"That Really Pushes My Buttons": Designing Bullying and Harassment Training for the Workplace

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ABSTRACT
Workplace bullying and harassment have been identified as two of the most concerning silent and unseen occupational hazards of the 21st century. The design of bespoke training addressing domain-specific job roles and relations presents a particular challenge. Using the concept of *data-in-place* where data is understood as being bound and produced by a particular place, this paper describes how locally-situated accounts can be used to engage employees in workplace-specific training seminars. Using higher education as a case study, we describe a four-stage design process for future training efforts: (1) in-depth interviews for further understanding of bullying and harassment; (2) design of digital probes for capturing contextual data; (3) probe deployment and subsequent data analysis; (4) data-driven discussion-based seminars. We outline the potential for digital probes in promoting the denormalization of toxic workplace cultures, considerations for novel sensitive data governance models, and the discussion of *data-in-place*'s temporal dimension.

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Workplace bullying; workplace harassment; training; data-in-place;

ACM Classification Keywords
H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous;

INTRODUCTION
According to research by the Trades Union Congress (TUC) nearly a third of people in the UK disclosed accounts of bullying at work, with over half of female respondents sharing experiences of harassment in 2016 [57,58]. These statistics are all the more concerning when the detrimental impacts of these behaviors on workers' physical, mental and social health are considered [31,37].

The design of digital tools including panic buttons [68] and anonymous reporting platforms [55] have provided survivors with interfaces to covertly signal for help to avoid potential confrontation, and to allow them to discretely disclose concerns. Yet advocating the use of such tools transfers responsibility of reporting and staying safe onto the person who might be in distress, individualizing a complex societal problem.

Universities in the UK have sought to mitigate this behavior, and provide fair treatment of complaints through introducing formal policies and training programs [4]. However, higher education institutions have been criticized for reliance on commercial off-the-shelf digital training programs – dubbed as the "*virtual panacea*" [9,23] for the problem – that do not address the unique power structures and cultures generated by job roles and relations within this sector. The human computer-interaction (HCI) community has been increasingly engaged with the needs of survivors and improving reporting processes in related areas including harassment in public spaces [1,2,29], and sexual harassment and assault [26,52]. The field has also witnessed a growth of more nuanced understandings of how data is influenced, produced and sustained by its immediate environment [19,54]. Yet there has been little research in considering the inclusion of these technologies or their dynamic content in the design of future training. By utilizing existing survivor-driven approaches that elevate individual accounts of discrimination [7], there is considerable potential for use of localized accounts of negative workplace behaviors. Such approaches will afford opportunities to consider accounts within their nuanced context, to challenge their corresponding workplace cultures, and to distribute responsibility for negative workplace behavior beyond the survivor.

We investigated how the use of localized accounts of bullying and harassment collected through interviews and digital probes can contribute towards employee training seminars that address workplace-specific issues. Consequently, we also address how being confronted by other colleagues' accounts through discussion groups can encourage thinking about workplace behaviors and construct positive employee responses. Our contribution is two-fold: (1) the design of two digital probes for capturing contextual *data-in-place* on negative workplace behaviors; and (2) considerations for the design and content of future service delivery using local, participant accounts of their workplace.

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BACKGROUND

Occupational bullying and harassment are activities involving any unwanted behavior that make someone feel intimidated, degraded or humiliated within a workplace. Although used interchangeably, in the context of the United Kingdom, *harassment* is targeting a person due to a protected characteristic of the Equality Act 2010 [27] (age, race, sex etc.) but may also include the defining emotionally and physically damaging behavior of bullying. As both terms involve the misuse of power, victimization and intimidation, the two are often addressed together or under the umbrella term 'negative workplace behavior'.

Although more attention has been paid to overt, direct interpersonal bullying, the vast majority of reported actions involve relative subtlety [36]. These actions are often harder to identify and contest, for example withholding important information or being assigned unreasonable task deadlines [22]. Non-episodic actions such as starting a malicious rumor or being forced to work in unhealthy surroundings can also count as instances of bullying [17]. Additionally, the process of identifying, expressing and reporting incidents of bullying and harassment is still fraught with difficulty for the survivor. When negative behaviors are witnessed or experienced *moral disengagement* may occur, whereby an individual may convince themselves that ethical standards, that might require that individual to challenge or intervene, do not apply to them in a particular context. This process can lead to responsibility transfer onto the survivor ('victim blaming'), disassociation with the survivor and even normalization to such actions (familiarization to events where inappropriate behavior is excused as 'normal') [56].

Higher Education Responses to Bullying & Harassment

Despite a growth of occupational bullying and harassment research [38], university-based researchers have been slower to address incidents of "*bullying in their own backyards*" [32]. Although many UK universities have Dignity and Respect charters that aim to encourage a working and learning culture where discriminatory behaviors are known to be unacceptable, 26% of respondents of the University and College Union's (UCU) *Negative Behaviours Survey* stated they had experienced bullying in the last six months [61]. In response to the rise in sexual harassment reports on campus – described as being just the "*tip of the iceberg*" [6] – many universities have attempted to mitigate future occurrences through employee training courses. Yet attendance in bullying and harassment courses alone has been shown to have a minimal impact on broadening participant responses to inappropriate workplace behaviors. Bingham & Scherer's study of a sexual harassment training program for a US metropolitan university saw a heightened sensitivity, and increased ability, to recognize instances of harassment, but did not lead to an increased propensity to report sexual harassment if experienced first-hand [8].

Although there are strong inducements for organizations to purchase off-the-shelf e-learning courses for their employees, lone, asynchronous learning environments may be unsuitable for teaching socially-sensitive topics [51]. Despite advantages to e-learning courses, including standardized delivery and self-paced learning, participants are unable to effectively query the rationale behind social norms (e.g. appropriateness and acceptability) which can result in frustration and rejection of training altogether. As Paludi & Barickman have argued, more intensive training methods are necessary to affect people's response to harassment and bullying, through use of case studies and group discussion [49,71]. When learning about appropriate workplace behaviors, colleague interaction through discussion and debate can reinforce promoted behavior, contribute towards the learning process and potentially foster a greater sense of social responsibility. As higher education has a number of organizational and work features that increase the likelihood of hostile interpersonal behaviors [44,60], it is valuable to consider the use of local data in the delivery of discussion-focused training.

Digital Innovation in Negative Workplace Behavior

Digital innovation addressing occupational bullying and harassment behaviors has largely focused on three areas: aggressive behaviors on social media [46,64]; automatic detection of toxic behavior [14,40]; and investigations of bullying behaviors in ICT settings [28,48]. Although there is a wealth of work of their online counterparts (cyberbullying and cyberstalking), considerably less work has addressed bullying and harassment in their physicality. In the rare instances where negative workplace behavior has been addressed directly, designs often take on the form of panic alarms for individuals to signal for help such as *Little Green Button* [68] or anonymous reporting applications such as *Blind* [55], where employees can raise a concern on working conditions. Such technologies are however subject to Scott's critique of "*narrowing of vision*" [50], whereby smaller, more limited aspects of a complex societal problem – in this case actions taken by a person to 'stay safe' – are focused on and designed for, rather than the larger issue at hand. Although the possession of such tools may be useful in confrontational situations, they can be inappropriate for scenarios where behaviors are subtle or hard to identify. As Brynjarsdóttir *et al*. argue, although breaking down complex problems into smaller, manageable aspects can lead to simpler digital systems such as personal safety devices, these often have "*unintended consequences*" [13].

Encouraging the use of such tools places a further onus on the survivor to take active steps in mitigating any harm, rather than challenging the aggressor's unacceptable behavior. Recent work within HCI has recognized that individual actions (e.g. making the act of reporting an incident easier) have limited potential to address large-scale social challenges [13,33,52]. Such work asks designers to conceptualize problems beyond the individual by considering the detailed political and cultural context before a digital 'solution' is suggested (if at all) [15]. There is substantial scope for digital technologies – beyond personal

safety devices – in supporting existing attempts to address bullying and harassment in the wider workplace context and create constructive workplace cultures.

Exploring Data-In-Place

Independent reports compiled by the University and Colleges Union and the Trades Union Congress habitually form the design basis for future harassment and discrimination training [58,59]. Yet often accounts within these reports are extracted from the complex socio-cultural setting which cultivated them, leading to a simplification of events and a distancing from causation. However simply providing an account with a brief 'context' description (a 'when, where and how') can fail to appreciate the rich social and historical culture upon which it depends. When considering Kutti and Bannon's use of practice, context is far from a static entity and rather a "*momentary result of historical evolution, under constant influence of a variety of ever-changing forces*" [35]. As most cases of bullying and harassment are far more complex than simple conflicts between two individuals, it is essential for future training to take into account different types of contextual information.

HCI has an established history of research in designing and developing technologies for data collection, analysis and presentation of personal and private data. Yet more recent work within the field has evolved into nuanced discussions on the relationship between human experience and said data, such as the manifestation of data in everyday social encounters [18] and reflections on the past [20]. Taylor *et al.*'s understanding of *data-in-place*, describes data as possessing the ability to "*materialize specific configurations of people, things and places, and give form to the very particular kinds of worlds we live in*" [54]. *Data-in-place*, not merely situates accounts in a physical place but encourages researchers think about data in terms of a social geography in which "*data, people and things intermingle to continuously enact place*" [54]. Despite its use in civic and urban contexts, the challenge of designing practical processes that mobilize the constructive power of *data-in-place*, for positive social change and organizational contexts, is largely unexplored.

STUDY DESIGN

Through using local accounts as the basis for design and implementation of bullying and harassment employee training, this study aimed to synthesize and address the concerns identified in previous research. Focusing on members of an academic sub-unit (i.e. a school) within a UK university, the study ran over three months with four stages: 1) gathering accounts for understanding bullying and harassment; 2) design of digital probes; 3) digital probe deployment and data analysis; 4) design and organisation of data-driven seminars that incorporated interview and probe data for progressive discourse. In prioritizing survivor safety and well-being, research methods that supported the sensitive and non-judgmental delivery of a 'survivor-driven' approach were selected. This approach has emerged through community organized efforts to challenge traditional emphasis on the priority of distance, neutrality and objectivity which have been used to discriminate against the survivor and their experiential knowledge [7].

The first stage of the study sought to gain a better understanding of the context of bullying and harassment, either from first-hand experience or management of incidents, through fifteen interviews of staff and students. The second stage responded to thematic analysis performed on interview accounts that revealed language restrictions in describing the context further and an interest in the generation of quantitative data on the topic. In response to these findings, two digital probes *Discrimination Bingo* and *Lifting the Lid* were designed to record further data on the school's environment. The third stage involved the deployment of both digital probes with participants and short, informal discussions about attitudes towards their introduction in the participants' workplace. The final stage utilized the collected data in the design and content of bespoke data-driven training seminars held with participants of differing job roles within the school.

The choice of a school within a UK public research university was based on its proximity to the research team – a postgraduate student, an associate professor and a full professor (all specialists in HCI). In response to concerns raised about bullying behaviors and the lack of institutional training provision, this research was conducted as a 'trial-run' within an academic sub-unit to inform potential future training for the unit. Full ethical approval was obtained from the researchers' university ethics committee with participants recruited through word of mouth and from academic mailing lists. We acknowledge our choice of study location undoubtedly impacts on our participants ability to identify and respond to negative workplace behaviours.

STAGE 1: INTERVIEWS

The traditional qualitative interview has often been considered a way of giving voice to experiences or perspectives that have remained largely silenced or underexplored [69]. Through this understanding, one-to-one semi-structured interviews were conducted to scope participant experience and perception of negative behaviors in their workplace. In line with recommendations for sensitivity, interviews were conducted in a neutral location, open questions were used to permit participants to disclose discursive responses and participants were offered the opportunity to stop the interview at any time [3,34,47]. Participants were questioned on either personal experience of being a survivor or their experiences of handling cases of bullying and harassment in order to discern both managerial and operational attitudes. General questions on preferences for the content and design of future training and support were also asked to identify existing gaps in current organizational responses. Consent, data protection and anonymization procedures were discussed at length to ensure participants

would not risk conceivable negative sanctions for contributing towards the study.

Number	Job Role	Gender Ratio (M:F)	Experience in Role (years)
5	Professional Service Staff	1:4	0.5–5
2	Ex-Undergraduate Students	1:1	3
4	Postgraduate Students	1:3	1–4
2	Research Associates	1:1	2–5
2	Academics	2:0	3–15

Table 1: Restricted Participant Characteristics: Number, Gender, Role & Experience

In the interests of acquiring a variety of staff and student experience, participants performing differing job roles and levels of experiences were sought. Although participants belonged to the same academic sub-unit as the researchers, none were known personally to the team. Fifteen participants (P1–P15 [Table 1]) were interviewed, each for a duration of between 60 to 95 minutes, over an eight-week period. Former members of the school were originally omitted from the study scope but due to interest in the research, two former students were also interviewed. Nine out of fifteen participants disclosed that they had experienced various degrees of negative workplace behavior within the last two years, with five out of the remaining six participants stating they had witnessed these actions within their workplace. To mitigate the risk of jigsaw identification, we only include a restricted description of participants' gender, organizational role and experience (Table 1).

INTERVIEW FINDINGS

All interviews provided insight into the ways in which participants rationalized both bullying behaviors and school responses to such observed instances. Despite the sensitive topic, all participants discussed their experiences and potential improvements to existing attitudes candidly, expressing interest in the study's potential for organizational change. Transcripts were subsequently analyzed using thematic analysis [11] where three common areas of discussion were identified: absence of participant voice, assurance in numbers and the use of 'real' accounts for training.

Absence of Participant Voice

All participants that recounted experiences of negative workplace behavior felt anxious and despondent about reporting such incidents. When prompted further, most expressed a fear of negative consequences and a maintenance of a pessimistic attitude towards a managerial response. This negativity progressed beyond participant concern for further targeting or job prospects and manifested as a hypersensitivity to their workplace's social ecosystem. As P13 stated:

"… deep down I knew what happened to me was wrong, but management could just … just sweep it under the rug and my report [of harassment] could change my whole workplace. Sometimes it's just better to grin and bear it".

Alternative modes of reporting were often denounced as a solution to this issue, for concerns on being unable to 'figure out', 'identify' or 'describe' what was "*really happening*" (P2). Although most participants could cite the definitions of both bullying and harassment, and provide explicit examples of such ('name calling', 'picking on people'), there was a concern about the covert and seemingly invisible nature of their experiences. To this extent, some participants expressed comfort in staying quiet, wishing to not "*rock the boat*" (P9) but were jointly distressed at their inability to communicate what was happening. P1 described their workplace where "*there are many things that go on that you can't talk about, because you don't know how to talk about them*". This lack of discussion in the workplace was equally discussed as a silence deliberately maintained by individuals in authority but also as a natural consequence of a culture where individuals did not speak up. When questioned further, participants disclosed this was likely due to uncertainty regarding whether a particular action constituted as inappropriate behavior.

Assurance in Numbers

Both managerial and organizational perspectives described cases of bullying and harassment as resisting quantification. This was due to the fear of the loss of rich complexity by "*just being reduced down to numbers*" (P7). Participants conceptualized their own accounts as being seen as 'numbers' and 'data' by management, dehumanized and distanced from the environment in which they occurred. It was difficult to determine whether this was an accurate portrayal as participants who had managed cases were bound by confidentiality, for instance referring to such cases as "*a couple of cases of bullying each year*" (P14).

There was also a playful curiosity as to the possibility of how numbers could help to contextualize a workplace with participants asking "*how many times a day the small stuff happened*" (P10) and "*what rating would people give their workplace?*" (P3). These questions posed an interesting power dynamic where participants felt "*in control*" (P8) of not only how they were represented but also what was represented. Similarly, P6 also discussed how experiencing the 'small stuff' surrounding workplace bullying and harassment meant that they often would "*fall through the cracks"* as their experiences of deliberate exclusion and excessive criticism by a manager often did not "*show up on a tick box survey about workplace behavior*".

Using 'Real' Accounts for Training

Participants considered existing training material to be 'out of date' and 'irrelevant' to their workplace with P2 asserting "*… it's no good just describing what happened to someone elsewhere, people won't really care about that. People might care if they knew details about what happens here*".

Participants discussed their skepticism of the validity of accounts used in commercial-off-the-shelf training due to their inability to be verified. Although there were likely 'imperfections' within a local account, this was considered a positive, accredited with a larger emotional impact due to its 'realness' or 'rawness'.

Participants stressed several times the importance of when and where accounts occurred through descriptions of how their own rationalization of incidents changed the way in which they relayed events to themselves and others. Some participants discussed changing their mind on reporting inappropriate behaviors and also regret of not speaking up sooner if bullying incidents were perceived to have reoccurred with another member within the school. Most participants discussed the importance of participatory activities including 'real' case studies of bullying and harassment in training, with the majority offering up their own as potential course content.

STAGE 2: DESIGN PROBES

Gathering sensitive information can require lengthy and intrusive methods that may cause discomfort for participants. Through the research method of probes [30,70], Boehner at al. have promoted their ability for participants to take responsibility and control of the information they record or share [25]. By "*giving participants a voice to interpret and explain their own practices*" [62], users can find comfort in being seen as an expert of their own experiences and privacy in the ambiguity of their responses. As a successful probe development is open-ended and explicitly co-adaptive [39], it is possible to carefully purpose this for use within survivor-driven approaches. There is considerable potential to simultaneously capture in-situ experiences of negative workplace behaviours and attitudes towards their presence.

Conventional logging tools can produce data of a static, disputable (e.g. validation, verification) quality that is distinctive from the productive and dynamic character of *data-in-place*. Resting on familiar contextual understandings generated by technology [30] and design probes [65], we configured our probes to further capture data in this space and place survivors at the heart of probe design. This notion aspires to shift focus beyond the probe itself, and onto the process of how the collected data can be purposed for transformative social action. Building on the conclusions of Stage 1, we constructed two 'digital' probes which prioritized simplicity in design through choice of commercial-off-the-shelf for components, over technological innovation. We believed this would minimize the barriers to participants sharing sensitive and distressing accounts of their workplace.

Discrimination Bingo

Comparable to P6's descriptions of 'falling through the cracks', the everyday denigration of socially marginalized groups ('microaggressions') can often go unnoticed by members of a dominant culture [53]. *Discrimination Bingo* (Figure 1) was designed with this understanding in mind, providing participants with the ability to identify, define and quantify negative behaviors that occurred within their workplace through the process of pressing a button. When an incident of bullying or harassment occurred within their working day, participants could label one of sixteen buttons with a brief description of the inappropriate workplace behavior and record its occurrence by pressing down. Using the wipe-clean whiteboard functionality, participants could appropriate a purposeful button press in a variety of ways, recording the 'small stuff' that occurred to them daily through written description on the probe surface.

Figure 1: Discrimination Bingo

Although the use of the probe was confined to their work space, participants were encouraged to place *Discrimination Bingo* wherever they felt comfortable; either visible to others or hidden from view. In personalizing the recording of unique experiences, the probe also had the possibility of tracking workplace similarities and differences as a means of capturing workplace cultures.

Lifting the Lid

The complexities involved in using a button press to record the embodied experience of 'feeling' bullied and harassed rather than event-based occurrences were concerns raised after the first deployment of *Discrimination Bingo*. Due to the difficulty in expressing temporality, severity and identification of incidents, a further probe was designed to capture more private, vocal and in-depth accounts of workplace behavior without the presence of the lead researcher.

Through opening the lid of *Lifting the Lid* (shown in Figure 2), a microphone would be activated to record participant's brief, verbal reflections on their workday until the lid's closure. When the lid was lifted again, the previously recorded reflection would be replayed to the participant through internal speakers. This process could be repeated as many times as the participant wished although participants were requested to record at least one reflection per working day within the privacy of their home.

Figure 2: Lifting the Lid: Inactive (Left) and Active (Right)

STAGE 3: PROBE DEPLOYMENTS

Discrimination Bingo was deployed with five participants (D1–D5) for a total of four sessions of five working days (Monday–Friday) and one session of four working days (Tuesday–Friday). At the end of the final day of each deployment session, the lead researcher met with the participant to present the raw quantified data received from each box and ask questions about the general use of and attitudes towards the probe. Due to the presence of a wipe-clean surface, participants were also asked about any alteration or removal of button labels that could have been performed across the deployment.

Lifting the Lid was deployed with two participants (L1 & L2) whom had not been involved in the *Discrimination Bingo* deployment for a total of two sessions of five days (Monday—Friday). Similarly, general questions were asked by the lead researcher on the use and attitude towards the *digital probe* at the end of the session.

PROBE DEPLOYMENT FINDINGS

Discrimination Bingo

There was no uniform use of the probe across all participants; demonstrating its purposeful design could be appropriated in many different ways. During the deployment, *Discrimination Bingo* was interacted with 108 times using 72 out of a potential 80 buttons labelled (Table 2). An average of 21.6 button presses were recorded per participant with an average of 1.5 presses per button.

Participant	Buttons Labelled (max=16)	Button Presses	Visibility	Duration (days)
D1	10	17	Public	5
D2	14	18	Private	5
D3	16	24	Public	5
D4	14	18	Private	4
D5	16	31	Public	5
Total	72 (/80)	108	-	24

Table 2: Discrimination Bingo Inputs Per Participant

There was a peak in button presses between 2pm and 4pm (Figure 3), presumably as the morning may have entailed less interaction with other colleagues. Each participant reported a combination as to the immediacy of when an incident of negative behavior occurred with some responses citing a button press 'as soon as it happened', whilst others recording 'when they remembered' at the end of the day - potentially explaining the slight skew in results.

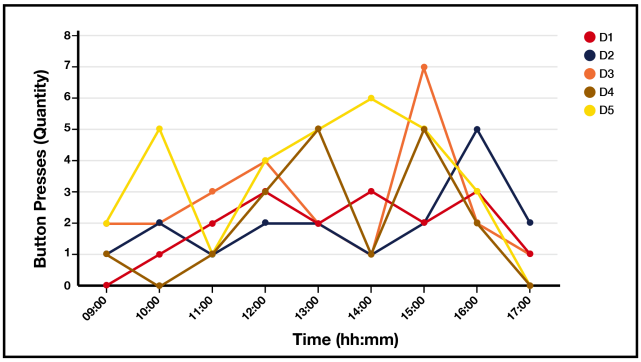

Figure 3: Temporal Distribution of Participant Button Presses

Participants labelled behaviors through emotions ('felt uncomfortable', 'out of place'), actions ('someone talked over me', 'touched my shoulder') and events ('tense atmosphere in office'). Despite the encouragement to capture individual instances of bullying and harassment in the workplace, buttons frequently described wider cultural aspects of an environment such as atmosphere, or included events occurring to colleagues. Two participants drew attention to the importance of recording positive actions and events occurring during the day, stating these were "*just as important as recording the negative ones*" (D1). Despite the preference for descriptions, buttons were additionally labelled through a series of symbols and icons that held a personal significance to the participant.

The action of labelling incidents on each button proved to be very powerful, more so than the process of counting bullying behaviors through a button press. All participants reported feeling more confident at identifying bullying behaviors with D5 stating *"It was almost as if, by introducing this* [probe], *I could see things, you know, things that I couldn't before, that I just got on with"* before continuing with "*you can only call out what you can name, right?"*. However, value was also found in quantifying actions that could not be given a name. D3 for example used the code of a 'red star' (Figure 4) around a button for incidents "*when I couldn't name what was going on, I just knew it made me feel bad and it wasn't appropriate in the workplace*".

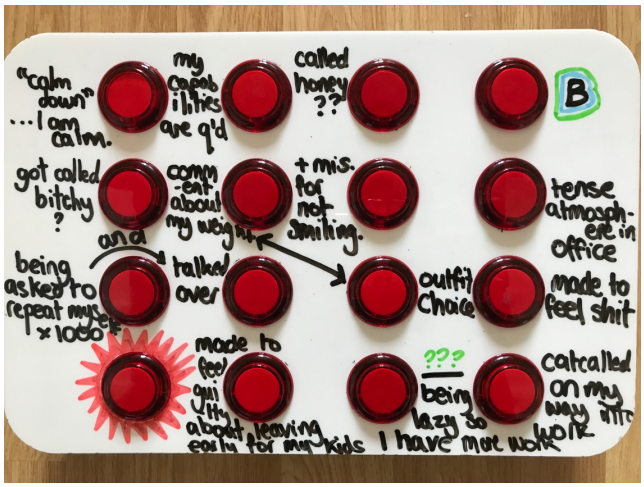

Figure 4: A Participant's Completed Probe

The perceived, rather than actualized tension caused by introducing the probe into a participant's workplace provoked a strong response from participants; "*the presence of it made me uncomfortable as it was a constant reminder as to how bad things were in here"* (D2); and their colleagues; "*people would get suspicious if they saw me pressing buttons*" (D3). This concern was directly connected to the probe's visibility with the workplace, with two participants disclosing having the probe visible to other colleagues on their desk or windowsill, one proud of this fact in stating "*I'm never one to conceal how I really feel about things*" (D1). The other three participants kept the probe out of sight, either in a desk drawer or under a sheet of paper; one out of embarrassment; *"It's really too visible, isn't it?"* (D4); and the other from convenience; "*I didn't mean to keep it hidden… I just have this thing of having absolutely nothing on my desk, I'm a real clean freak"* (D3). Concern for being observed additionally heavily impacted button labelling, where participants whom were conscious about the naming of specific buttons were coded through using symbols. One participant referred to their boss as 'B' and excluded a colleague's name (*'???'*) whom had caused distress, despite having the probe mostly hidden from view. Despite these concerns, no participant reported changes in either behavior or atmosphere at work.

Lifting the Lid

Across the *Lifting the Lid* probe deployment, eight audio segments were recorded in total. Both participants recorded four audio messages of varying lengths between one to five minutes between 5:00PM and 8:00PM. One participant made specific reference to this time period when asked, stating "*It was good to get everything off my chest right away, straight after I'd finished [work]*" (L2). Content had a combination of emotions, actions and opinions, beginning with recounting a day's activities chronologically leading up to a specific incident causing distress.

Recording reflections on the workday was recognized as a therapeutic activity, relieving pressure from home or social life: *"I really liked it, I'm conscious about how much I'm bringing home to my partner at night and this just lets me shout at the sea"* (L2). The playback function received mixed reviews with favorable responses to listening back to positive workplace events: "*It made me smile hearing myself sound so confident*" (L1), yet general uncertainty towards negative reflections: *"No one likes to hear of someone having a bad time, do they? Especially yourself"* (L1). However, these were not wholly negative experiences with both participants reporting feeling validated in hearing identified incidents of inappropriate behavior: "*If I played that to someone else they'd tell me straight away, someone would think yup that's bullying!"* (L2).

STAGE 4: DATA-DRIVEN SEMINARS

Differing from a traditional academic workshop which may be more intensive and 'hands-on' in the creation of artefacts or skills, seminars can have a more relaxed, educational focus but still request everyone present participate. Progressive discourse is a collaborative process that aims to improve existing knowledge and champion "*working towards a common understanding satisfactory to all*" [66]. The sharing, questioning, and revising of opinions through the process of progressive discourse through use of the interview and digital probe data was proposed as the most appropriate practice to foster the multi-vocality, communication and understanding necessary for addressing occupational bullying and harassment.

As reported incidents of bullying and harassment are rarely completely isolated events [61], a linear model (Figure 5) was designed to address the topic from its source (identification, definition) to its potential closure (reporting/alternatives for the survivor). Primary stages one and two of the seminar considered proactive stances towards the mitigation of bullying behaviors, whilst the final stages three and four consisted of reactive steps if an incident of bullying or harassment were to occur. Each stage incorporated a variety of interaction design methods including scenarios, personas, and prototyping, responding to both participant desire for their inclusion and previous research [8].

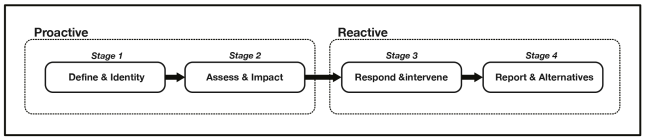

Figure 5: Seminar Stage Progression

Stage 1 included two icebreaker activities; the first to familiarize participants with each other and the second to sensitize them to the seminar topics by a word association exercise. This was followed by slides of photographs of completed *Discrimination Bingo* boxes from completed deployments, with an activity for participants to discuss and label their own 'covert' instance of bullying and harassment using a paper button as a prop. Questions were also posed to establish a discourse surrounding the factors that influence

negative behaviors ("*What kind of context is important to understand your workplace?*"). Stage 2 used transcribed audio accounts from *Lifting the Lid*, asking participants to consider the impact of such events within personal, workplace and cultural contexts. Stage 3 incorporated workplace incidents disclosed within earlier interview stages through roleplay. This was accompanied by discussions from the actors and audience questioning what could have been done differently in the exchange. Finally, Stage 4 encouraged participants to critically evaluate existing reporting practices and envision new technologies that could provide reporting alternatives or support for survivors.

Three discussion seminars were held within the space of a week; one for professional service staff, one for students and one for academics. Through addressing different levels of a university hierarchy independently, this aimed to foster an environment where the unique concerns of one job category could not be dismissed by another on the basis of perceived relevance. For instance, discussions of contractual issues may appeal more to professional service staff than students which may have led to disengagement from the session.

DATA-DRIVEN SEMINARS FINDINGS

In response to recruitment emails distributed through job-role specific mailing lists, eight professional service staff (S1—S8), eight postgraduate students (O1—O8) and six academics (A1—A6) attended seminars, held in a quiet location outside of their workplace. Each session lasted from 90 to 105 minutes, whilst participant responses and interactions with the seminar materials were audio recorded, transcribed and analyzed for further analysis and feedback purposes. Students and professional service staff performed each activity according to the seminar structure, without any highlighted problems. The seminar for academics proved to be harder to perform due to participant resistance towards being audio recorded and their stated preference towards in-depth discussions on the topic area over engagement in the interaction design methods.

(In)validation of Participant Experience

There were stark differences in the manner in which the groups of students, professional service staff and academics interacted with the collected data, most notably in the context of self-association. All members of the academic group and professional service staff would consistently use the probe data as a measure of validation for their own personal experiences. One professional service member even went as far as to describe a roleplay in Stage 3 as: *"exactly how I felt when it happened, this [account] could have been mine if you'd asked – this is me"* prompting signs of support from other participants.

Students however were less forthcoming with their discussions of their own experiences and connection with the data, with only 2 out of a possible 8 students disclosing personal accounts. As a way around this, participants discussed bullying and harassment in the subjunctive tense, with O5 stating *"if this were to happen to me, I'd like to think I would help someone out"*. Resistance to share accounts, disassociation from incidents of bullying and harassment or potentially a lack of experience of events elicited a more challenging 'devil's advocate' stance from students, often including questioning the data's validity. In response to recorded accounts of Stage 2, despite the incorporation of student-specific accounts, most participants in this group were more likely to question personal characteristics of the interviewee such as temperament; "*this person could just be very sensitive*" (O1), judgement; "*that to me isn't bullying, and I don't think they should have taken it that way*" (O7) and motivation *"sometimes you just have to get on with things"* (O8). The gender balance of this particular group (2F:6M) was raised by the female participants as being a potential explanation for this attitude. Although male participants used discussions of what actions they 'would' take, attention was drawn to the gap between proposed actions and actual actions, akin to the *moral disengagement* process discussed previously [56]. This distancing from the collected data suggests that despite the localization of data collection, an emotional attachment through experience is still required, entailing a different style of data presentation is necessary for the future engagement of this group.

Visibility of Data as Evidence

Both groups of professional service staff and academics saw the seminar data in a visible format as more compelling evidence of existing problems within their workplace than through word-of-mouth. A professional service staff member referred to a *Lifting the Lid* section used in Stage 2, with; "*look, this wouldn't happen if things would work properly round here … its right there on the screen*" (S5). This meant that the accounts were used not only as a specific measure of bullying and harassment behavior, but as a demonstration of their existence in the first place. A5 described the importance of visibility of both the existence of the data and data collection method as;

"an important step because whatever it is, if you do as a game or through clothing, or through lights or buildings whatever device you choose but it makes things very visible, very clear and then you can act on it … expressions of power, well power is most powerful in an insidious way".

Discussion would also naturally transition into deliberating the data's potential for argument towards future improvement of existing attitudes, with A1 stating *"stuff could really change round here if we use it correctly"*. This use mainly included the visual representation of accounts, rather than "*just being spread around as rumors*" (A1). Students, however engaged with the data in a discursive context, treating it often as a "*one person's snapshot of a bigger picture*" (O2), at best describing accounts as "*very flawed but probably genuine*" (O4), but resolved there were too many features excluded accounts (context, depth) to form a clear picture, thus reducing its potential for actionable, positive change. Interestingly most participants saw use of

the data for engagement in argument within the session rather than an argument for change outside of it.

Resisting Adaptive Environments of Abuse

All groups described difficulty in designing tools to identify, report and represent incidents of bullying and harassment in the final seminar stage (Stage 4). Despite positivity towards digital probes and ideated technologies, most participants expressed skepticism about the appropriation of such tools in "*becoming another channel for another form of harassment*" (O2).

Participants suggested that aggressors could use any potential tools to their advantage, and any introduction of probes would result in a deliberate "*shift around that instrument to continue being the dominant culture*" (A6). This was suggested through mismanagement, misappropriation and controlling the definition of negative workplace behaviors. Mismanagement was raised through the possible use of tools to identify "*trouble makers*" (O8) which could result in an individual being disciplined for recording things 'out of the ordinary' or contradictions to office culture. A4 stated that: *"I think the danger is that through instrumentality it becomes 'victim heal thyself'"* whereby the responsibility is still on *"the individual who is experiencing something responsibility to figure it out"* (S5).

Deliberately recording accusatory, false information about an individual was also suggested, potentially leading to further discomfort or even disciplinary measures. Authority figures were also suggested to provide encouragement for employees to record falsely positive data or "*fudge the stats*" (O6) about a workplace. Although quantification showed 'what's really going on', power relations were discussed in how this would be scaled and recorded. A strong interest was expressed in re-appropriating *Discrimination Bingo* as a device for all employees:

"*if we rigged this up to a particular lighting system, and then you can go 'oh dear,* [department X] *they're deep in the red whereas* [department Y] *is creeping up there"* (A5)

Yet other participants questioned A5's lighting system, on both the definitions of behavior; *"what really constitutes 'red'* [bad] *behavior?"* (A2) and *"who gets to decide that?"* (A4). Attitudes towards the introduction of tools were not altogether negative; as a method of combatting abuse, participants stressed that tools should be designed with covertness in mind, whereby the presence of such tools were "*under the radar*" (S3). Bad behavior thresholds and definitions were seen as areas requiring transparent negotiation before the consideration of tools. Yet this emphasis on subtlety contradicted participant interest in the visibility of the tools' results. For instance, a professional service staff suggested 'a cool wall' for employees where depending on their actions within the office were assigned a visible, online ranking.

DISCUSSION

Despite a fundamental gap between the two communities, translating research into useful results can shape policy and practice, whilst converting the existing problems of practice can drive the development of new researcher observations [45]. As this is infrequently a simple transformation, we contribute considerations for what methods, responsible agents and locations may be suitable to carry out survivor-driven, *data-in-place* processes for future service design.

Denormalization & Data-In-Place's Temporal Dimension

Data collection on bullying and harassment is typically conducted using structured interviews, surveys and focus groups [38,58,61], rarely considering reports of the difficulty surrounding describing and detecting 'insidious', non-episodic instances of inappropriate behavior [17,36]. In a jointly disruptive, yet playful interruption of the participants 'undisturbed everyday life' [24,63], the use of the digital places to collect *data-in-place* was an effective method of engagement in a very sensitive (and personal) data collection process, capturing in-situ subtleties that would have been lost through other collection methods. The combination of the concept and its corresponding probing method succeeded in mapping both social and cultural norms, and thereby the 'insidiousness' of power (A5). As demonstrated through this study, technology designs can shift the responsibility away from individualized reporting processes for survivors through understanding, challenging and denormalizing toxic workplace cultures in a more nuanced fashion [50]. As the recognition of a phenomenon as problem is the first step necessary to work towards effective social change [15], technologies can support efforts for "*calling out*" (D4) what can be identified. Designers must consider what processes can contribute towards contextualizing a culture in order to work towards the identification and eventual denormalization of inappropriate behaviors.

Data-in-place research processes must also attend closely to the temporal dimension, both for denormalising subtle instances of negative behaviors, but also to create a space for participant self-reflection. When deployed over a week, participants were able to disclose experiences through the probes at a pace and level of detail that suited them. Furthermore, through appropriately *paced* interaction participants were able to engage in self-reflection [42] which in some cases triggered a unique form of self-realization of being a survivor of inappropriate behavior ('*someone would realise yup, that's bullying!*'). If we consider Massey's understandings that reality is "*always something 'on the move'*" [41], designers should aspire to collect and represent 'up to date' *data-in-place* accounts that "*continuously enact place*" [54], that represent a workplace governed by the flux of social conformity.

Data Governance Models: Specificity & Confidentiality

The most potentially concerning dilemma when translating research to practice is the generation of sensitive data governance models. Identification of an individual or authority to orchestrate the *data-in-place* collection, analyses

and curation process presents a particular challenge. Although consideration of research positionality is essential to "*provide the proper context for learning to take place*" [21,67], the influence of the researcher role over this sensitive data is distinct from that of an employee. Participants were reportedly being *"less likely to be honest with someone who could turn around and fire me"* (P3) due the asymmetric power dynamic generated by employment. Coupled with common distrust of management and the politics of the workplace, these pose significant barriers to the introduction of occupational training with *data-in-place*.

The negative impact of relaxed data handling processes (echoed by recent discussions in the HCI community [12]) is seemingly exacerbated through the participant's proximity to their workplace. Prior to the final seminar design, an additional open and involved process was established between the participant and the researcher to ensure participants had full control over what topics were discussed and quell any concerns about potential identification. This expanded on Munteau *et al.*'s distancing of a *static* ethical template, and rather establishing "*opening a 'continuous dialogue'*" [43] between ethical stakeholders, adjusting practice for situational changes. Balancing participant anonymization (for interview accounts and probe data) against the maintenance of humanizing characteristics of accounts was an open, continuous negotiation practice between the researcher and participants. The introduction of a two-way process of communication, encouraged fluidity of consent and adoption of a holistic approach that brought together a range of different stakeholders, participants reported feeling more comfortable with the process. Assured anonymity and sensitivity to such issues permitted participants to use discussion sessions, interviews and probe data as safe spaces to 'let off steam' about issues around the workplace which would have otherwise not been available through e-learning courses.

Potential for Changing Workplace Cultures

Although the use and presentation of sensitive data was under close examination, the study's potential to enact change was continuously questioned. Although Boellstorff *et al.*'s ethical *principle of care* requests participants "*gain some reward from participation in some way*" [10], this can be often hard to measure against a complex societal problem. Although participants saw value in attending the seminars, most participants established that they would only be truly effective if management and known aggressors were "*forced to come and confront their behavior*" (P2), as going without may result in an 'echo chamber'. *Social learning theory* proposes that aggressors who engage in negative workplace behavior will influence colleagues to repeat this [5]. In challenging a single perpetrator through exposure to accounts of negative workplace behavior, there is potential towards the construction of a more positive working environment.

Addressing the problems that participants identified as being inherent to hierarchical structures rather than an individual's behavior could prove to be difficult, with some doubting the impact or training could have on a culture. It would be undoubtedly misguided to promote that a single intervention such as a tool or a technology could singlehandedly change a workplace culture, falling into the same criticisms of technological solutionism as discussed previously. If technology design and training efforts are perceived "*not ends in themselves, but means towards the broader conceptual goal*" [16] of addressing bullying and harassment, then the existence of this research demonstrates a small shift; "*this place doesn't discuss this kind of stuff, so what you're doing has already made a difference to me*" (S8). The possibility of change has to be achievable within the structures of an organisation so as to not mislead participants, as one interviewee stated "*it has to start somewhere*" (P4). In the promotion of survivor-driven narratives and encouragement for self-reflection for participants, this process can be seen as a wider activity for service redesign.

CONCLUSION

In the context of workplace training, e-learning courses have been seen as the *virtual panacea* for addressing the serious psychosocial hazards of bullying and harassment in higher education. Through a series of interviews and digital probe deployments, this paper explored the possibility for a tailored employee training seminar design. Using the concept of *data-in-place*, we have demonstrated the nuance and sensitivity to its environment through survivor-led approaches and sensitive data governance with considerations for future use of digital probes in the denormalization of toxic workplace cultures.

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REFERENCES

1. Syed Ishtiaque Ahmed, Steven J Jackson, Rashidujjaman Rifat, Shamir Ahmed, eta Rifat Sabbir Mansur. 2014. Protibadi: A Platform for Fighting Sexual Harassment in Urban Bangladesh. In *CHI '14 Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 2695–2704. https://doi.org/10.1145/2556288.2557376

2. Mohammed Eunus Ali, Shabnam Basera Rishta, eta Lazima Ansari. 2015. SafeStreet: Empowering

Women Against Street Harassment using a Privacy-Aware Location Based Application. In *ICTD '15 Proceedings of the Seventh International Conference on Information and Communication Technologies and Development*, Article 24. https://doi.org/10.1145/2737856.2737870

3. Brian Allison, Anne Hilton, Tim O'Sullivan, eta Alun Owen. 1996. *Research Skills for Students*. Routledge, London.
4. Heather Antecol eta Deborah Cobb-Clark. 2003. Does Sexual Harassment Training Change Attitudes? A View from the Federal Level. *Social Science Quarterly* 84, 4: 826–842. Berreskuratua -(e)tik http://www.jstor.org/stable/42955906
5. Steven H. Appelbaum, Kyle J. Deguire, eta Mathieu Lay. 2005. The Relationship of Ethical Climate to Deviant Workplace Behavior. *Corporate Governance: The international journal of business in society* 5, 4: 43–56. Berreskuratua -(e)tik https://doi.org/10.1108/14720700510616587
6. David Batty, Sally Weale, eta Caroline Bannock. 2017. Sexual harassment «at epidemic levels» in UK universities. *The Guardian*. Berreskuratua 2017(e)ko uztailakaren 26a -(e)tik https://www.theguardian.com/education/2017/mar/05/students-staff-uk-universities-sexual-harassment-epidemic
7. Peter Beresford. 2005. Developing the Theoretical Basis for Service User/Survivor-Led Research. *Epidemiologia e Psychiatria Sociale* 14, 1. https://doi.org/10.1017/S1121189X0000186X
8. Shereen G Bingham eta Lisa L Scherer. 2001. The Unexpected Effects of a Sexual Harassment Educational Program. 37, 2: 125–153. https://doi.org/10.1177/0021886301372001
9. Gerald L. Blakely, Eleanor H. Blakely, eta Robert H. Moorman. 1998. The Effects of Training on Perceptions of Sexual Harassment Allegations. *Journal of Applied Social Psychology* 28, 1: 71–83. https://doi.org/10.1111/j.1559-1816.1998.tb01654.x
10. Tom Boellstorff, Bonnie Nardi, eta Celia Pearce. 2012. *Ethnography and Virtual Worlds: A Handbook of Method*. Princeton University Press.
11. Virginia Braun eta Victoria Clarke. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology* 3, 2: 77–101. https://doi.org/10.1191/1478088706qp063o
12. Barry Brown, Alexandra Weilenmann, Donald Mcmillan, eta Airi Lampinen. 2016. Five Provocations for Ethical HCI Research. In *CHI '16 Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*, 852–863. https://doi.org/10.1145/2858036.2858313
13. Hrönn Brynjarsdóttir, Maria Håkansson, James Pierce, Eric P S Baumer, Carl Disalvo, eta Phoebe Sengers. 2012. Sustainably Unpersuaded: How Persuasion Narrows Our Vision of Sustainability. In *CHI '12 Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 947–956. https://doi.org/10.1145/2207676.2208539
14. Despoina Chatzakou, Nicolas Kourtellis, Jeremy Blackburn, Emiliano De Cristofaro, Gianluca Stringhini, eta Athena Vakali. 2017. Mean Birds: Detecting Aggression and Bullying on Twitter. In *WebSci '17: Proceedings of the 2017 ACM on Web Science Conference*, 13–22. https://doi.org/10.1145/3091478.3091487
15. Lynn Dombrowski, Ellie Harmon, eta Sarah Fox. 2016. Social Justice-Oriented Interaction Design: Outlining Key Design Strategies and Commitments. In *DIS '16 Proceedings of the 2016 ACM Conference on Designing Interactive Systems*, 656–671. https://doi.org/10.1145/2901790.2901861
16. Paul Dourish eta Scott D. Mainwaring. 2012. Ubicomp's Colonial Impulse. In *UbiComp '12 Proceedings of the 2012 ACM Conference on Ubiquitous Computing*, 133–142. https://doi.org/10.1145/2370216.2370238
17. Stale Einarsen, Helge Hoel, Dieter Zapf, eta Cary Cooper. 2010. *Bullying and Harassment in the Workplace: Developments in Theory, Research, and Practice*. CRC Press.
18. Chris Elsden eta David Kirk. 2014. A Quantified Past: Remembering with Personal Informatics. In *Proceeding DIS Companion '14 Proceedings of the 2014 companion publication on Designing interactive systems*, 45–48. https://doi.org/10.1145/2598784.2602778
19. Chris Elsden, David S. Kirk, eta Abigail C. Durrant. 2014. A Quantified Past: Toward Design for Remembering With Personal Informatics. In *DIS Companion '14 Proceedings of the 2014 companion publication on Designing interactive systems*, 45–48. https://doi.org/10.1145/2598784.2602778
20. Chris Elsden, David S. Kirk, eta Abigail C. Durrant. 2016. A Quantified Past: Toward Design for Remembering With Personal Informatics. *Human Computer Interaction* 31, 6: 518–557. https://doi.org/10.1080/07370024.2015.1093422
21. Kim V. L. England. 1994. Getting Personal : Reflexivity, Positionality, and Feminist Research. *The Professional Geographer* 46, 1: 80–89. https://doi.org/10.1111/j.0033-0124.1994.00080.x
22. Suzy Fox eta Lamont E. Stallworth. 2005.

Racial/Ethnic Bullying: Exploring Links Between Bullying and Racism in the US Workplace. *Journal of Vocational Behavior* 66, 1: 438–456. https://doi.org/10.1016/j.jvb.2004.01.002

23. Suzy Fox eta Lamont E. Stallworth. 2009. Building a Framework for Two Internal Organizational Approaches to Resolving and Preventing Workplace Bullying: Alternative Dispute Resolution and Training. *Consulting Psychology Journal: Practice and Research* 61, 3: 220–241.

24. Connor Graham eta Mark Rouncefield. 2008. Probes and Participation. In *PDC '08 Proceedings of the Tenth Anniversary Conference on Participatory Design 2008*, 197–200.

25. Penny Hagen, Toni Robertson, Melanie Kan, eta Kirsten Sadler. 2005. Emerging Research Methods for Understanding Mobile Technology Use. In *Proceedings of OZCHI 2005, Canberra, Australia*, 1–10.

26. HarassMap. 2015. Harass Map. Berreskuratua -(e)tik http://harassmap.org/en/

27. Her Majesty's Stationery Office. 2010. *Equality Act 2010*. London. Berreskuratua -(e)tik https://www.legislation.gov.uk/ukpga/2010/15/contents

28. Michael James Heron, Pauline Belford, eta Ayse Goker. 2014. Sexism in the Circuitry: Female Participation in Male-Dominated Popular Computer Culture. *ACM SIGCAS Computers and Society - Special Issue on Women in Computing 44*, 18–29. https://doi.org/10.1145/2695577.2695582

29. Hollaback! 2005. Hollaback! Berreskuratua 2017(e)ko uztailakaren 24a -(e)tik https://www.ihollaback.org/

30. Hilary Hutchinson, Wendy Mackay, Bosse Westerlund, Benjamin B Bederson, Allison Druin, Catherine Plaisant, Michel Beaudouin-lafon, Stéphane Conversy, Helen Evans, Heiko Hansen, Nicolas Roussel, eta Inria Futurs. 2003. Technology Probes: Inspiring Design for and with Families. In *CHI '03 Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 17–24. https://doi.org/10.1145/642611.642616

31. International Labour Office / World Health Organisation Committee. 1984. *Psychosocial Factors at Work: Recognition and Control*. Geneva.

32. Loraleigh Keashly eta Joel H. Neuman. 2010. Faculty Experiences with Bullying in Higher Education: Causes, Consequences, and Management. *Administrative Theory & Praxis* 32, 1: 48–70. https://doi.org/10.2753/ATP1084-1806320103

33. Bran Knowles, Lynne Blair, Mike Hazas, eta Stuart Walker. 2013. Exploring Sustainability Research in Computing: Where We Are and Where We Go Next. In *UbiComp '13 Proceedings of the 2013 ACM international joint conference on Pervasive and ubiquitous computing*, 305–314. https://doi.org/10.1145/2493432.2493474

34. Richard A. Krueger eta Mary Anne Casey. 1994. *Focus Groups: A Practical Guide for Applied Research*. SAGE Publications, CA.

35. Kari Kuutti eta Liam J. Bannon. 2014. The Turn to Practice in HCI: Towards a Research Agenda. In *CHI '14 Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 3543–3552. https://doi.org/10.1145/2556288.2557111

36. Raymond T. Lee eta Céleste M. Brotheridge. 2006. When Prey Turns Predatory: Workplace Bullying as a Predictor of Counteraggression/Bullying, Coping, and Well-Being. *European Journal of Work and Organizational Psychology* 15, 3: 352–377. https://doi.org/10.1080/13594320600636531

37. Stavroula Leka eta Aditya Jain. 2010. *Health Impact of Psychosocial Hazards at Work: An Overview*. Nottingham, UK.

38. Duncan Lewis. 2017. Bullying at Work: the Impact of Shame Among University and College Lecturers. *British Journal of Guidance & Counselling* 32, 3: 281–299. https://doi.org/10.1080/0306988041000172352l

39. Wendy E. Mackay. 1990. Users and Customizable Software: A Co-Adaptive Phenomenon. Massachusetts Institute of Technology. Berreskuratua -(e)tik http://hdl.handle.net/1721.1/14087

40. Marcus Martens, Siqi Shen, Alexandru Iosup, eta Fernando Kuipers. 2015. Toxicity Detection in Multiplayer Online Games. In *NetGames '15 Proceedings of the 2015 International Workshop on Network and Systems Support for Games*.

41. Doreen Massey. 2003. Some Times of Space. *Exhibition Catalogue*, 107–118.

42. Ine Mols, Elise van den Hoven, eta Berry Eggen. 2016. Technologies for Everyday Life Reflection : Illustrating a Design Space. In *TEI '16 Proceedings of the TEI '16: Tenth International Conference on Tangible, Embedded, and Embodied Interaction*, 53–61. https://doi.org/doi.org/10.1145/2839462.2839466

43. Cosmin Munteanu, Heather Molyneaux, Wendy Moncur, Mario Romero, Susan O'Donnell, eta John Vines. 2015. Situational Ethics: Re-thinking Approaches to Formal Ethics Requirements for Human-Computer Interaction. In *CHI '15 Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*, 105–114.

Berreskuratua -(e)tik https://doi.org/10.1145/2702123.2702481

44. Joel H. Neuman eta Robert A. Baron. 2003. Social Antecedents of Bullying: A Social Interactionist Perspective. In *Bullying and Emotional Abuse in the Workplace: International Perspectives in Research and Practice*, S. Einarsen, H. Hoel, D. Zapf eta C. L. Cooper (arg.). 185–202. https://doi.org/10.1201/9780203164662.ch9

45. Donald A. Norman. 2010. The Research-Practice Gap: The Need for Translational Developers. *Interactions* 17, 4: 9–12. https://doi.org/10.1145/1806491.1806494

46. Agnes Owuato Odongo eta Gideon Cheruiyot Rono. 2017. Workplace Harassment Through ICT. In *ICEGOV '17 Proceedings of the 10th International Conference on Theory and Practice of Electronic Governance*, 187–190. https://doi.org/10.1145/3047273.3047315

47. Angelica Orb, Laurel Eisenhauer, eta Dianne Wynaden. 2001. Ethics in Qualitative Research. *Journal of Nursing Scholarship* 33, 1: 93–96. https://doi.org/10.1111/j.1547-5069.2001.00093.x

48. Marco Ortu, Bram Adams, Giuseppe Destefanis, Parastou Tourani, Michele Marchesi, eta Roberto Tonelli. 2015. Are Bullies more Productive? Empirical Study of Affectiveness vs. Issue Fixing Time. In *MSR '15 Proceedings of the 12th Working Conference on Mining Software Repositories*, 303–313. https://doi.org/10.1109/MSR.2015.35

49. Michele Antoinette Paludi, Richard B. Barickman, eta Richard Barickman. 1991. *Academic and Workplace Sexual Harassment: A Resource Manual*. State University of New York Press, Albany.

50. James C. Scott. 1999. *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. Yale University Press.

51. Anna Shuttleworth. 2006. Managing Workplace Stress: How Training Can Help. *Industrial and Commercial Training* 36, 2: 61–65. https://doi.org/10.1108/00197850410524824

52. Angelika Strohmayer, Mary Laing, eta Rob Comber. 2017. Technologies and Social Justice Outcomes in Sex Work Charities : Fighting Stigma, Saving Lives. In *CHI '17 Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, 3352–3364. https://doi.org/10.1145/3025453.3025615

53. Derald Wing Sue. 2007. Microaggressions in Everyday Life: Race, Gender, and Sexual Orientation. *American Psychologist* 62, 4: 277–278. https://doi.org/10.1037/0003-066X.62.4.271

54. Alex S Taylor, Siân Lindley, Tim Regan, eta David Sweeney. 2015. Data-in-Place: Thinking through the Relations Between Data and Community. In *CHI '15 Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*, 2863–2872. https://doi.org/10.1145/2702123.2702558

55. Teamblind. 2017. Anonymous Work Talk. Berreskuratua 2017(e)ko uztailakaren 3a -(e)tik https://us.teamblind.com/

56. Robert Thornberg. 2010. Schoolchildren's Social Representations on Bullying Causes. *Psychology in the Schools* 47, 4: 319–322. https://doi.org/10.1002/pits

57. Trades Union Congress. 2015. Nearly a Third of People Are Bullied At Work, says TUC. *Workplace Issues*. Berreskuratua 2017(e)ko abuztuakaren 4a -(e)tik https://www.tuc.org.uk/workplace-issues/health-and-safety/bullying/nearly-third-people-are-bullied-work-says-tuc

58. Trades Union Congress. 2016. *Still Just a Bit of Banter? Sexual Harassment in the Workplace*. Berreskuratua -(e)tik https://www.tuc.org.uk/sites/default/files/SexualHarassmentreport2016.pdf

59. Trades Union Congress. 2016. Equality Audit 2016.

60. Darla J. Twale eta Barbara M. De Luca. 2008. *Faculty Incivility: The Rise of the Academic Bully Culture and What to Do About It*. Jossey-Bass, San Francisco.

61. University And Colleges Union. 2016. *Challenging bullying and harassment at work An equality guide for branches and reps*.

62. Frank Vetere, Hilary Davis, Martin R Gibbs, Peter Francis, eta Steve Howard. 2006. A Magic Box for Understanding Intergenerational Play. In *CHI EA '06 CHI '06 Extended Abstracts on Human Factors in Computing Systems*, 1475–1480. https://doi.org/10.1145/1125451.1125722

63. Frank Vetere, Martin R Gibbs, Jesper Kjeldskov, Steve Howard, eta Florian Floyd Mueller. 2005. Mediating Intimacy: Designing Technologies to Support Strong-Tie Relationships. In *CHI '05 Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 471–480. https://doi.org/10.1145/1054972.1055038

64. Jessica Vitak, Kalyani Chadha, Linda Steiner, eta Zahra Ashktorab. 2017. Identifying Women's Experiences With and Strategies for Mitigating Negative Effects of Online Harassment. In *CSCW '17 Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing*, 1231–1245. https://doi.org/10.1145/2998181.2998337

65. Jayne Wallace, John Mccarthy, Peter C Wright, eta Patrick Olivier. 2013. Making Design Probes Work. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 3441–3450. https://doi.org/10.1145/2470654.2466473

66. Gordon Wells. 2000. Dialogic Inquiry in Education: Building on the Legacy of Vygotsky. In *Vygotskian Perspectives on Literacy Research: Constructing Meaning through Collaborative Inquiry.*, Carol D. Lee eta Peter Smagorin (arg.). Cambridge University Press, New York, 51–85.

67. Etienne Wenger. 1998. Communities of Practice and Social Learning Systems: the Career of a Concept. In *Social Learning Systems and Communities of Practice*, Chris Blackmore (arg.). Springer, London, 179–198.

68. Wiggly-Amps. 2016. Little Green Button. Berreskuratua 2017(e)ko apirilakaren 1a -(e)tik http://www.littlegreenbutton.com/

69. Carla Willig eta W. Stainton Rogers. 2007. *The SAGE Handbook of Qualitative Research in Psychology*. SAGE Publications Ltd, London.

70. Peta Wyeth, Carla Diercke, eta Stephen Viller. 1999. Design for Inspiration: Children, Personal Connections and Educational Technology. In *OZCHI '06 Proceedings of the 18th Australia conference on Computer-Human Interaction: Design: Activities, Artefacts and Environments*, 265–268. https://doi.org/10.1145/1228175.1228247

71. Kenneth M. York, Lizabeth A. Barclay, eta Amy B. Zajack. 1997. Preventing Sexual Harassment: The Effect of Multiple Training Methods. *Employee Responsibilities and Rights Journal* 10, 4: 277–289. https://doi.org/10.1023/A:1025659216587