-panel), based on a representative random sample drawn from the Dutch population register by Central Bureau Statistics. Respondents are frequently invited to complete online surveys, and participants without internet access/PC are provided these facilities (see lissdata.nl for further information in English; Scherpenzeel & Das, 2011).

Respondents were selected who participated in a Health survey in 2015 (July–August; $N^{\text{total completers}} = 5975$, response = 83.8%) and a Social Integration and Leisure survey in 2015 (October–November; $N^{\text{total completers}} = 5930$, response = 84.3%). In total, 5539 respondents participated and completed both studies (response^{5539/5975} = 92.7%). The matched comparison group was composed of pairwise-matched respondents with sex, age category, education level, living with (married) partner, and children in household as matching criteria. We did not match on having a paid job, because the loss of a job may be a direct consequence. For each whistleblower, five random pairwise-matched respondents out of the total group of 5539 were selected. From the remaining group ($N=5404$), we first selected respondents with cancer or malignant tumor, including leukemia or lymphoma ($N=130$), then selected respondents with (partial) work disabilities ($N=194$), and finally took a random sample of 200 out of 3208 physical “healthy” respondents to (not suffering from 11 different diseases of illnesses such as heart attack including infarction or coronary thrombosis, stroke or brain infarction, cancer or malignant tumor, and Parkinson’s disease) to obtain more or less similar numbers across comparison samples. We finally compared specific anxiety, depression and agoraphobia symptoms, interpersonal sensitivity and distrust, and sleeping problems (the Symptom Checklist-90-Revised (SCL-90-R)) of whistleblowers with a Dutch random national sample on which the norm tables of the SCL-90-R are based ($N=1026$; Arrindell & Ettema, 1986).

Instruments

Perceived effects blowing the whistle. To assess the perceived effects of blowing the whistle, a brief six-item list was developed. We asked respondents to rate the effects of blowing the whistle on (1) work, (2) income, (3) family functioning, (4) relationships with children, (5) relationship with partner, and (6) relationships with (ex-) colleagues using seven-point Likert scales (1 = *extremely negative*, 2 = *considerably negative*, 3 = *a bit negative*, 4 = *neutral*, 5 = *a bit positive*, 6 = *considerably positive*, and 7 = *extremely positive*). For the present study, we dichotomized scores into very negative (1 and 2) and not very negative (3, 4, 5, 6, and 7).

Health. The five-item Mental Health Index or Inventory (MHI-5; McHorney, Ware, & Raczek, 1993) of the SF-36 asks respondents to rate their general mental health during the past month on six-point Likert scales (1 = *never*, 2 = *seldom*, 3 = *sometimes*, 4 = *often*, 5 = *mostly*, and 6 = *continuously*). Positive items were recoded before the total score was calculated (sum multiplied by four) for all respondents who filled in the MHI-5 (Cronbach's alpha = .80). For the present study, we dichotomized the total MHI-5 scores items into low (0–44) and high (45 or higher) scores where high scores reflect more mental health problems. The cut-off score of 45 is equivalent of scores in the 80th percentile of all 686 respondents (whistleblowers and comparison groups) who filled in the MHI-5 (upper 20%).

In addition, respondents were administered two questions from the 36-Item Short-Form Health Survey (SF-36): “How would you describe your health, generally speaking (1 = *poor*, 2 = *moderate*, 3 = *good*, 4 = *very good*, and 5 = *excellent*) and “Can you indicate whether your health is poorer or better compared to last year?” (1 = *considerably poorer*, 2 = *poorer*, 3 = *neutral*, 4 = *better*, and 5 = *considerably better*). For the present study, both items were dichotomized into poor (1 and 2) and not poor (3, 4, and 5).

SCL-90-R examines mental health-related symptoms during the past seven days using five-point Likert scales (1 = *not at all*, 2 = *a little*, 3 = *often*, 4 = *very often*, and 5 = *extremely*; Arrindell & Ettema, 1986; Derogatis, 1977). In the present study, we focused on anxiety (10 items), depression (16 items), agoraphobia (7 items) symptoms, interpersonal sensitivity distrust (18 items), and sleeping problems (3 items). We calculated the sum scores of the items of the corresponding scales (Cronbach's alpha^{whistleblowers} were .90, .95, .92, .96, and .66, respectively; Cronbach's alpha^{population} were .88, .90, .86, .92, and .73, respectively, across 12 validation samples of Dutch manual: see Arrindell & Ettema, 1986, p. 17). Norm-based scoring was employed using the Dutch norm tables (Arrindell & Ettema, 1986) for males and females to identify respondents with severe or very severe symptoms (scores in 80th percentile).

We used these instruments because they are well validated and used in studies among various samples and populations (cf. Driessen, 2011; Hoeymans, Garssen, Westert, & Verhaak, 2004; McCabe, Thomas, Brazier, & Coleman, 1996; Rumpf, Meyer, Hapke, & John, 2001; Strand, Dalgard, Tambs, &

Rognerud, 2003; van der Velden, Bosmans, van der Meulen, & Vermunt, 2016; van Leeuwen, van der Woude, & Post, 2012). In the present study, the Dutch versions of the MHI-5, SCL-90-R, and items of the SF-36 were used.

Health services utilization. Mental Health Services (MHS) utilization in the past 12 months among the whistleblowers was assessed by asking for contacts with a (local) Mental Health Institution and/or a private psychiatrist/psychologist/psychotherapist for themselves (van der Velden et al., 2006). Finally, the number of visits to their general practitioner in the past 12 months (0–8, 9, or more visits) and whether visits in the past 12 months were related to blow the whistle were assessed (1 = *yes* and 2 = *no*).

Statistical analyses

Differences between whistleblowers and first four comparison groups extracted from the LISS-panel were assessed using bivariate and multivariate logistic regression analyses, controlling for sex, age, education level, living with (married) partner, have children in household, having paid job. Differences between the whistleblowers and the Dutch random national sample of the SCL-90-R were assessed using bivariate logistic regression analyses, because we only have descriptive data of this sample as described in the manual. The analyses were conducted with IBM SPSS version 23. The study protocol was approved by the Psychological Ethical Testing Committee of Tilburg University (EC-2016.07).

Results

About half the whistleblowers in our study blew the whistle before 2012 and the other half since 2012, circa 70% worked in the non-profit sector (such as health care, government) 26% in profit organizations (such as industry), and 4% in other organizations. A large majority of the whistleblowers reported very negative effects of blowing the whistle on work (80.8%), income (81.5%), and (if applicable) relationships with (ex-) colleagues (61.5%). A substantial minority reported very negative effects of family functioning (46.2%) and on (if applicable) the relationship with the partner (42.9%) and with children (26.3%). In Table 1, the demographic characteristics of the study samples are presented.

Table 2 shows that whistleblowers were significantly more at risk for severe mental health problems, poor global health, and worsening health than matched controls and the physical “healthy” sample and significantly more at risk for mental health problems than people with working disabilities. As expected, cancer patients were significantly more at risk for poor general health. The prevalence’s of severe to very severe anxiety (46.1%), depression (53.8%), interpersonal sensitivity and distrust (50.0%), and sleeping problems (51.9%) according to the norm tables of the SCL-90-R (scores in 80th percentile) were

Table 1. Demographics study samples.

	1 Whistle blowers		2 Matched controls		3 Cancer patients		4 Work disabilities		5 Physical "healthy" sample	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Sex										
Males	20	(74.1)	100	(74.1)	68	(52.3)	84	(43.3)	97	(48.5)
Females	7	(25.9)	35	(25.9)	62	(47.7)	110	(56.7)	103	(51.3)
Education										
Low	3	(11.1)	15	(11.1)	59	(45.4)	88	(45.4)	46	(23.0)
Medium	10	(37.0)	50	(37.0)	32	(24.6)	66	(34.0)	79	(39.5)
High	14	(51.9)	70	(51.9)	39	(30.0)	40	(20.6)	75	(37.5)
Employed										
No	10	(37.0)	33	(24.4)	101	(77.7)	194	(100.0)	73	(36.5)
Yes	17	(63.0)	102	(75.6)	29	(22.3)	0	(0.0)	127	(63.5)
Living (married) together										
No	11	(40.7)	55	(40.7)	50	(38.5)	87	(44.8)	52	(26.0)
Yes	16	(59.3)	80	(59.3)	80	(61.5)	107	(55.2)	148	(74.0)
Children in household										
No	20	(74.1)	100	(74.1)	111	(85.4)	144	(74.2)	116	(58.0)
Yes	7	(25.9)	35	(25.9)	19	(14.6)	50	(25.8)	84	(42.0)
Age										
≤34 years	1	(3.7)	5	(3.7)	3	(2.3)	15	(7.7)	49	(24.5)
35 ≤ years ≤ 49	10	(37.0)	50	(37.0)	11	(8.5)	45	(23.2)	66	(33.0)
50 ≤ years ≤ 64	14	(51.9)	70	(51.9)	32	(24.6)	129	(66.5)	52	(26.0)
≥65 years	2	(7.4)	10	(7.4)	84	(64.6)	5	(2.6)	33	(16.5)

n.a. = not available; work disabilities = respondents with (partial) work disabilities.

higher than among the general population (prevalence^{general population} all 20%; bivariate $OR^{anxiety} = 3.43$, 95% CI = 1.56, 7.53, $p = 0.002$; bivariate $OR^{depression} = 4.67$, 95% CI = 2.13, 10.24, $p < 0.001$; bivariate $OR^{interpersonal\ sensitivity\ and\ distrust} = 4.00$, 95% CI = 1.77, 9.03, $p < 0.001$; bivariate $OR^{sleeping\ problems} = 4.31$, 95% CI = 1.99, 9.31, $p < 0.001$). Agoraphobic symptoms (33.3%) did not differ significantly (bivariate $OR = 2.00$, 95% CI = 0.89, 4.52, $p = 0.095$). Of all whistleblowers, 23 whistleblowers (85.2%) had, according to the used five SCL-90-R subscales, one of more severe to very severe symptom(s) or problem(s), and 11 out of 23 (47.8%) had contact with MHS in the past year. Scores in the 95th percentiles of the subscales of the SCL-90-R are considered indicative for mental disorders. Additional analyses showed that 48.1% of the

Table 2. Differences in general (mental) health between whistleblowers and comparison groups.

	N ^{total}	MHP		Bivariate		Adjusted ^a		
		N	(%)	OR	p	OR	(95% CI)	p
Very severe mental health problems (MHI-5)								
Whistleblowers (ref.)	27	12	(44.4)	1		1		
Match control group	135	19	(7.4)	0.10	<0.001	0.10	(0.04, 0.28)	<0.001
Cancer patients	130	31	(23.8)	0.39	0.032	0.51	(0.19, 1.41)	0.194
Work disabilities	194	66	(34.0)	0.65	0.291	0.27	(0.10, 0.71)	0.008
“Healthy” sample	200	8	(4.0)	0.12	<0.001	0.10	(0.04, 0.26)	<0.001
Global poor general health								
Whistleblowers (ref.)	26	9	(34.6)	1		1		
Match control group	135	19	(14.1)	0.31	0.015	0.32	(0.12, 0.84)	0.021
Cancer patients	130	85	(65.4)	3.57	<0.005	3.00	(1.07, 8.09)	0.037
Work disabilities	194	130	(67.0)	3.84	0.002	1.57	(0.58, 4.26)	0.378
“Healthy” sample	200	6	(3.5)	0.07	<0.001	0.07	(0.02, 0.22)	<0.001
Poorer health compared to year ago								
Whistleblowers (ref.)	27	9	(33.3)	1		1		
Match control group	135	17	(12.6)	0.29	0.010	0.31	(0.12, 0.81)	0.017
Cancer patients	130	74	(56.9)	2.64	0.029	1.90	(0.72, 5.01)	0.193
Work disabilities	194	75	(38.7)	1.26	0.594	0.66	(0.25, 1.72)	0.395
“Healthy” sample	200	15	(6.5)	0.14	<0.001	0.13	(0.05, 0.36)	<0.001

Ref. = reference category; OR = odds ratio; 95% CI = 95% confidence interval; MHP = corresponding (mental) health problems.

^aAdjusted for age, sex, education, paid job, living with (married) partner, and having children in household (see Table 1).

whistleblowers reached this level, i.e., suffered from very severe anxiety (19.2%), depression (34.6%), interpersonal sensitivity and distrust (16.7%), agoraphobia symptoms (18.5%), and/or sleeping problems (22.2%), and 8 out of 13 (61.5%) had contact with MHS in the past year. Those who blew the whistle before 2012 did not differ significantly in prevalence of any (mental) health variable from those who blew the whistle in 2012 or later. In addition, 81.5% (*N* = 22) visited their general practitioner in the past 12 months, and for 68.2% (*N* = 15) visits were related to blow the whistle.

Discussion

The large extent whistleblowers of our study were facing sources of stress or loss of important resources (Hobfoll, 1989) due to blowing the whistle appear to be

comparable with those of whistleblowers in other studies. A considerable subgroup reported that blowing the whistle had severe and negative effect on important aspect of life such as work, income, relationships with (ex-)colleagues, partner, and children. Although published studies among whistleblowers were conducted in Western countries, and often among nurses, the very strong negative effects on for instance work, income, and relationships seem, in other words, to be the rule. In our study, only one respondent reported a positive outcome on work and none out of 27 on income. Given these circumstances, it is not surprising that whistleblowers were (much) more at risk for severe general mental health problems than pairwise-matched controls, physical “healthy” adults and the general population. However, they were also much more at risk than people with work disabilities because of physical and/or mental problems (cf. Froehlich-Grobe, Jones, Businelle, Kendzor, & Balasubramanian, 2016) but equally at risk for mental health problems as cancer patients (cf. Kuhnt et al., 2016). Compared to the general population, whistleblowers in our study had much more severe to very severe depression, anxiety, interpersonal sensitivity and distrust, and sleeping problems (all between 46% and 52%). Remarkably, the prevalence of these problems seems comparable with the prevalence of mental health problems two to three weeks post-disaster among Dutch residents affected by a major disaster (47.6%, 43.1%, and 45.1%, respectively; van der Velden, Wong, Boshuizen, & Grievink, 2013).

Results furthermore suggest that assessed mental health problems among whistleblowers, about 85% were suffering from severe or very severe anxiety, depression, agoraphobia symptoms, interpersonal sensitivity and distrust, or sleeping problems, were rather persistent. Of the whistleblowers with mental health problems according to the subscales of the SCL-90-R (85.2%), almost 50% had contact with mental health services in the past year. McDonald and Ahern (2002) revealed earlier that across studies among whistleblowers, a variable minority (10%–42%) was referred to a psychiatrist as a reprisal measure. We have no systematic information about received reprisals, and it is possible that some whistleblowers in our study had contact with mental health services because of such measures. However, because 50% of the whistleblowers in our study blew the whistle four years or longer ago, we assume that most (current) contacts were not reprisal measures.

To the best of our knowledge, this is the first comparative study, and replications studies in Western and non-Western countries are warranted. In contrast to current studies, especially longitudinal study designs, including early assessment in the process of becoming a whistleblower, are needed to be able to detect when whistleblowers are less or no longer able to cope and handle the described stressors. In addition, current studies are focused on the whistleblowers and not on significant others who are (also) directly confronted with the consequences of blowing the whistle, such as the partner, children, and friends. Insight in how these significant others respond and deal with these circumstances, or interact

with them, may help to identify factors that protect or further harm the (mental) health of whistleblowers. Research on this topic is especially important given the findings that blowing the whistle in many cases negatively affected family functioning while the family is often a very important source of support. It may help to develop evidence-informed interventions to support whistleblowers by supporting the personal environment of the whistleblowers. In contrast to, for example, traumatic events, no RCT studies are available assessing the effects of interventions aimed at the recovery or protection of people who blow the whistle.

A few limitations and study characteristics need to be discussed. There is no national registry of whistleblowers in the Netherlands (nor elsewhere probably). For this reason, eligible whistleblowers were invited who have contact with Dutch Expert Group Whistleblowers (founded in 2010) with a response of 52%. Due to privacy regulations, we could not conduct non-response analyses. Although this Expert Group is well known and nowadays has seat in the House of Whistleblowers (established by the Dutch government in July 2016) other whistleblowers who met our criteria and do not have contact with the Expert Group may have been missed. To partly solve this problem, a pairwise-matched group was added as a comparison group. The help of the formerly Advice Point Whistleblowers increased the number of respondents to a very small extent, but the reason for the very small increase is unknown. Nevertheless, the extent to which blowing the whistle is associated with severe problems in current life shows many remarkable similarities with the older findings of Rothshield and Mieth (1999). It was outside the aim of this study to assess to what extent whistleblowers were effective and the relationship between effectiveness and mental health (Miceli & Near, 2002). Having information about pre-blowing the whistle mental of the whistleblowers would certainly have enriched our study and prospective studies are better capable to proof causality, in this case, the effects of blowing the whistle, than comparative studies such as ours. However, we believe that it is highly unlikely that more than 80% of the whistleblowers in our study were already suffering from the assessed mental health problems before blowing the whistle. We did not conduct clinical interviews and we did not administer the total SF-36.

Nevertheless, findings indicate that protective or supportive interventions for whistleblowers are needed and should target, besides sources of stress such as job loss and loss of income, mental health problems. They could partially be targeted by first reducing or eliminating important sources of stress such as financial problems due to job loss, costs for legal assistance et cetera as much as possible and secondly be targeted by measures such as offering social support, counseling, or treatment where needed. Of course, reprisal measures should be ruled out and consent is a prerequisite. General practitioners and occupational physicians could, besides mental health professionals, play a central role in offering support, counseling, or (refer to) treatment. As study showed, of the

general practitioners visits (82%), many were whistleblowing-related (68%). In either way, when they are aware that a patient is a whistleblower they should screen for present (event-related) mental health problems. In legal instruments such as the Council of Europe's 2014 Recommendation on the Protection of Whistleblowers (Committee of Ministers of the Council of Europe, 2014), important sources of stress are addressed by encouraging all its member states to offer protection against retaliation (such as dismissal, punitive, or discriminatory treatment). In addition, principle 26 mentions that

In some jurisdictions compensation is provided for economic losses, particularly, in the case of dismissal, as well as damages for any injuries or suffering. The types of remedy will vary between legal systems, but the goal should be to provide as full a remedy as is possible.

Despite this encouragement, so far not all member states of the Council of Europe or even of the European Union have implemented laws that protect whistleblowers. In our view, political action is needed to ensure that preventive and compensatory legal tools will become available for whistleblowers in all jurisdictions. We recommend further legal and/or empirical research in order to assess whether existing civil remedies suffice or should be strengthened by other tools in order to ensure effective handling of the issues involved. This research should also focus on when which interventions should be conducted by whom, such as the content of training of those who typically receive the information from people who may become whistleblowers.

In sum, our findings showed that blowing the whistle had—for a large majority—an adverse effect on life and a very negative impact on the mental health of those who blow the whistle, while society in one way or another benefited from their actions. This apparent misbalance in burden needs to be targeted, not only for current whistleblowers but also for future cases to prevent as much as possible that people no longer blow the whistle because of the negative consequences as shown in our and previous studies.

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