



‘Am I on social media?’ Investigating personal and situational characteristics underlying pupil-initiated cyberbullying of teachers

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ABSTRACT

While pupil-initiated cyberbullying of school staff is of growing concern, it remains under-investigated. This study adopts a mixed-methods approach to advance understanding of the underlying factors that increase the risk of school staff being victimised by pupils. We draw on findings from a Swedish case study comprising a focus group interview with pupils and in-depth interviews with teachers and school leaders to develop relevant hypotheses. These hypotheses were tested using a sample of 73,821 teachers and school leaders in Germany, examining personal characteristics and work-environment factors associated with an increased risk of being targeted. The analysis indicates that exposure to cyberbullying was particularly prevalent among lower secondary school teachers, and it increased with higher quantitative demands, role conflict, and greater levels of conflict with parents. Conversely, stronger parental support and common educational visions functioned as protective factors. These findings highlight considerable scope for targeted interventions.

1. Introduction

Teachers' exposure to cyberbullying from pupils, parents, and other adults is an increasing concern (Cowen Forssell et al., 2024; de Wet, 2020; Kauppi & Pörhölä, 2015; Rajbhandari & Rana, 2022). The rise of electronic communication and social media platforms has introduced new forms of interaction, some of which may have unintended consequences for staff. *Cyberbullying* refers to harmful behaviour carried out through information and communication technology, either repeatedly over time or as a one-off act, that invades someone's privacy and has the potential to expose them to an online audience (Vranjes et al., 2017). Characteristically, cyberbullying leaves targets in a helpless situation, unable to defend themselves. Exposure can significantly affect teachers' emotional well-being and professional standing, raising concerns about the support systems available to protect educators from such experiences (Bester et al., 2017; Cowen Forssell et al., 2025). Teachers who become victims of cyberbullying frequently report emotional distress, including anxiety, anger, and humiliation, often compounded by a perceived lack of institutional support from school administrations and educational authorities (Bester et al., 2017). Additionally, teachers who have experienced cyberbullying often reduce their engagement with social media, underscoring the need for improved digital safety measures (Blade & Campbell, 2021).

Cyberbullying can take many forms, including flaming, harassment,

outing, impersonation, online social exclusion, stalking, and sextortion (Kasturiratna, Hartanto, Chen, Tong, & Majeed, 2025; Kowalski et al., 2014). In the context of teacher victimisation, one emerging form of cyberbullying involves covert filming of classroom activities and threats to post recordings online (Cowen Forssell et al., 2024). The increase in pupil-initiated cyberbullying appears closely linked to the expansion of social media platforms such as TikTok, YouTube, and Facebook, as well as other video-sharing websites, where recordings of teachers may be shared without their consent. Such postings not only challenge teachers' authority but also amplify the public nature of the abuse, often leaving teachers feeling vulnerable and exposed.

Various studies have documented teachers' exposure to offensive, sometimes even violent, behaviour from pupils (Longobardi et al., 2019). Similarly, over the past two decades, research on youth cyberbullying of peers has grown substantially (Camerini et al., 2020). However, less is known about pupil-initiated cyberbullying directed at teachers. Although limited in number, some studies have examined pupil-teacher dynamics in relation to electronic communication and cyberbullying behaviour. A case study drawing on experiences from Brazil, Portugal, and England illustrates how pupils increasingly using electronic communication to undermine traditional classroom boundaries and authority, highlighting the global scope of the issue (Kyriacou & Zuin, 2016). Findings from a small-scale focus group study in Romania suggest that cyberbullying of teachers by pupils is primarily a problem in

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middle and high schools, particularly affecting women teachers (Zavoianu & Sun, 2022). A negative correlation between teachers' age and years of teaching experience and pupil aggression has also been reported (Kohútová & Emmerová, 2017).

To date, the literature provides only a fragmented understanding of the motives underlying pupil-initiated cyberbullying of teachers and of its prevalence. The present study addresses this gap by integrating insights from a Swedish case study with findings from a large-scale German survey of teachers' working conditions. The overall aim is to extend our understanding of the personal and situational factors that increase the risk of school staff being exposed to pupil-initiated cyberbullying.

This study contributes to the cyberbullying literature in several ways. First, it integrates the traditionally separate domains of workplace cyberbullying and youth cyberbullying. By incorporating insights related to the educational context, family environment, and work-related factors, the study offers a more comprehensive understanding of the phenomenon. Second, it combines qualitative and quantitative data from both pupils and school staff. By developing hypotheses grounded in previous research and up-to-date qualitative data from pupils and teachers within the same study, it ensures both novelty and strong empirical grounding.

2. Mixed methods approach

2.1. Mixed methods design

This study employs a mixed-methods approach (QUAL→QUAN), using a partially mixed sequential dominant status design (Leech & Onwuegbuzie, 2009). Central to this design is the use of qualitative methods to inform the quantitative phase, with the latter accorded priority in the overall interpretation of results. Seeking convergence and corroboration through multiple methods facilitates triangulation, which enhances the validity and reliability of the findings (Greene, 2007).

To date, research on workplace cyberbullying has made limited use of mixed methods research (MMR). This is notable given the relative novelty of the phenomenon and the substantial advantages of developing hypotheses grounded not only in the existing literature but also in exploratory qualitative data on the same phenomenon. In the following sections, the aim, sample, procedure, analytical framework, and results of each sub-study are presented before the findings are integrated in the discussion.

2.2. Study 1: A case study from Sweden

2.2.1. Aim

Study 1 explores the experiences of pupil-initiated filming of teachers in classrooms together with the attitudes and potential motives underlying such actions. The aim was to gain a deeper understanding of the factors driving pupils to film teachers in the classroom.

2.2.2. Material and methods

2.2.2.1. Procedure. A case study was conducted at a school located in a rural area in southern Sweden. The researchers contacted the school principal to request participation after learning through media reports of an incident in which teachers had been filmed. The principal informed staff about the study using an information letter provided by the researchers and invited them to participate in in-depth interviews. Acting on behalf of the principal, a youth worker recruited 15-year-old pupils to participate in the study. As with the adult participants, pupils were not offered incentives beyond the opportunity to meet university researchers and discuss a topic with which they were familiar.

Prior to data collection, ethical approval was obtained from the Swedish Ethical Review Authority (no. 2019-05196). The approval that

was received in March 2020, covered interviews with pupils (aged 14 and older), teachers, and principals on the topic of cyberbullying in schools. In accordance with Swedish regulations, consent may be obtained directly from minors aged 15 to 18. Accordingly, information about the project was provided directly to the pupils, all aged 15 at the time of the focus group interview, and their informed consent was obtained. Informed consent was also obtained from participating school staff, together with provision of an information letter.

2.2.2.2. Sample. Data were collected in 2020 and 2021. The study comprised four in-depth interviews (two principals, two teachers) and one focus group interview with six pupils. All interviews were conducted via Zoom, lasting approximately 1 h (in-depth interviews) and 2 h (focus group). One researcher conducted the in-depth interviews, while two researchers moderated the focus group. In both situations, an interview guide structured the discussions. The interview guides covered themes related to electronic communication and experiences of cyberbullying. Interviews with teachers and principals included questions on victimisation, organisational structure, and school culture. The focus group with pupils explored perceptions of acceptable and unacceptable online behaviour. In the pupil focus group, a written vignette describing a situation in which a teacher was filmed by pupils was used to complement the interview guide.¹ The vignette was introduced stepwise, allowing participants' reflections, thoughts, and experiences of similar situations to emerge as the narrative unfolded. All interviews were transcribed verbatim.

2.2.2.3. Thematic analysis. The qualitative data were analysed using thematic analysis following Braun and Clarke (2006). This approach provides a rigorous and systematic framework for generating codes and themes through a six-phase process (Braun & Clarke, 2006; Clarke & Braun, 2017). First, the first two authors familiarised themselves with the data through repeated readings of the transcripts. Second, they conducted open coding involving keyword extraction. Codes were generated based on recurrence and relevance to the aim of the study. Discrepancies in interpretation were discussed and resolved collaboratively. This iterative coding process led to the third step in the thematic analysis, in which preliminary themes were identified. Fourth, these themes were reviewed and refined in discussion with all four authors. In the fifth phase, three overarching themes were defined and named: *Targeting the deviant*; *Status, spite, and having something to laugh at*; and *Echoes from home*. In the final phase, the analysis was written up coherently, incorporating illustrative quotations to enhance clarity and transparency.

2.2.3. Study 1 results

The case study centres on two incidents at a Swedish school in which pupils filmed teachers during lessons. The recordings depict teachers in awkward situations in which they lose their temper. These incidents are described in greater detail and from multiple perspectives in the following.

2.2.3.1. Filming the teacher in an awkward situation – an example of cyberbullying. The focus group interview began with pupils discussing a specific incident in which classmates had filmed a substitute teacher, which they subsequently posted online. The incident involved a pupil taking an item from the teacher, provoking the teacher's anger and attempt to retrieve it. The recording shows the teacher chasing the pupil, culminating in a scuffle between the teacher and one of the pupils. During the focus group, pupils reflected on how the video *'became very*

¹ Study 1 is part of a larger research project that also included in-depth and focus group interviews with principals, teachers, and parents. The vignette was developed based on the result from the project.

big on social media', partly because it appeared in the footage that *'the teacher is choking the pupil'*.

Pupil 3: *They were running around ... everyone was jumping around in the classroom. Me and a friend sat in the corner and just laughed our heads off. The teacher [and pupil are] running around like cat and mouse.*

Pupil 2: *Some newspaper wrote about this incident, too. Because in the film, it looked really violent. But as I said, I don't know if it was.*

Pupil 4: *It looked really violent.*

Pupil 2: *It looked like the teacher was strangling the pupil. It became huge.*

Pupil 1: *People exaggerate – they want to make it worse than it really was.*

Pupil 2: *Yes, it looked like they were strangling him, but I don't think he was. If you look closely, he's holding his arm over. He isn't holding it around his neck at all, and it wasn't aggressive. But they've angled the film and spread the word that that it was like 'Oh, I couldn't breathe'.*

The school personnel confirm that the video received considerable attention on social media and in the press. Both staff and pupils stress that filming was a regular occurrence. However, as the pupils rarely captured anything spectacular, few of the recordings were uploaded to social media. Pupil 4:

No, the videos don't go very far. Most just stay on the phones. And then I don't think that the teachers care that much if it isn't ... if the teacher hasn't done anything wrong.

When analysing the underlying motives for filming situations at school, three key themes were identified: Targeting the deviant; Status, spite and having something to laugh at; and Echoes from home. In the following section, each theme is explored in turn.

2.2.3.2. Targeting the deviant. The *Targeting the deviant* theme emerged as a recurring pattern in the pupils' discussion of why certain teachers were targeted in pupil-initiated cyberbullying. The findings suggest that teachers who did not conform to perceived normative attributes were at greater risk. Examples of characteristics that appeared to increase vulnerability included speaking with an unfamiliar accent, expressing a strong religious affiliation, identifying as transgender, or having a sexual orientation perceived as deviating from the norm.

Pupil 1: *He [a targeted teacher] was very, very religious. He often talked about it.*

Pupil 2: *Yes, he did. He was very religious. And the other teacher was trans [transsexual]. He had gone from being a woman to a man, which meant that many ...*

Pupil 4: *... It led to confusion.*

Pupil 2: *Yeah. A lot of people were on him for that.*

Pupil 4: *Not everyone accepted it.*

Pupil 2: *No. At the school, there are a lot of people [pupils] who are really against anything that has to do with that kind of thing – transgender people, homosexuality, or anything like that.*

While the pupils emphasised aspects related to deviation and minority status within the specific school context, different factors were mentioned in the interviews with school personnel. From the school's perspective, teachers' competence in managing classroom behaviour was seen as central to their vulnerability to exposure on social media. Teacher 1 stated:

Some of our teachers are weak in their leadership and [they] also have it tougher on social media (...) If you don't have the pupils' respect, then exposure on social media is more likely.

Although pupils and school staff identify sources of vulnerability and victimisation, both perspectives reflect underlying power dynamics and imbalances. In both accounts, deviation from pupils' expectations of how a teacher should behave appears central.

2.2.3.3. Status, spite, and having something to laugh at. The pupils participating in the focus group had not themselves filmed teachers in the classroom. However, they discussed what they perceived to be the motives of others who engaged in such behaviour. The incident at their school can be understood in relation to the global internet phenomenon commonly referred to as the 'angry teacher' trend. In such viral videos, pupils deliberately provoke teachers into losing their temper. Producing or sharing such a video may enhance a pupil's social standing and reputation among peers. Pupil 1 elaborates:

Yes, you do become a bit ... not famous, but a bit famous, because ... well, if you spread it, people will find out that it was you who filmed it. (...) People might think that: 'Yes, but then I'll get more followers', and stuff like that.

The pupils identified fame and status (i.e., gaining attention online and consequently attracting more followers) as a primary motive for engaging in pupil-initiated cyberbullying of teachers. This motivation shifts attention away from the target and towards the perpetrator. In line with this, another recurring theme concerned the relatively trivial motive of creating content that pupils could *'laugh about later'*. In such cases, the primary intention was not necessarily to disseminate the video widely but rather to generate amusement within a smaller peer group. By contrast, situations in which pupils were motivated by *'dislike'* of a particular teacher were also discussed. In such instances, cyberbullying was described as a deliberate attempt to be *'mean'* and to harm the targeted teacher.

2.2.3.4. Echoes from home. The role of parents was discussed in both the pupil focus group and the interviews with school staff. The *Echoes from home* theme illustrates how some parents became actively involved, either by expressing support for the pupils responsible for the filming on Facebook or by commenting on the viral video and questioning whether the teacher should continue working at the school. Pupil 2 stated:

There were Facebook groups where parents at the schools wrote that the teacher shouldn't be allowed to work anymore, that the teacher was violent, and so on.

The staff corroborated accounts of parental involvement in the incidents, noting that some parents acted as active instigators of cyberbullying on Facebook. Principal 1 reflected:

We've had a turbulent year behind us, with many situations where people have had opinions on what has happened or not happened. One debate has been on social media, particularly in Facebook groups, where they have exposed teachers and exposed the school leaders. They've exposed anyone they can.

The theme highlights not only how parental roles may influence young people's engagement in cyberbullying but also how pupils' and parents' engagement can reinforce one another. Negative parental involvement in these incidents may therefore be understood as part of a broader structural challenge. Working in a socio-economically disadvantaged area, staff underscored the difficulties of securing constructive parental support. Principal 2 discussed:

There is no tradition of studying. It's noticeable. We work hard to get the pupils motivated to work in school. That's our biggest challenge (...) not everyone gets support from home, as they [the parents] don't have any education themselves.

2.3. Study 2 – A survey study of school staff in Germany

2.3.1. Model construction based on Study 1, theory, and literature – hypotheses

The findings from Study 1 indicate that cyberbullying of school staff by pupils arises from a complex interplay of factors. In Study 2, insights from the qualitative case study are combined with existing research to formulate hypotheses regarding predictors of school staff exposure to filming by pupils. In line with prior research on antecedents of cyber aggression (Farley et al., 2024; Kim & Choi, 2021), the analysis focuses on targets’ personal characteristics and contextual features of the working environment. The ways in which the qualitative findings and previous literature informed the development of the hypotheses – either directly or indirectly – are summarised in Table 1.

2.3.1.1. *Personal characteristics.* The theme *Targeting the deviant* from Study 1 indicates increased vulnerability among teachers who deviate from perceived normative expectations. This was manifested in relation to accent, sexual orientation, and religious beliefs. These findings align with recent research on minority status and workplace bullying victimisation (Glabek et al., 2020; Rosander et al., 2025). One under-investigated aspect of victimisation is disability, defined as a

Table 1
Overview of how the themes identified in Study 1 informed the development of the Study 2 hypotheses.

Study 1 Themes	Reasoning	Study 2 Hypotheses	Study 2 Findings
<i>Targeting the deviant</i>	The teacher's characteristics may trigger the targeting.	Personal characteristics 1.a. Employees with a disability will experience more cyberbullying.	Rejected
		1.b. Young teachers will experience more cyberbullying.	Accepted
<i>Status, spite, and having something to laugh at</i>	Pupils' age, the work situation, and the pressure under which the teacher works will be important for targeting.	Work situation 2.a. School leaders will experience less cyberbullying than teachers with no managerial responsibility.	Accepted
		2.b Working in primary school will be associated with less cyberbullying.	Accepted
		Job demands 3.a. Employees with high levels of quantitative demands will experience more cyberbullying.	Accepted
<i>Echoes from home</i>	School-home relationships will be important for targeting.	3.b. Employees with high levels of role conflict will experience more cyberbullying.	Accepted
		School relational factors 4.a. Employees experiencing high levels of a common educational vision will experience less cyberbullying.	Accepted
		4.b. Employees reporting supportive parents will experience less cyberbullying.	Accepted
		4.c Employees reporting conflicts with parents will experience more cyberbullying.	Accepted

physical, psychological, or intellectual impairment that affects a person's ability to function in everyday life (Jenaro et al., 2018). Although research on cyberbullying among youth (Kowalski et al., 2016; Wells & Mitchell, 2014) and workplace bullying (Rosander et al., 2025) suggests an association between disability and victimisation, this relationship has not yet been examined in the context of pupil-initiated cyberbullying of teachers. Given that disability may entail deviation from socially constructed norms, examining this relationship is warranted.

Another potentially relevant characteristic is age. Younger teachers typically have less experience managing challenging classroom situations (Kohútová & Emmerová, 2017). Within the *Targeting the deviant* theme, limited classroom management skills were portrayed as increasing vulnerability – consistent with findings that less experienced teachers report higher exposure to cyber aggression from parents (Cowen Forssell, 2024). Similarly, a study of nurses found that lower levels of professional experience were associated with increased risk of cyberbullying (Kim & Choi, 2021). However, previous research reports mixed findings regarding the association between age and exposure to cyberbullying. While Oksanen et al. (2020) found that younger age was associated with workplace cyberbullying victimisation among Finnish workers, Farley et al. (2024), in a national Swedish sample, reported no increased risk related to age.

Hypothesis 1.

- 1.a. Employees who have a disability will experience more cyberbullying.
- 1.b. Young teachers will experience more cyberbullying.

2.3.1.2. *Work situation.* Previous research suggests that managers are at higher risk of experiencing cyberbullying than non-managers (Farley et al., 2024; Forssell, 2016; Gardner et al., 2016). However, in a school context, we expect that teachers, rather than school leaders, are more exposed. Teachers interact directly with pupils every day, whereas school leaders primarily perform administrative and supervisory duties, which limits their direct exposure to cyberbullying from pupils.

As the *Status, spite, and having something to laugh at* theme illustrates in Study 2, pupil cyberbullying is influenced by group dynamics and social status – factors more typical of older pupils. Considering that younger children generally possess lower technical levels and have limited access to social media, smartphones, and related devices, teachers in secondary schools are likely at the highest risk of experiencing cyberbullying. This expectation aligns with the youth literature, where Arnarsson et al. (2020) found that cyberbullying was more prevalent among children aged 13–15 compared to those aged 11.

Hypothesis 2.

- 2.a. School leaders will experience less cyberbullying than teachers with no managerial responsibility.
- 2.b. Working in primary schools will be associated with lower levels of cyberbullying.

2.3.1.3. *Job demands.* The work environment hypothesis (Einarsen et al., 1994) is the most influential model for explaining workplace bullying, emphasising how psychosocial factors in the work environment shape bullying occurrences. This model also underpins research on workplace cyberbullying (Farley et al., 2024; Vranjes et al., 2017). Research on workplace bullying consistently shows that work-environment factors (e.g., high job demands) are strong predictors of bullying, with role conflict, workload, and cognitive demands among the most significant factors (Einarsen et al., 1994; Van den Brande et al.,

2016; Van den Broeck et al., 2011; Zahlquist et al., 2023). For workplace cyberbullying, this linkage has not been corroborated to the same extent. However, Farley et al. (2024), found that emotionally demanding work and availability expectations were associated with exposure to cyber-aggressions. Similarly, Kim and Choi (2021), studying nurses, concluded that while face-to-face bullying was the strongest predictor of cyberbullying, job stress and organisational culture were also significant factors. Work environments characterised by high job demands and role conflict create conditions where disputes and tensions become more likely (Einarsen et al., 1994).

The theme *Status, spite, and having something to laugh at* in Study 1 illustrates how pupils influenced by global internet trends deliberately provoke teachers into losing their temper. We argue that educators under significant work pressure may be more vulnerable to such provocation, as stress can reduce their ability to manage challenging interactions effectively, potentially increasing their risk of being targeted.

Hypothesis 3.

3.a. Employees with high levels of quantitative demands will experience more cyberbullying.

3.b. Employees experiencing high levels of role conflict will experience more cyberbullying.

2.3.1.4. *School relational factors.* Working in an environment characterised by strong relationships with superiors and a shared understanding of work goals and methods can indicate a workplace that prioritises positive work environment and professional support (Dollard & Bakker, 2010). Employees who feel supported by leadership and aligned in their mission may experience lower stress and greater resilience, potentially reducing their risk of cyberbullying (Law et al., 2011). A shared educational vision may thus serve as a protective factor, reflecting a supportive work culture that reduces vulnerability to targeted hostility.

The *Echoes from home* theme in Study 1 illustrates how pupil-initiated cyberbullying is sometimes linked to parental involvement, with parents occasionally acting in alliance with pupils. Research on adolescent cyberbullying suggests that pupils are more likely to engage in cyberbullying when it is accepted by peers (Hinduja & Patchin, 2013; Maftei & Măirean, 2023; Sasson & Mesch, 2017) and less likely when parents respond seriously and proactively to address cyberbullying behaviours (Hinduja & Patchin, 2013; Kasturiratna et al., 2025). Accordingly, as with organisational support factors, parental support and low levels of conflict may reduce teachers' exposure to cyberbullying.

Hypothesis 4.

4.a. Employees experiencing a strong common educational vision will experience less cyberbullying.

4.b. Employees reporting supportive parents will experience less cyberbullying.

4.c. Employees reporting conflicts with parents will experience more cyberbullying.

2.3.2. Material and methods Study 2

2.3.2.1. *Study sample.* The study population comprises responses from 73,821 teachers and school leaders who participated in cross-sectional psychosocial risk assessment surveys conducted in German schools between 2014 and 2022. The surveys were administered as full censuses, inviting all teachers employed in state schools in parts of the federal

states of Baden-Württemberg and Nordrhein-Westfalen to participate. Links to the online surveys were distributed to teachers and school leaders and accessed using school-specific passwords. Overall response rates ranged between 40 and 50% across survey waves, with school-level response rates varying from 0% to 100%. Inclusion criteria for the present study were teachers working in primary schools (educating children aged 6–10), lower secondary schools (pupils aged 11–16), and upper secondary schools (pupils aged 11–18). Other school types, such as special schools for pupils with learning difficulties and vocational schools, were excluded from the analysis. The study population is not a sample but consists of all participating teachers from the three specified types of state schools in the defined regions.

The surveys were conducted in compliance with the EU General Data Protection Regulation (GDPR). Informed consent was obtained, participation was voluntary, and all data were anonymized for analysis and reporting.

2.3.2.2. *Measurements.* The questionnaire was based on the adapted German standard version (Lincke et al., 2021) of the international instrument COPSOQ III (Burr et al., 2019), supplemented with demographic items. The school context was further addressed through nine supplementary scales developed and validated in 2006 for the first school survey in Baden-Württemberg (Nübling et al., 2008). In subsequent years, additional school-specific measures were introduced, including items related to violence and cyberbullying (see Appendix A).

2.3.2.3. *Outcome variable.* Self-labelled victimisation. Cyberbullying was measured using a single item: 'I experience insults, humiliation, and attacks from pupils on the Internet (cyberbullying)'. Responses were recorded on a five-point Likert scale: does not apply; applies to a small extent; applies moderately; applies to a fair extent; applies very much.

2.3.2.4. *Background factors.* The following personal characteristics were assessed: Gender (male, female, other – the latter excluded from analysis due to small numbers); age group (<35, 35–44, 45–54, >55 years); and recognised disability (yes/no). Work-related characteristics included leadership position (yes/no) and school type (primary, lower secondary, upper secondary).

2.3.2.5. *Job demands.* Quantitative demands (five items) and role conflict (three items) were measured using COPSOQ III (Lincke et al., 2021). Items were rated on five-point Likert scales. Scale scores were calculated as the mean of item responses and transformed to a 0–100 metric. Scale scores were set to missing if fewer than half of the items were completed. All scales were scored in the direction indicated by their labels (Burr et al., 2019).

2.3.2.6. *School-relational factors.* Three school-specific factors were assessed: conflicts with parents (three items), support from parents (three items), and common educational vision (five items). Each item used a five-point Likert scale. Scales ranging from 0 to 100 were constructed following the same procedure as for the COPSOQ scales and have been previously validated (Nübling et al., 2008).

2.3.2.7. *Analyses.* The data were analysed using IBM SPSS Statistics version 29. Descriptive statistics were used to summarise the characteristics of the study population. Frequencies of cyberbullying exposure were calculated for subgroups, and group differences were examined using ANOVA. Mean scale scores, standard deviations, Cronbach's alphas, intraclass correlation coefficients (ICC), and bivariate correlations (Pearson's r , eta values) were computed.

Subsequently, binary logistic regression analysis was conducted to examine associations between the predictors and exposure to cyberbullying. The outcome variable was dichotomised into low exposure (does not apply; applies to a small extent; applies moderately) and high

exposure (applies to a fair extent; applies very much). Associations between the predictors and high exposure to cyberbullying were expressed as odds ratios (ORs) with 95% confidence intervals to test the hypotheses. The work environment predictors primarily derived from COPSOQ scales scored from 0 to 100. In COPSOQ-based workplace research, a 5–10-point difference is considered a minimal important difference (Pejtersen et al., 2010). Accordingly, ORs for predictors measured on a 0–100 scale are presented per 10-point increase. A two-tailed significance threshold of $p < 0.005$ was applied. However, given the large sample size, even small effects may reach statistical significance. The interpretation of the findings therefore also considers absolute mean differences and the magnitude of effect estimates, including ORs, when interpreting the findings.

2.3.3. Study 2 results

The descriptive analysis presented in Table 2 is based on 73,821 participants who met the inclusion criteria. Most respondents were females (74%), 58% were between ages 35 and 54, 13% held a leadership position, and 5% reported a legally recognised disability. Regarding school type, 33% were employed in primary schools, 42% in lower secondary schools, and 25% in upper secondary schools. Table 3 presents mean scale scores, standard deviations, and reliability statistics for the predictor variables.

The distribution of responses to the outcome measure, cyberbullying, revealed a pronounced floor effect and an uneven distribution across response categories. The mean score for cyberbullying was 17.0 on a 0–100 scale. This distribution prompted dichotomisation of the variable: approximately 8% of respondents reported that cyberbullying applied to a fair extent or very much, and were therefore classified as having high exposure, while the remaining respondents were categorised as low exposure. All predictors showed a significant bivariate association with cyberbullying (Table 4).

The binary logistic regression model (Table 5) presents the associations between cyberbullying and background characteristics, work situation, and school-specific factors when entered simultaneously. The model accounted for 20% of the variance in cyberbullying exposure

Table 2
Sample characteristics: socio-demographics, occupational details, and exposure to cyberbullying.

Item	Category	Frequency ^a	Percent ^a
Gender	Male	18710	25.3
	Female	54442	73.7
Age group	<35 years	17117	23.2
	35–44 years	22965	31.1
	45–54 years	19839	26.9
	>55 years	13375	18.1
Disability	No	69827	94.6
	Yes	3540	4.8
Leadership position	No	63081	85.5
	Yes	9749	13.2
School type	Primary school	24433	33.1
	Secondary school, lower educational level	30648	41.5
	Secondary school, higher educational level	18740	25.4
Cyberbullying ('I experience insults, humiliation and attacks from pupils on the Internet')	Does not apply	44630	60.5
	Does not apply much	15789	21.4
	Applies moderately	7628	10.3
	Applies to a fair extent	4032	5.5
Cyberbullying (dichotomous)	Applies very much	1742	2.4
	Low exposure	68047	92.2
	High exposure	5774	7.8

^a The difference from the total respondents of 100% ($n = 73821$) is caused either by 'no answer' or, for gender, also by the response option 'other'.

(Nagelkerke R Square = 0.20).

Personal background: Hypothesis 1a was rejected, as the association between having a disability and experiencing high exposure to cyberbullying was statistically insignificant ($p = 0.52$). As expected, increasing age was associated with lower likelihood of cyberbullying (Hypothesis 1b; OR = 0.92, 95% CI 0.90–0.95). While no hypothesis was formulated regarding gender, the analysis showed that female teachers were less exposed (OR = 0.90, 95% CI 0.84–0.96) than their male colleagues.

Work situation: As expected, respondents in leadership positions (Hypothesis 2a; OR = 0.87, 95% CI 0.79–0.97) and those working in primary schools were less likely to report high cyberbullying exposure than their counterparts. High exposure was particularly pronounced among teachers in lower secondary schools (OR = 4.30, 95% CI 3.93–4.72).

Job demands: As expected, higher odds of experiencing cyberbullying were associated with increased levels of quantitative demands (Hypothesis 3a; OR = 1.13, 95% CI 1.11–1.15). This indicates that the odds of high exposure to cyberbullying increased by 13% for each 10-point increase in quantitative demands (on a 0–100 scale), holding all other predictors constant. Similarly, higher levels of role conflict were associated with greater odds of high cyberbullying exposure (Hypothesis 3b; OR = 1.06, 95% CI 1.04–1.07).

School-relational factors: Finally, the results for these factors also supported the hypotheses. More frequent conflicts with parents were associated with a higher likelihood of cyberbullying (Hypothesis 4a, OR = 1.18, 95% CI 1.16–1.20). Respondents reporting greater parental support (Hypothesis 4b, OR = 0.76, 95% CI 0.74–0.78) and a stronger sense of a common educational vision (Hypothesis 4c, OR = 0.95, 95% CI 0.94–0.97) were less likely to report high exposure to cyberbullying.

3. Discussion

This mixed-methods study combines qualitative and quantitative approaches to investigate teachers' experiences of pupil-initiated cyberbullying. In Study 1, conducted in Sweden, a focus group interview was held with pupils and in-depth interviews were conducted with school staff to gather insights into their lived experiences. The findings from this study, combined with prior research, informed the development of hypotheses tested in Study 2, a large-scale cross-sectional survey of teachers in Germany.

Almost 8% of the respondents in Study 2 reported high exposure to pupil-initiated cyberbullying. This level is comparable to the 10% of the general population in Australia who reported experiencing cyberbullying from various work relationships in the past year (Rahimi, Arnold, LaMontagne, & Riley, 2025). In contrast, only 2% of the general working population in Sweden has reported similar experiences (Farley et al., 2024). The results from Study 2 supported eight of the nine hypotheses derived from Study 1, demonstrating a high degree of cross-contextual validity. These findings are discussed in more detail below.

3.1. Personal factors

A central finding was that younger teachers were more exposed to pupil-initiated cyberbullying than their older colleagues. This supports the hypothesis that professional maturity and classroom management skills, which typically increase with age and experience, may function as protective factors (Kohútová & Emmerová, 2017). This finding aligns with how school staff reasoned about vulnerability, where weak leadership skills were emphasised as a factor explaining why certain teachers were targeted. However, this reasoning differed from pupils' accounts. Pupils pointed instead to deviation from perceived norms (e.g., accent, religion) as explanations for why certain teachers were exposed. Deviating from the norm, which can also be conceptualised as minority status within a given context, is consistent with recent research on workplace bullying (Glambek et al., 2020; Rosander et al., 2025) and youth

Table 3
Descriptive statistics of psychosocial work factors (0–100 score).

Scale	Positive value	No. of items ^a	Cronbach's alpha	ICC	N	Scale mean (0–100)	Std. deviation
Quantitative demands	low	5	0.78	0.41	73334	63.0	16.7
Role conflict	low	3	0.80	0.58	73626	51.4	21.4
Common educational vision	high	5	0.87	0.57	73702	60.2	20.7
Conflicts with parents	low	3	0.90	0.74	73408	35.2	21.0
Support from parents	high	3	0.81	0.59	73367	55.2	16.6

^a Items and response categories in detail: [Appendix A](#).

Table 4
Associations of group differences and correlations of personal and situational factors with cyberbullying (0–100 score).

Subgroup/Scale	Eta/Pearson's r (p value)
Gender ^a	0.09 (<0.001)
Age group ^b	0.06 (<0.001)
Disability ^a	0.01 (=0.049)
Leadership position ^a	0.04 (<0.001)
School type ^a	0.29 (<0.001)
Quantitative demands ^b	0.13 (<0.001)
Role conflict ^b	0.16 (<0.001)
Common educational vision ^b	-0.20 (<0.001)
Conflicts with parents ^b	0.22 (<0.001)
Support from parents ^b	-0.25 (<0.001)

^a Eta for mean difference between groups

^b Pearson's r for correlation of scales

cyberbullying (Kowalski et al., 2016; Wells & Mitchell, 2014). Pupils and school staff pointed in different directions regarding victimisation, however both perspectives reflect underlying power imbalances. Deviation from expected norms, often linked to minority status, is closely connected to broader societal power relations that may be reproduced and reinforced in the classroom. In this study, disability was examined as a potential predictor. However, contrary to assumptions derived from research on non-prototypicality and victimisation (Glambek et al., 2020), workplace bullying (Rosander et al., 2025), and youth cyberbullying (Kowalski et al., 2016; Wells & Mitchell, 2014), disability was not significantly associated with pupil-initiated cyberbullying. A more detailed examination of the type and severity of disability might, however, yield results more consistent with previous findings (e.g., Jenaro et al., 2018). Although not included in the hypotheses, the findings indicated a higher risk of victimisation among men. Previous cyberbullying research reports mixed results regarding gender differences, with some studies indicating higher exposure among men (e.g. Choi & Park, 2019; Vranjes et al., 2018) and others reporting greater

victimisation among women (e.g., Cassidy et al., 2016; Salazar, Weiss, Yarbrough, & Sell, 2024). Attention to gender segregation in the labour market may provide a more nuanced understanding of risk patterns. In this context, the over-risk for men may reflect norm deviation, given that teaching is a female-dominated profession.

3.2. The work situation and job demands

The most prominent single risk factor identified in relation to pupil-initiated cyberbullying was *type of school*. In line with our hypotheses, those working in primary schools were least likely to report exposure, whereas those working in secondary schools, especially lower secondary schools, were at substantially higher risk. This finding corresponds with previous research showing that cyberbullying among youth is most prevalent among those aged 13–15 (Arnarsson et al., 2020). Together, these findings help identify key targets for prevention efforts. Consistent with our expectations, teachers were more exposed than respondents in leadership positions. This contrasts with findings from other occupational settings, where managers have been found to be at increased risk of cyberbullying (Farley et al., 2024; Forssell, 2016). However, pupil-initiated cyberbullying differs from workplace cyberbullying in other sectors in terms of both offender characteristics and interaction patterns. Characterised by an ongoing, day-to-day engagement, teachers engage with pupils on a daily basis, and this sustained interaction may increase opportunities for cyberbullying incidents to arise, particularly those involving filming in the classroom. Such interpersonal proximity may also increase the likelihood that pupils, individually or collectively, form strong opinions about teachers.

Just as personal and school-related characteristics contribute to understanding victimisation, aspects of the work environment are equally important, as they represent potential avenues for change. High job demands – particularly heavy workload and role conflict – were associated with increased exposure. While role conflict was not significantly related to cyberbullying in a previous study (Farley et al., 2024), this lack of association may have been due to limited statistical power, an

Table 5
Multiple logistic regression model for all factors predicting high exposure to cyberbullying.

Dimension	Subgroup/Scale	B	df	Sig.	Exp(B)/odds ratio	95% C.I.for EXP(B)	
						Lower	Upper
Personal characteristics	Gender (female)	-0.11	1	<0.01	0.90	0.84	0.96
	Age group (4 groups)	-0.08	1	<0.001	0.92	0.90	0.95
	Disability	-0.04	1	= 0.52 (ns)	0.96	0.83	1.10
Work situation	Leadership position	-0.14	1	<0.05	0.87	0.79	0.97
	Type of school (3 categories)	-	2	<0.001	-	-	-
	Secondary school, lower level	1.46	1	<0.001	4.30	3.93	4.72
Job demands	Secondary school, higher level	0.46	1	<0.001	1.58	1.41	1.77
	Quantitative demands	0.12	1	<0.001	1.13	1.11	1.15
	Role conflict	0.05	1	<0.001	1.06	1.04	1.07
School-relational factors	Common educational vision	-0.05	1	<0.001	0.95	0.94	0.97
	Conflicts with parents	0.17	1	<0.001	1.18	1.16	1.20
	Support from parents	-0.27	1	<0.001	0.76	0.74	0.78
Constant	Constant	-2.96	1	<0.001	0.05	-	-

Codings: Work situation and Job demands: linear (0–10; i.e., 1 unit = 10 points); Type of school (3 categories): Primary school (reference category), Secondary school, lower educational level, Secondary school, higher educational level; Age group (linear): <35 (2), 35–44 (3), 45–54 (4), >55 (5); Gender (dichotomous): male (1), female (2); Leadership position (dichotomous): no (1), yes (2); Disability (dichotomous): no (1), yes (2).

Model statistics: Valid cases n = 70820 of 73821; Chi² = 6110, (df = 11), p < 0.001; Nagelkerkes R² = 0.20 Hosmer-Lemeshows C = 54.1 (df = 8), p < 0.001.

issue addressed in the present study. That study also highlighted the role of emotional demands and perceived opportunities to deliver high-quality work in relation to cyberbullying (Farley et al., 2024). Taken together with the current findings, this suggests that features of the work environment may shape the quality of work-related interactions, potentially creating conditions conducive to cyberbullying victimisation. The results therefore indicate that initiatives aimed at improving the psychosocial work environment – particularly by addressing excessive job demands – may help address underlying causes and contribute to the prevention of pupil-initiated cyberbullying.

3.3. School relational factors

Another important finding of this study is the association between conflicts with parents and exposure to cyberbullying, indicating that this relationship is particularly salient. The results correspond with previous research on cyberbullying among pupils, showing that peers' and parents' acceptance of cyberbullying influences pupils' own engagement in such behaviour (Hinduja & Patchin, 2013; Maftai & Măirean, 2023; Sasson & Mesch, 2017). As the *Echoes from home* theme in Study 1 illustrates, parents' own engagement in school-staff cyberbullying may coincide with their children's behaviour. This underscores the importance of further exploring teacher–parent dynamics in future occupational health research. Moreover, a work environment characterised by a common educational vision was associated with a slightly lower risk of exposure to pupil-initiated cyberbullying. A strong educational vision may unite staff, pupils, parents, and the wider community around common goals such as academic success, respect, inclusion, and emotional well-being. This may contribute to establishing a shared understanding of acceptable student online behaviour.

3.4. Theoretical, practical, and methodological implications

Workplace cyberbullying remains under-investigated compared to cyberbullying among adolescents. This study bridges these two research areas by centring teachers' exposure to pupil-initiated cyberbullying. It further contributes to the theoretical understanding of workplace cyberbullying by linking pupil-initiated cyberbullying to broader conditions within the work environment.

The findings offer theoretical insight with practical relevance, particularly regarding where preventive interventions should be directed. Factors associated with cyberbullying (e.g., age, gender, position, type of school) may inform targeted prevention strategies. For example, the alignment with previous research indicating younger teachers' vulnerability to cyberbullying (Cowen Forssell et al., 2024; Kohútová & Emmerová, 2017; Oksanen et al., 2020) highlights the importance of targeted mentorship and structured support for early-career teachers. Another key finding concerns the higher risk of exposure in lower secondary schools compared to primary schools. This suggests the relevance of a dual preventive strategy: 1) early intervention among primary school pupils to address problematic behaviours before they escalate, and 2) targeted efforts in secondary schools focusing on the psychosocial work environment and parent–school relations, particularly in contexts characterised by serious challenges. In both approaches, senior management commitment to proactive organisational strategies is essential (Berthelsen & Cowen Forssell, 2025). Given that approximately eight out of 100 teachers reported exposure to cyberbullying, broader societal responses may also warrant consideration. For instance, legislative measures regulating pupils' use of mobile devices in schools, such as those introduced in Norway (Abrahamsson, 2023), may contribute to shifting problematic norms and practices.

Methodologically, this study introduces a novel approach to investigating workplace cyberbullying by applying mixed methods to a field that has largely relied on single-method survey designs. By combining a qualitative case study exploring pupils', teachers', and school leaders' perceptions and experiences with a large-scale quantitative survey, the

study integrates exploratory and predictive dimensions, thereby strengthening both depth and generalisability. Given the relative novelty of workplace cyberbullying research, integrating qualitative exploration with statistical analyses of antecedents enables the identification of perspectives that might otherwise remain overlooked.

3.5. Limitations and future research directions

The mixed-methods design applied in this study offers several advantages. In an emerging research field with limited existing literature, it is beneficial to rely not only on prior research but also on exploratory qualitative data when formulating hypotheses for quantitative testing. Given the scarcity of comparable studies and the primary purpose of the qualitative component as hypothesis-generating, we argue that it provides valuable insights. Importantly, the interviews included both pupils and teaching staff, enabling a more nuanced understanding of the phenomenon and its underlying mechanisms. Another strength is the large sample size of the quantitative study, comprising responses from more than 70,000 teachers and school leaders, which ensured substantial statistical power for hypothesis testing. Furthermore, combining data from two countries supports the presence of an intercultural dimension in pupil-initiated cyberbullying and strengthens the transferability of the findings across national contexts.

However, the study also has limitations. First, the cross-sectional design restricts causal inference. Second, the quantitative data were not collected specifically for this project. As a result, cyberbullying was measured using a single item, despite the complexity of the phenomenon. Additionally, the use of legal disability status as a proxy for identity-based norm deviations is conceptually limited. Disability status reflects a formal administrative classification and does not adequately capture the identity-based deviations emphasised in the qualitative case study (e.g., religion, gender expression). Moreover, several findings from the case study could not be examined quantitatively because they were not covered in the available survey instrument. This includes factors such as pupils' socio-economic background and the school's rural or urban location. These aspects warrant further investigation in future research. Finally, the findings underscore the importance of the local school context, particularly regarding the psychosocial work environment and shared educational vision. This highlights the need for future studies to adopt multilevel designs that account for organisational and contextual influences.

3.6. Conclusions

The findings indicate that both personal and situational factors are central to understanding pupil-initiated cyberbullying against teachers. Although pupils' intentions were not necessarily to cause harm, the qualitative findings suggest that teachers who deviated from perceived norms or struggled with classroom management were more likely to be targeted. The survey results further showed that teachers – especially men, younger staff, and those working in lower secondary schools – were at higher risk of reporting exposure, whereas school leaders were less exposed. Both studies highlighted the importance of parental roles and the quality of parent–teacher relationships. Additionally, the quantitative findings indicated that a psychosocial work environment characterised by high job demands may constitute a structural risk factor.

In conclusion, the study underscores the complexity of pupil-initiated cyberbullying against teachers and identifies several potential avenues for prevention. By integrating individual, relational, and organisational perspectives, the findings provide a foundation for future research aimed at developing and testing multi-level interventions.

CRediT authorship contribution statement

R. Cowen Forssell: Writing – review & editing, Writing – original

draft, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **H. Berthelsen**: Writing – review & editing, Validation, Investigation, Funding acquisition, Conceptualization. **H.-J. Lincke**: Writing – review & editing, Formal analysis, Data curation. **M. Nübling**: Writing – review & editing, Validation.

Declaration of the use of AI

AI was not used for any part of the work related to the manuscript submitted.

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Declaration of competing interest

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.chbr.2026.101074>.

Data availability

The authors do not have permission to share data.

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