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The aim of this study was to show how authentic leadership is related to social support and exposure to workplace bullying and how these variables are related to mental health. For our sample of 820 office workers employed in different Polish organizations and sectors, social support from supervisors moderated the relationship between authentic leadership and workplace bullying. Social support from co-workers moderated the relationship between workplace bullying and mental health and authentic leadership moderated the relationship between workplace bullying and mental health.

Keywords: authentic leadership; workplace bullying; social support at work; worker's mental health

1. Introduction

Workplace bullying is a form of chronic stress; it can be defined as repeatable, systematic, negative behaviours of employees directed at other employees, while the targets of such behaviour have no means to defend themselves. One of the main criteria allowing one to diagnose workplace bullying is the imbalance of power between the perpetrator and the victim, when the latter does not have sufficient resources to cope with the situation.[1] One of the most common definitions of workplace bullying is that of Einarsen et al.,[2] in which the authors state that

> workplace bullying is harassing, offending, socially excluding someone or negatively affecting someone's work tasks. In order for the label bullying (or workplace bullying) to be applied to a particular activity, interaction or process it has to occur repeatedly and regularly (e.g., weekly) and over a period of time (e.g., about six months). Bullying is an escalating process in the course of which the person confronted ends up in an inferior position and becomes the target of systematic negative social acts. A conflict cannot be called bullying if the incident is an isolated event or if two parties of approximately equal 'strength' are in conflict (p. 15)

The above definition provides another important criterion – repeatability and frequency of harassment. This makes it impossible for a one-time conflict between employees to be treated as workplace bullying. The harassment may be directed at the personal (e.g., sarcastic comments about somebody's looks, spreading gossip about somebody's private life) or the professional domain (e.g., continuous, excessive control, unjustified criticism, setting impossible deadlines).[3]

1.1. Workplace bullying and mental health

Numerous studies into workplace bullying conducted during the past 20 years indicate that systematic, prolonged experience of negative acts perpetrated by other employees may have serious consequences for the health of the target. Studies show significant correlations between workplace bullying and problems with physical and mental health, such as chronic fatigue, insomnia or problems with decision making (for reviews, see, e.g., [4–6]). Einarsen and Raknes also suggest that if various types of harassment are taken into account, the strongest positive correlations can be found between workplace bullying aimed at the private domain and the number and intensity of mental health disorders.[7] In O'Moore's research, 40% of the victims admitted that workplace bullying influenced their physical health and 43% claimed the same in reference to their mental health. Of those research participants, 26 and 92%, respectively, sought specialist help and 20% admitted taking medicines.[8] Bilgel et al. studied Turkish employees working in education, healthcare and the security service.[9] The results showed that being the target of workplace bullying was significantly correlated with mental dysfunctions such as anxiety and depression. Additionally, those who experienced workplace bullying and, at the same time, got little social support, suffered the worst in terms of mental health. Matthiesen and Einarsen identified significant, positive correlations between workplace bullying and the number and intensity of psychosomatic symptoms among workplace bullying victims.[10] This was also confirmed by Meseguer et al., who showed that being the target of workplace bullying explained 27% of

the variance of such disorders.[11] There is proof that prolonged workplace bullying changes individual perceptions not only of one's own work environment, but also of one's whole life, which is then perceived as full of dangers, uncertainty and hostility.[12] As a result, the victim suffers from numerous mental health disorders.[7,13] Those reactions in turn lead to a decrease in effectiveness and an increase in the number of mistakes and occupational accidents. Mental health problems lead to an inability to live a normal, healthy life and to an emergence of distress. According to Goldberg and Williams' conception, such distress is usually manifested in the form of depression, intense anxiety, somatic discomfort and changes in social functioning.[14]

1.2. *Workplace bullying and social support*

Social climate in the workplace, as well as ways of communicating between employees are significantly connected to workplace bullying.[15,16] The general work atmosphere in organizations where workplace bullying was an issue was grim, tense, full of conflict and hard competition in comparison to bullying-free organizations.[16] The importance of social climate in the organization was also stressed in several recent studies, where the number of interpersonal conflicts was particularly important. The more conflicts there are, the greater the possibility that they will lead to workplace bullying.[17,18] Zapf et al. studied the support (as part of the social climate) that employees can get from their colleagues and superiors in reference to workplace bullying.[19] The study showed that workplace bullying victims received significantly less support from co-workers and superiors. This effect was not surprising, but the authors also found that various types of support correlated differently with different types of harassment. Harassment directed at the professional domain was significantly and negatively connected to support from co-workers and support from the superior, although it may seem that it is the superior who influences the workload and methods of fulfilling occupational duties. The authors stressed that this effect was surprising mostly because it is the superiors who have the formal power that allows them to employ forms of harassment aimed directly at professional duties, while co-workers do not have such power. Furthermore, support from co-workers was significantly and negatively correlated with workplace bullying acts aimed at the workers' personal domain and their social isolation. This relationship was not present in the case of support received from the superior. According to Zapf et al., that isolation was a strategy that could only be employed when co-workers were involved in harassment, because superiors could not execute isolation on their own. Even if a superior tried to force isolation, it would only be effective if the victim had no support from colleagues. The fact that the behaviours aimed at the personal domain

were connected only to support from co-workers can be explained by the claim that to execute that type of harassment, the perpetrator needs information about the victim's private life. Such information is probably inaccessible to superiors. The results also showed that the behaviours that included verbal aggression appeared more often on the part of the superior, which, according to Zapf et al., could stem from the structure of power.

1.3. *Workplace bullying and authentic leadership*

Research in workplace bullying carried out during the last 20 years in European countries showed that 50–80% of victims of bullying indicated their superiors as perpetrators of bullying.[20] We can, therefore, suppose that workplace bullying is strongly connected with types of leadership and interactions between subordinates and superiors. There are some data on relationships between workplace bullying and the type of leadership. Einarsen et al. [15] indicated that the employees' dissatisfaction with leadership style practised in their organization was, in addition to role of conflict, one of the organizational factors most strongly connected to workplace bullying.

If different types of leadership are analysed, it turns out that workplace bullying is connected to autocratic leadership, with an authoritarian style of conflict resolution.[13,16] This type of leadership facilitates intimidation of employees, where there is no room for criticizing the superiors and where complaints about their inappropriate behaviours are ineffective.[21] Hoel et al. confirmed those suppositions: an autocratic management style was also positively correlated with workplace bullying (experienced or observed by the research participants in their workplace).[22] It is interesting that style turned out to be a stronger predictor for workplace bullying observers than for its victims. Hoel et al. [22] connected it more to the leadership style which was characterized by non-contingent punishment. The authors explained that for the targets of workplace bullying, working for an autocratic leader, however difficult and unpleasant, was more predictable than working for a leader who was unpredictable and inconsistent, e.g., in exercising punishment. In that last case, the employees may have difficulties with making sense of and predicting the behaviours of the leader, therefore, it is difficult to prevent behaviours perceived as workplace bullying. One other leadership style has been pointed out recently, namely the non-interfering style, the so-called laissez-faire. In reality, this style leads to a lack of leadership, because it assumes that the leader is indifferent and leaves all decisions to the employees. At the same time, the leader ignores the employees' needs, does not react to conflicts between them and does not control the way that they fulfil their duties. As indicated by some researchers,[15,23] this style may also pave the way for workplace bullying, especially bullying between

organizational peers. Hauge et al.'s research indicates that ignoring the employees and failure to perform effective interventions connected to this style of leadership may also facilitate workplace bullying.[24] The lack of action may be interpreted as acceptance or failure to notice the harassment. The mechanisms explaining how laissez-faire leads to workplace bullying were investigated in a Norwegian study.[25] Skogstad, Einarsen, Torsheim et al. established that direct *laissez-faire* was positively connected to role conflict and role ambiguity experienced by the employees and to the number of conflicts in the organization.[25] The analyses showed that the three organizational stressors were mediators of the relationship between *laissez-faire* leadership and workplace bullying, which suggests that this leadership style may facilitate workplace bullying through creating a stressful work environment. Other studies also confirmed the positive relationship between *laissez-faire* leadership and workplace bullying (see [22]).

As indicated in this section, researchers focused on destructive leadership behaviour such as *laissez-faire* leadership [25] but there is little research into the positive role of leadership in reducing pathological phenomena such as workplace bullying in organizations. One of the few such studies is that of Hoel et al.,[22] in which the authors established that workplace bullying was negatively correlated with participatory leadership style. This is why the present study focuses on a recent conception of leadership – authentic leadership.[26] This conception has been developing intensely for the last few years; it stems from the popular theory of transformational leadership. One of the main differences between those two conceptions is a consequence of the criticism of transformational leadership. The main question asked was whether a leader could be transformational and unethical at the same time. In consequence, Bass and Steidlmeier [27] introduced the authentic transformational leadership, to differentiate between 'true' transformational leaders and pseudo-transformational leaders. The latter, in their opinion, manifest transformational behaviours but they lack the ethic development. In the beginning, the word 'authentic' was used in reference to leaders characterized as courageous,[28] able to lead the organization and people in times of chaos and various difficulties,[29] able to build a lasting organization [30] and facilitate the development of employees.[31] Currently, both conceptions of authentic leadership are embedded in the area of positive psychology and focus on those elements of leadership that facilitate its development (see [32]). This development was defined as a process taking place due to 'positive psychological competences of the leader and other members of the organization leading to a greater self-awareness and shaping positive behaviours in the leaders and their subordinates' [33,p.12] (see also [26,32]). According to Avolio, Gardner and Walumbwa, authentic leaders 'know who they are and what they believe in'.[33,p.13]

The development of this conception allowed Avolio et al. to isolate a number of key dimensions characterizing an authentic leader.[33] The first characteristic is **transparency** and consistency in action congruent with accepted values (see [32,34]). Coherent and integrated functioning in all areas of life is the prerequisite for transparency and stability of one's behaviour. Avolio et al. stress that one cannot be authentic if, depending on the situation (occupational duties, family life, etc.), one puts on a different mask. Gardner, Avolio, Luthans et al. stress that authentic behaviours are a consequence of the leader's true self mirrored in their convictions, feelings, independence of environmental influences and pressures applied by others.[35] The leader's transparency is connected to a high level of openness, clarity and trust in close relationships.

The next element characterizing the authentic leader is **self-awareness** which refers to the extent leaders understand their own strengths, weaknesses and motives, as well as recognizing how others view their leadership. Thus, self-awareness includes both internal and external referents. Internal referent refers to leaders' self-knowledge of their mental states, including their beliefs, desires and feelings, whereas external referent refers to leaders' 'reflected self-image' (how others perceive the leader). Leaders with high self-awareness behavior are seen to use both self-knowledge and reflected self-image to enhance their effectiveness as a leader.[36]

Finally, **balanced processing** involves objectively analyzing all relevant information before coming up with a 'fair' decision. Leaders who exhibit balanced processing solicit views from others indicating the willingness to challenge their deeply held positions before coming to a decision.[36]

Authentic leaders have a **strong sense of the moral**, hence all their actions are congruent with their rules and they serve as a good example to follow by other employees.[37] The processes through which leaders can influence the ethical behaviours of their subordinates are based mainly on positive modelling.[35,38,39] Furthermore, a true leader knows that leadership is not about personal success, but the success of people who one influences as a leader. Therefore, authentic leaders focus on how to help others achieve their goals and how to give subordinates greater responsibility and power.

Authentic leadership style results in an increase in trust, but also engagement, satisfaction, enthusiasm and well-being of subordinates.[39,40] The employees' well-being is expressed through good adaptation, job satisfaction and good mental health.[40] Waterman stresses that the so-called eudaemonic conception of well-being makes people live according to their true self, which is connected to authenticity.[41] There is empirical proof that there are positive correlations between authenticity and eudaemonic well-being,[40,42–44] hence employees' well-being is a natural consequence of their leader's and

their own authenticity.[39] All interactions between leaders and their subordinates happen in a dynamic and changing organization. Therefore, when analyzing the development of leadership and its effectiveness, it is extremely important to consider the organizational context.[45,46] Avolio stresses that a supporting organizational climate leads to the development of authentic leadership style and also to a rise in the employees' authenticity.[45] Gardner, Avolio, Luthans et al. add that the leader's transparency is a key to the effectiveness and productivity of the organization, because it is a key element of the organizational culture enabling learning and development of all its employees.[35]

The four dimensions of authentic leadership, i.e., transparency, self-awareness, moral and the balanced processing, lead to the supposition that this type of leadership can moderate between workplace bullying and the employees' mental health. Firstly, as mentioned before, authentic leaders have a high level of morality and they observe ethical rules in their work environment. Hence, it has been supposed that they are less eager to take unethical actions, including workplace bullying. Such leaders, through the mechanism of positive modelling can also transfer their attitudes to employees, which would lead to a decrease in workplace bullying.

There are reasons to believe that authentic leadership and social support will buffer negative effects of workplace bullying on the mental health of employees', however such relations have not yet been explored in Poland yet. Therefore, we have tried to do (address) it in our study. Moreover, it should be emphasized that authentic leadership shouldn't be equated with the social support from a supervisor. It seems feasible that authentic leadership reveals itself in organizational justice rather than in a supportive relationship between supervisor and employees and this difference may be particularly the case in the Polish work environment. Authentic leadership is mainly focused on aspects related to ethics and supervisor's morality, which is not necessarily associated with the emotional support they should provide subordinates with. Emotional support however, might be important for employees' well-being. Hence, it has been assumed that even if the employee will be exposed to negative behaviours from others (e.g., colleagues), a supervisor's transparent and ethical attitude does not allow these behaviours to be accepted or continued mitigating possible negative consequences of workplace bullying for mental health of potential victims. It has been assumed that social support from the supervisor and co-workers can play this role in mitigating negative effects of workplace bullying on mental health. A supervisor's support, which is understood in the study as his/her concern for employees' well-being and good relations in working groups, will possibly mitigate negative consequences of workplace bullying from other colleagues. Similarly, co-workers' support, understood here as an interest in colleagues' problems, a friendly, empathic attitude and willingness to cooperate and help, has been supposed to mitigate the negative impact of harassment from the supervisor.

1.4. *The aim of study*

The aim of this study was to show how authentic leadership (according to Avolio and Gardner [26]) is related to social support and exposure to bullying and how those variables are related to mental health.

Considering the theoretical background discussed in Sections 1.1, 1.2. and 1.3, we formulated four hypotheses:

H_1 Experiencing authentic leadership is associated with low levels of subordinates' exposure to bullying at work.

H_2 Superiors' authentic leadership moderates the relationship between subordinates' exposure to bullying at work and subordinates' mental health.

H_3 Experiencing social support from co-workers and from superiors is associated with low levels of subordinates' exposure to bullying at work.

H_4 Social support from co-workers and from superiors moderates the relationship between subordinates' exposure to bullying at work and subordinates' mental health.

2. Method

2.1. *Sample*

The research hypotheses were tested in one sample of employees drawn from 53 different Polish organizations. A total of 820 questionnaires were returned (response rate: 74.5%). Of the respondents, 41% were men and 59% were women. The average age was 33.9 years ($SD = 10.4$). Overall, 70.2% of the sample were married or co-habiting and a slightly higher proportion (66%) had university-level higher education. The surveyed employees represented various sectors: professional, scientific and technical activities (130 respondents); financial and insurance activities (127 respondents); mining and quarrying (125 respondents), public administration and defence, compulsory social security (123 respondents); human health and social work activities (61 respondents); trade, repair of motor vehicles (56 respondents); construction (56 respondents); industry (44 respondents); electricity, gas, steam and air conditioning supply, water supply; sewerage, waste management and remediation activities (29 respondents); education (23 respondents); transportation and storage, information and communication (23 respondents); arts, entertainment and recreation (16 respondents); accommodation and catering (7 respondents). All respondents did office work.

2.2. *Measures*

The survey consisted of a number of research tools.

2.2.1. Measurement of workplace bullying

Workplace bullying was measured with the Polish version of the Negative Acts Questionnaire (NAQ),[47–49] which consists of 22 items that measure exposure to specific negative acts typical of bullying. The items refer to both direct and indirect behaviour but do not require respondents to self-label as a target of bullying (*Someone withholding information which affects your performance*). Respondents indicate whether they have experienced the designated negative acts in the context of their job on a 5-point scale (1 – *not at all*, 5 – *every day*). The Polish version of the NAQ was developed with the back translation method (see [49]). The sum of the answers to 22 items was confirmed to have acceptable levels of internal consistency reliability and construct validity among the Polish group. Higher scores indicate greater bullying. The α coefficient for this scale was .93.

2.2.2. Measurement of mental health

Mental health was measured with 28 items from the Polish version of the General Health Questionnaire.[14,50] The items deal with the workers' perceptions of their mental health over the past 6 weeks. The original version of GHQ-28 diagnoses four distress dimensions: somatic complaints, anxiety and insomnia, social dysfunction and depression. Each subscale has seven items. Participants are asked to respond to each item using a 4-point scale (1 – *better than usual*, 4 – *much worse than usual*). To examine the factor structure of the Polish version of the GHQ-28 scale, the principal components analysis was done with non-orthogonal Oblimin rotation. The scree plot criterion used to estimate the number of factors revealed three factors, instead of the four in the original scale. They explained almost 50% of the data variability. To interpret the theoretical meaning of the components, factor loadings were used. The three factors can be labelled (a) somatic complaints and anxiety (*been feeling nervous and strung-up all the time*), (b) social dysfunction (*been managing to keep yourself busy and occupied*) and (c) depression (*felt that life is entirely hopeless*). Additionally, a general mental health index was computed. The index is a sum of all points gained from all questionnaire items. These factors were used in further analyses as dependent variables. The α coefficient for the whole scale was .91 and for the three subscales it ranged from .81 to .89.

2.2.3. Measurement of social support

Social support in the workplace (individual support from the supervisor and from co-workers) was measured with one of the scales from the Polish version of the Job Content Questionnaire (JQC).[51–53] Social support from the supervisor was measured with five questions (*My supervisor pays attention to what I am saying*) and social support from co-workers with six questions (*People I work with take a personal interest in me*). Respondents indicated whether they agreed or disagreed with statements describing their supervisor and co-workers on a 4-point scale (1 – *strongly disagree*, 4 – *strongly agree*). The items included socio-emotional support and instrumental support, as well as possible interpersonal hostility on the part of the supervisor and co-workers. The indices for both types of support were computed by adding points from the relevant answers. The α coefficient for support from supervisor was .87 and from co-workers was .85.

2.2.4. Measurement of authentic leadership

Authentic leadership was measured with the Polish version of the Authentic Leadership Questionnaire.[37,54] This questionnaire is a theory-driven leadership survey instrument designed to measure the components that have been conceptualized as comprising authentic leadership. The four dimensions comprising the ALQ are (a) self-awareness, which measures the degree to which leaders are aware of their strengths, limitations, how others see them and how they impact others (*seeks feedback to improve interaction with others*); (b) transparency, which examines the degree, to which the leader reinforces a level of openness with others (*says exactly what he or she means*); (c) moral, which measures the degree to which the leader sets a high standard for moral and ethical conduct (*demonstrates beliefs that are consistent with actions*); and (d) balanced processing, which examines the degree to which the leader solicits sufficient opinions and viewpoints prior to making important decisions (*solicits views that challenge his or her deeply held position*).[37] In general, the scale comprises 16 items. Respondents indicate the level to which the statements are congruent with the leadership style demonstrated by their superiors on a 5-point scale (0 – *not at all*, 4 – *frequently, if not always*). The indices for the dimensions were computed by averaging the relevant items. The α coefficient for those four subscales ranged from .75 to .88. Means from the subscales were considered in the process of computing basic statistics. In verifying the hypotheses, the general index of authentic leadership was considered (computed as a sum of points gained in all four dimensions). The α coefficient for the whole scale was .94.

2.3. Procedure

The study was conducted in the first half of 2009. The questionnaires were distributed to the employees by pollsters who asked respondents to return them during the next few days. The questionnaire set was accompanied by a letter describing the aim of the study and assuring anonymity. The respondents returned the questionnaires in sealed envelopes directly to the pollsters.

2.4. Statistical analyses

Data were analysed with SPSS version 11.5. Pearson product-moment correlations, significant difference tests and hierarchical regressions were used to analyse the data. To examine the hypothesis that social support and authentic leadership function as a protective factor in the relationship between workplace bullying and symptoms of psychological health disorders, we also tested for linear and interaction effects with a hierarchical regression analysis. We used this method to examine the hypothesis that social support from colleagues was a moderator between authentic leadership and exposure to bullying.

3. Results

Preliminary descriptive statistics for the research variables, i.e., mean, *SD* and correlations, as well as hierarchical regression analyses results are discussed in Sections 3.1 and 3.2.

3.1. Preliminary analyses

Table 1 lists the means, *SD* and correlations for the variables. The correlation coefficients ranged from .02 to .95, most of them were significant at the 99% level. A general index of authentic leadership correlates significantly and positively with social support from the supervisor ($r = .53, p < .01$) and, less strongly with support from co-workers ($r = .31, p < .01$). A significant, negative correlation between authentic leadership and workplace bullying was discovered ($r = -.40, p < .01$). The correlations between authentic leadership and the general index of mental health turned out to be significant, but weak ($r = -.17, p < .01$), like for other mental health dimensions, i.e., Somatisation and Anxiety ($r = -.15, p < .001$), Social Dysfunction ($r = -.16, p < .001$) and Depression ($r = -.12, p < .01$). Similar effects were identified for the relationships between individual dimensions of leadership and the remaining variables, i.e., social support, workplace bullying and mental health (Table 1). Both social support from co-workers and social support from superiors correlated significantly and negatively with workplace bullying ($r = -.35, p < .01$ and $r = -.29, p < .01$, respectively). Both types of support correlated significantly and negatively with the state of mental health and its individual dimensions, although the relationships were weak (Table 1). Workplace bullying correlated significantly and positively with mental health ($r = .34, p < .01$) and its individual dimensions, i.e., with Somatisation and Anxiety ($r = .29, p < .001$), Social Dysfunction ($r = .32, p < .001$) and Depression ($r = .24, p < .01$).

Data from the NAQ made it possible to identify workplace bullying victims among the respondents. Ascribing individual respondents to victims or non-victims was based on an analysis of answers to the NAQ with the Leymann

Table 1. Means, *SD* and Pearson's *r* correlations (*N* = 820)

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	33.91	10.44	—											
2. Authentic Leadership (total)	39.67	13.00	−.09*	—										
3. Transparency	2.45	.85	−.14**	.88**	—									
4. Moral	2.68	.89	−.05	.89**	.73**	—								
5. Processing	2.36	.94	−.07*	.90**	.71**	.73**	—							
6. Awareness	2.38	.97	−.04	.90**	.67**	.72**	.80**	—						
7. Co-workers' Support	11.68	1.67	−.10**	.31**	.31**	.26**	.26**	.24**	—					
8. Supervisor Support	11.45	3.16	−.04	.53**	.44**	.47**	.49**	.50**	.26**	—				
9. Bullying (total)	30.51	10.54	−.07*	−.40**	−.34**	−.35**	−.37**	−.36**	−.35**	−.29**	—			
10. Mental Health (total)	3.92	4.81	.03	−.17**	−.14**	−.13**	−.16**	−.15**	−.17**	−.14**	.34**	—		
11. Somatisation and Anxiety	2.97	3.47	.03	−.15***	−.12**	−.11**	−.09*	−.10**	−.15**	−.13**	.29***	.95***	—	
12. Social Dysfunction	.76	1.44	.02	−.16***	−.13***	−.12**	−.15***	−.13***	−.12***	−.13***	.32***	.77***	.56***	—
13. Depression	.24	.79	.02	−.12**	−.10**	−.11**	−.11**	−.09**	−.11**	−.08*	.24**	.58***	.42***	.43***

Note: *$p < .05$; **$p < .01$; ***$p < .001$.

Table 2. Comparison of victims with non-victims in terms of workplace bullying according to their age, authentic leadership style (and its individual dimensions), social support from the supervisor and from co-workers and mental health (and its individual dimensions).

Variables	Victims (N = 205)			Non-victims (N = 615)		K-S Test (N = 820)
	M	SD		M	SD	
Age	32.19	10.10		34.42	10.50	1.46*
Authentic Leadership (total)	32.20	13.58		42.51	11.71	4.25***
Transparency	2.05	0.89		2.60	0.80	3.68***
Moral	2.19	0.97		2.86	0.79	3.85***
Processing	1.86	1.03		2.54	0.85	3.80***
Awareness	1.91	1.04		2.55	0.90	3.73***
Co-workers Support	11.07	1.88		11.92	1.53	3.65***
Supervisor Support	10.28	3.20		11.92	3.07	4.28***
Bullying (total)	42.04	12.97		26.56	5.52	8.42***
Mental Health (total)	6.07	5.50		3.01	4.10	3.85***
Somatisation and Anxiety	4.39	3.89		2.36	3.05	3.56***
Social Dysfunction	1.36	1.82		0.52	1.17	3.54***
Depression	0.48	1.07		0.13	0.61	1.88**

Note: K-S Test = Kolmogorov–Smirnov test; $*p < .05$; $**p < .01$; $***p < .001$.

criterion.[55] According to that criterion, a person is a workplace bullying victim when they are exposed to negative acts at least once a week for at least six months.[54] Therefore, the group of victims comprised people who admitted to being bullied repeatedly in the previous six months. As a result, 205 workplace bullying victims were identified, i.e., ∼25% of the respondents (Table 2). In the preliminary analyses we also checked if there were statistically significant differences in individual variables between victims and non-victims of workplace bullying. The differences were significant for authentic leadership, both types of social support and for mental health. People identified as workplace bullying victims received less support from co-workers ($z = 3.65, p < .001$) and supervisors ($z = 4.28, p < .001$), their mental health was worse ($z = 3.85, p < .001$) and they assessed their leader as less authentic ($z = 4.25, p < .001$) (Table 2).

3.2. Regressions

3.2.1. Interaction between authentic leadership and workplace bullying with regard to mental health

Moderated hierarchical regression analyses showed that individuals who perceived higher levels of authentic leadership and lower levels of exposure to bullying had worse mental health (but only in the case of Somatisation and Anxiety) than individuals who perceived their superiors as less authentic and who experienced high levels of bullying (Figure 1). Scores were plotted at the mean, low (1 *SD* below the mean) and high (1 *SD* above the mean) values on the authentic leadership variable. Bullying (predictor) was presented separately for victims (targets) and non-victims (control group). The results indicate a stronger relationship between bullying and mental health (Somatisation and Anxiety) for the high ($\beta = .40, p < .001$) and medium authentic leadership groups ($\beta = .27, p < .001$) than for the low authentic leadership group ($\beta = .14, p < .01$) (Figure 1).

The predictor variables were centred prior to the two-way interaction analysis (Table 3). For the linear effects, the independent variables explained a total of 9% of the variance in mental health (Somatisation and Anxiety) ($R^2 = .09, p < .001$). Authentic leadership ($\beta = -.12, p < .01$) and exposure to workplace bullying ($\beta = -.23, p < .001$) yielded significant contributions. Upon adding the interaction term to the regression, the amount of explained variance increased significantly by 11% ($R^2 = .11, p < .001$). Furthermore, the interaction term made a significant contribution to the explained variance ($\beta = .36, p < .001$) (Table 3). Thus, authentic leadership was found to interact with bullying and mental health (Somatisation and Anxiety).

Tables 4–6 show that in the case of other mental health dimensions, i.e., Total, Social Dysfunction and Depression, authentic leadership wasn't found to significantly interact with workplace bullying.

3.2.2. Interaction between workplace bullying and co-workers' support with regard to mental health

Moderated hierarchical regression analysis showed that individuals who perceived a high level of support from co-workers and low level of exposure to bullying reported worse mental health than individuals who reported their co-workers as less supporting and a high level of exposure to bullying (Figure 2). Scores were plotted at the mean, low

interaction between authentic leadership and workplace bullying with regard to mental health

Figure 1.   Interaction between authentic leadership and workplace bullying with regard to mental health.
Note: Low $= -1$ *SD* below mean; medium $=$ at mean; high $= 1$ *SD* above mean.

Table 3.   Testing the moderator effect of workplace bullying on the relationship between authentic leadership and mental health (somatisation and anxiety).

Steps and variables	*B*	*SE B*	*ß*	*R²*	*∆R²*
Step 1					
Authentic Leadership	−0.07	0.02	−.12**	.09***	—
Bullying	3.73	0.61	.23***	—	—
Step 2					
Authentic Leadership	−0.12	0.03	−.22***	.11***	.02**
Bullying	−2.05	1.67	−.13	—	—
Authentic Leadership	0.16	0.04	.36***	—	—
× Bullying	—	—	—	—	—

Note: *N* $=$ 820; ***p $<$ .001; **p $<$ .01; *p $<$ .05; *B* $=$ regression coefficient; *SE B* $=$ regression coefficient error; *ß* $=$ standardized regression coefficient.

Table 4.   Testing the moderator effect of workplace bullying on the relationship between authentic leadership and mental health (total).

Steps and variables	*B*	*SE B*	*ß*	*R²*	*∆R²*
Step 1					
Authentic Leadership	−0.42	0.18	−.08*	.08***	—
Bullying	2.65	0.39	.25***	—	—
Step 2					
Authentic Leadership	−0.76	0.22	−.15**	.08***	.001
Bullying	0.57	0.88	.05	—	—
Authentic Leadership	0.99	0.21	.20	—	—
× Bullying					

Note: *N* $=$ 820; ***p $<$ .001; **p $<$ .01; *p $<$ .05; *B* $=$ regression coefficient; *SE B* $=$ regression coefficient error; *ß* $=$ standardized regression coefficient.

(1 *SD* below the mean) and high (1 *SD* above the mean) values on the support from co-workers variable. The workplace bullying predictor scores were plotted at the low (1 *SD* below the mean) and high (1 *SD* above the mean) levels. The results in Figure 2 indicate a stronger relationship between bullying and mental health for the high ($ß = .37$, $p < .001$) and medium ($ß = .30$, $p < .001$) co-workers support groups than for the low co-workers support group ($ß = .23$, $p < .001$).

Table 7 shows that for the linear effects, the independent variables explained a total of 9% of the variance in workplace mental health ($R² = .09$, $p < .001$). Workplace bullying ($ß = .27$, $p < .001$) and support from co-workers ($ß = −.08$, $p < .05$) yielded significant contributions. After adding the interaction term to the

regression, the amount of explained variance increased significantly by 10% ($R² = .10$, $p < .001$). Furthermore, the interaction term made a significant contribution to the explained variance ($ß = .42$, $p < .05$) (Table 7). Thus, support from co-workers was found to interact with workplace bullying and mental health.

3.2.3.   Interaction between workplace bullying and supervisors' support with regard to mental health

Moderated hierarchical regression analysis showed that support from a supervisor wasn't found to interact with workplace bullying and mental health.

Table 8 shows that for linear effects, the independent variables explained a total of 9% of the variance in mental health ($R² = .09$, $p < .001$). Workplace bullying ($ß = .27$, $p < .001$) and support from supervisor ($ß = .08$, $p < .05$)

Table 5. Testing the moderator effect of workplace bullying on the relationship between authentic leadership and mental health (social dysfunction).

Steps and variables	B	SE B	β	R²	ΔR²
Step 1					
Authentic Leadership	−0.32	0.17	−0.07	.08***	—
Bullying	2.78	0.39	0.26***	—	—
Step 2					
Authentic Leadership	−0.64	0.03	−0.13**	.08***	.001
Bullying	0.68	1.67	−0.06	—	—
Authentic Leadership × Bullying	0.99	0.37	0.21	—	—

Note: $N = 820$; ***$p < .001$; **$p < .01$; *$p < .05$; B = regression coefficient; $SE\ B$ = regression coefficient error; $β$ = standardized regression coefficient.

Table 6. Testing the moderator effect of workplace bullying on the relationship between authentic leadership and mental health (depression).

Steps and variables	B	SE B	β	R²	ΔR²
Step 1					
Authentic Leadership	−0.02	0.19	−0.04	.08***	—
Bullying	2.85	0.40	0.27***	—	—
Step 2					
Authentic Leadership	−0.66	0.24	−0.13**	.08***	.003
Bullying	−0.39	1.06	−0.04	—	—
Authentic Leadership × Bullying	1.34	0.41	0.31	—	—

Note: $N = 820$; ***$p < .001$; **$p < .01$; *$p < .05$; B = regression coefficient; $SE\ B$ = regression coefficient error; $β$ = standardized regression coefficient.

yielded significant contributions. After adding the interaction term to the regression, the amount of explained variance didn't increase significantly and the interaction term didn't make a significant contribution to the explained variance ($β = .12, p > .05$) (Table 8).

4. Discussion

This study was designed to examine the moderating effect of social support and authentic leadership on the relationship between workplace bullying and symptoms of psychological health disorders. We also attempted to confirm results from a previous study (see [19]), which indicated that social support from supervisors and from co-workers was negatively correlated with the level of workplace bullying. Furthermore, we verified whether the authentic

leadership style, which was not hitherto analysed in connection to violence at work, was significantly related to workplace bullying.

Generally, the results confirmed H_1, that authentic leadership was negatively correlated with exposure to workplace bullying. We can, therefore, say that transparency, openness, morality and leaders' internal motivation prevent and counteract negative acts on the part of the leaders themselves and on the part of other people employed by the organization. It was also supposed that the lower probability of workplace bullying when the leader was authentic, stemmed from such traits as transparency, optimal self-esteem, emotional stability and self-confidence. Being aware of their own limitations, but also of their strengths makes leaders more open and less
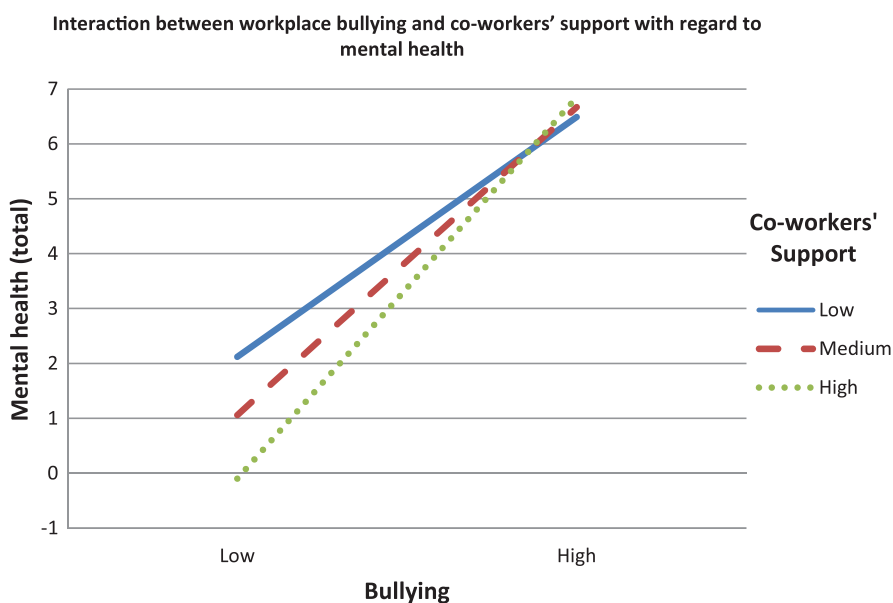

Figure 2. Interaction between workplace bullying and co-workers' support with regard to mental health (total).
Note: Low = −1 *SD* below mean; medium = at mean; high = 1 *SD* above mean.

Table 7. Testing the moderator effect of co-workers' support on the relationship between workplace bullying and mental health (total).

Steps and variables	B	SE B	β	R²	ΔR²
Step 1					
Co-workers' Support	−0.23	0.10	−.08*	.09***	—
Bullying	1.45	0.19	.27***	—	—
Step 2					
Co-workers' Support	−0.58	0.19	−.21**	.10***	.01*
Bullying	−0.90	1.08	−.17	—	—
Co-workers' Support × Bullying	0.22	0.10	.42*	—	—

Note: $N = 820$; ***$p < .001$; **$p < .01$; *$p < .05$; B = regression coefficient; $SE\ B$ = regression coefficient error; $β$ = standardized regression coefficient.

Table 8. Testing the moderator effect supervisor support on the relationship between workplace bullying and mental health (total).

Steps and variables	B	SE B	β	R²	ΔR²
Step 1					
Supervisor Support	−0.11	0.05	−.08*	.09***	—
Bullying	2.91	0.38	.27***	—	—
Step 2					
Supervisor Support	−0.14	0.06	−.10*	.09***	.001
Bullying	1.62	1.29	.15	—	—
Supervisor Support × Bullying	0.12	0.12	.12	—	—

Note: $N = 820$; ***$p < .001$; **$p < .01$; *$p < .05$; B = regression coefficient; $SE\ B$ = regression coefficient error; $β$ = standardized regression coefficient.

prone to manipulating others. Their sincerity and openness can prevent them from using psychological violence to eliminate competition. Additionally, many authors claim (for example [56]) that a weak communications system between the employees, which results in a limited access to important information, is a key element facilitating workplace bullying. A work environment managed by an authentic leader is characterized by openness and a low sense of uncertainty among the employees.[35] This characteristic also supports the supposition that authentic leadership style suppresses workplace bullying and its negative effects on the employees' mental health. Authentic leadership is closely related to the organizational climate based on trust, which is also connected to a smaller number of conflicts, lower aggression levels among co-workers, which may in turn limit workplace bullying incidents.

This study allowed us to confirm H_3, about the significant relationship between social support and workplace bullying. The results are congruent with previous research.[15,16,19] Regression analysis indicated that social support from the supervisor and from co-workers are significant predictors of workplace bullying ($β = −.28$, $p < .001$; $β = −.27$, $p < .001$, respectively).

Support from the direct supervisor and from co-workers may result in positive experiences at work. The supervisor's support is connected to such behaviours as caring for subordinates, appreciating their contributions, helping them with their duties and supporting them in the development of skills.[57,58] Support from co-workers pertains to the level of support that colleagues give one another.[59] Co-workers' support comprises caring, material help and informational help.[60,61] Support provided by the supervisor and co-workers can lead to an increase in the employee's comfort in the organization through the fulfilment of such needs as self-worth, approval and belonging.[62] This in turn leads to satisfying experiences at work.

The results also showed that the effects of workplace bullying on mental health were moderated through authentic leadership, which confirmed H_2. It must be stressed that this relationship can only be related to such aspects of mental health as somatisation and anxiety. This hypothesis was confirmed only for those employees who experienced negative acts on the part of other people in the organization to a lesser extent.

H_2 was formulated assuming that authentic leadership buffers negative effects of workplace bullying on mental health. The results showed that it can improve employees' well-being only in the absence or lower levels of harassment. Hence, it can be assumed that authentic leadership is effective in preventing harassment rather than dealing with difficult cases of bullying that have already occurred.

Social support is often included in research on stress and is treated as an intermediary variable between stressful life events and health. This approach makes it possible to treat support as a psychosocial factor for mental health disorders.[63] Additionally, the results show that co-worker support moderates the relationship between exposure to workplace bullying and mental health. This partly confirmed H_4, which stated that social support from the supervisor and from co-workers moderated the relationship between the threat of workplace bullying and mental health.

Results suggest that if lower threat of workplace bullying and higher co-workers' support coincide, the employees' mental health is least threatened. Regression analyses indicate that in the case of people experiencing high levels of workplace bullying, the role of co-workers' support

is not very significant. This may lead to a conclusion that co-workers' support cannot reduce the level for health consequences of serious workplace bullying for its victims. This is congruent with Skogstad et al.'s remarks that the strength of negative social relationships (workplace bullying) can be greater than that of positive relationships (social support).[25]

Furthermore, the results showed that in cases of not serious workplace bullying more important for employees' well-being is support from co-workers rather than from the supervisor. It can be assumed that support from co-workers (e.g., within the working group) will be an effective buffer for the consequences of negative acts imposed by the supervisor. In the situation in which an employee is harassed by his/her co-workers the support from supervisor doesn't play a significant role. This may indicate that for the Polish work environment, the relations between employees and subordinates are not democratic enough and hence a dominant, autocratic management style is not conducive to empathy and interest in the employees' well-being.

These results suggest that authentic leadership only in combination with the social support (particularly from co-workers) can constitute an effective prevention of bullying in the workplace and, therefore, reduce the negative effects connected with bullying and workers' mental health.

This conclusion may be important for leaders in organizations who should know that the reduction in workplace bullying begins with them and their beliefs about, and attitudes towards, their staff. It seems interesting that the interaction between authentic leadership and workplace bullying was significant only for two mental health symptoms, somatisation and anxiety. It turned out that among people who do not suffer from workplace bullying, a low level of authentic leadership in their supervisor is connected to those symptoms. For workplace bullying victims, on the other hand, low levels of this type of leadership seem to have no significant influence on those symptoms.

There are some limitations to this study, which may influence the interpretation of the results. First, the cross-sectional design does not allow any causal conclusions to be drawn. However, earlier findings indicate that the style of leadership [22,25] and social support [19] influence individual exposure to workplace bullying and mental health, but not vice versa. Another limitation pertains to the fact that all measures used in this study are self-reports collected with questionnaires. Yet another aspect to be discussed here is sample restrictions. The sample was not representative of the Polish working population: it included only white-collar workers from a few towns in Poland.

To confirm our findings, further analyses should consider the various relationships between authentic leadership dimensions and workplace bullying, as well as the role of the interaction between workplace bullying and various psychosocial aspects of the work environment and their significance for various mental health problems.

Disclosure statement

No potential conflict of interest was reported by the authors.

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