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DISCUSSION PAPER

Reflecting reality

An evaluation of the sexual harassment virtual reality pilot training in Indonesia

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Reflecting Reality:

An Evaluation of the Sexual Harassment Virtual Reality Pilot Training in Indonesia

Discussion Paper

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Executive Summary

Sexual harassment and gender-based violence (GBV) are pressing issues in the global garment industry, perhaps more so during the pandemic when people are facing increased economic and social hardship. According to World Health Organisation estimates, 1 in 3 women globally experience GBV and women, especially young women, are most affected by this violence and harassment when they work at the bottom of the global supply chain. Through targeted and systemic approaches to sexual harassment awareness, prevention and remediation, Better Work (BW)-facilitated trainings on sexual harassment prevention have been introduced and are an important intervention in workplace GBV across BW's eight country programs. The current study conducted an empirical analysis of the ILO Better Work's Virtual Reality (VR) training program on sexual harassment prevention in Indonesia. The main objectives were to assess the trainings' impact on (1) increase in awareness of sexual harassment, including its definition and what constitutes it, and (2) increase the likelihood of intervention by bystanders who witness sexual harassment in the workplace.

Through in-depth interviews, 360° feedback tool, focus group discussions, and through a post-test 1.5 month survey with managers, compliance officers and worker representatives who have attended the VR training and also with those who work closely with them, the study examined to what extent they learned what was intended, to what extent they put learning into effect when back at work, any noticeable behavioural change, and future behaviour or intentions with respect to prevention of sexual harassment.

Overall, findings indicate that improvements have been made in the levels of recognition of sexual harassment through a general enthusiasm and excitement around an immersive training experience. There is also knowledge building that occurred through exploring and practicing of role plays in a safe environment. Participants shared their learnings with others through formal and informal methods. While participants generally expressed satisfaction around the benefits of VR, a few challenges also emerged as findings of the study. The VR training is designed in English and so the language barrier prevented some participants from

effective learning. There was no opportunity for the participants to ask questions like in a traditional training. The likelihood of intervening depends on the context of relationship and opportunity for dialogue and some participants wanted it to be defined in the VR training. Social norms also play a key role in how participants perceive things.

The study participants were able to provide suggestions to improve the VR training from a content and logistics perspective, and overall, they felt that VR training can add value to the prevention of sexual harassment in the workplace. The biggest finding was that the participants demonstrated signs of behaviour change in the direction of the intended sexual harassment prevention. The increased awareness made them careful in their interactions and have started to think about different ways to disseminate the information that they gained through training. They have also started to think about sexual harassment in the context of occupational health and safety in factories.

Although Better Work virtual reality pilot sexual harassment training program has helped to improve basic recognition of sexual harassment as a workplace issue and was able to trigger a positive behaviour change, there is much to be done to effectively implement the training programs drawing from the feedback received through this study. Also, in order to observe the behaviour change more clearly, a comprehensive and focussed assessment is needed.

1. Introduction

Though traditional training plays an important role in sharing information with participants, providing examples, doing roleplay to illustrate how sexual harassment can play out and what a bystander can do to intervene, it also has its limitations. Given the sensitive topic of sexual harassment, participants may not feel comfortable openly discussing what they think constitutes it, or confident about trying to intervene and do something in a potentially hostile situation.

VR training instead provides a safe space for participants to test their knowledge on identifying types of sexual harassment, and to practice intervening in different ways as many times as they want, improving upon each previous attempt. By swapping roles, it also provides participants an opportunity to experience how the other party feels, in a more immersive environment, which could build empathy and make them more likely to change their behaviour in the future. As indeed noted by Dirksen et al. (2019), VR can help enable the behaviour change through empathy building, experiencing consequences, future projection, feedback, and emotional self-regulation. VR has the potential to investigate and understand topics like sexual harassment in organizational behaviour and industrial psychology (Pierce and Aguinis 1997). Interactive and experiential training methods can be of help to change the attitudes related to sexual harassment (Perry et al. 2009). Participants of experiential learning-

based interventions like VR training will be equipped with higher level of confidence and self-efficacy to transfer from sexual harassment prevention trainings (Gutworth and Howard 2019; Zawadzki et al. 2014). The overarching goals of the VR pilot in Indonesia were to: (1) increase awareness of sexual harassment, including its definition and what constitutes it, and (2) increase the likelihood of intervention by bystanders who witness sexual harassment in the workplace. The targeted behaviour change, therefore, was intervention (or intention to intervene in the future). Scenario based sexual harassment prevention training, even if it's a brief pilot, can positively impact the participants' knowledge (Campbell et al. 2013; Desplaces and Ogilvie 2020). What is unique about the VR dimension of the intervention is that it has the potential to increase user empathy through connection with characters and taking different perspectives, as well enable the user to develop skills through repeated practice with intervention in a safe space. According to the theory of planned behaviour, this should improve the user's attitude towards the behaviour, their normative beliefs, and perceived control over the behaviour – all of which influence their intention to perform the behaviour in question (Ajzen 2019).

There is evidence that training in virtual worlds can be valuable for learning (Landers and Callan 2012), and a growing body of literature on the potential of VR training for behaviour change (Dirksen et al. 2019; Felsberg et al. 2019, ICRC Innovation Unit 2019).

Some commonly referenced criteria for VR include scenarios where real-life practice is too dangerous (e.g., flying and landing a helicopter), too costly, or too difficult to recreate (e.g., fighting a fire). The International Committee of the Red Cross (ICRC) has a Virtual Reality Unit that designs virtual environments, such as urban combat settings, as one tool used to teach, motivate, and maintain universal respect for International Humanitarian Law. Between April and June 2019, their Innovation Unit conducted a review of studies investigating behaviour change potential using VR. The search yielded 579 studies with the inclusion criteria of VR behaviour change techniques. Two types of articles were defined – a) those that studied specific behavior changes as a result of VR use and b) those that studied the efficacy of VR as a behavior change research tool. This shows the efficacy of VR for influence and behaviour change.

Additionally, VR can be useful when training intervention is targeting a difficult behaviour change – one where knowledge alone is usually not enough to change that behaviour. For example, we all know that texting while driving is unsafe but many of us do it; we know that intervening in the case of sexual harassment can create a safer and more productive workplace, but we may find it easier to turn a blind eye. VR training has also been used to help with rehabilitation for domestic abusers, addressing implicit racism bias (especially among jury members); and attitudes towards homelessness.[1]

[1] These studies are discussed by Christophe Mallet here, one of the co-founders of Bodyswaps – the VR training platform used in the sexual harassment VR pilot in Indonesia.

But is it worth the investment? According to Dirksen et al. (2019), yes, VR unquestionably has uses for creating training environments to practice skills that would otherwise be unsafe, inconsistent, or difficult to replicate in other training modalities. They highlight the importance, however, of identifying the actual behaviour(s) to be changed; asking if and how the behavioural challenges are related to capabilities like that of psychological which refers to knowledge and cognitive skills, opportunities which may be social like social cues and normative influences, and motivation which involves all those mental processes that can promote or enable a behaviour (Michie et al. 2011); and identifying the mechanism you are using. For example, are you using VR as a mechanism for: enabling a behaviour; empathy building; experiencing consequences; future projection; feedback; emotional self-regulation, etc.

The VR pilot on sexual harassment was designed with more of a focus on 'enabling the behaviour' and 'empathy building,' with bystander intervention as the target behaviour change. Hence, drawing from Michie et al.'s (2011) COM-B Model, the VR pilot was designed to promote the behaviour of reporting and interventions among bystanders should they witness sexual harassment by increasing the training participants' knowledge and awareness thereby changing their capabilities, and by increasing their empathy and self-efficacy which can affect their motivation level positively. Due to the fact that this evaluation took place just 1.5 months after the training and recognizing that it is difficult for behavioural change to take place in such a short time, we also consider the participants' intentions to intervene in the future. Having said that, any indications of behaviour change are considered and reported even though they might not be ground-breaking or broad sweeping ones.

1.1 Background to the project

In late September 2022, a virtual reality (VR) training on sexual harassment was piloted at the Hotel Grand Savero in Bogor, Jakarta. This included three one-day trainings (September 27-29) with three different groups of 20-25 managers (mostly Compliance and HR) from factories throughout the broader Jakarta region. The training was conducted as part of the Decent Work in Garment Supply Chains in Asia (DWGSC) project, funded by the Swedish Government,[2] and implemented by the ILO.

The DWGSC project identified four key and inter-connected areas to be addressed: (1) social dialogue and industrial relations systems; (2) advancement of gender equality; (3) enhanced productivity and competitiveness; and (4) reduced environment impact. One of the project's approaches to address these issues was to work with the ILO's International Training Centre (ITC-ILO) to develop a pilot behavioural learning intervention, combining in-person capacity

[2] Specifically, the project was funded by the Regional Development Cooperation Section at the Embassy of Sweden in Bangkok, in line with the Swedish International Development Cooperation Agency (SIDA's) regional strategy for Asia and the Pacific 2016-2021.

building training and a virtual reality (VR) bystander experiential component with factory managers to tackle sexual harassment in the garment sector.

The VR intervention takes into consideration the existing evidence that traditional training methods have limited effectiveness in changing mindsets, attitudes, and behaviours among those in decision-making roles (Hayes et al. 2019). As such, the training utilizes scenarios experienced through VR goggles as an awareness-raising and sensitization campaign to enact change in participants' attitudes and behaviours towards sexual harassment (Sharples et al. 2008).

An important question is whether, and to what extent, adding a VR component to traditional training will generate the required empathy among leaders to take further action in preventing and addressing sexual harassment in factories. For example, a study by Liang and Park (2022) revealed that bystander employees' empathy toward the targets positively relates to bystander intervention behaviours. This was the motivation for this evaluation. However, it is worth noting that some participants had undergone traditional training as well along with VR training and comparisons were not made among the two groups to make the distinctions in outcomes. With that said, specific questions around the impact of VR were asked to participants and clear indications of its effectiveness were observed.

1.2 ITC-ILO Training and the Bodyswaps VR platform

Each of the three training sessions lasted one full day and included a combination of presentation-led workshops as well as an opportunity to use the VR goggles and run through the different modules on identifying and intervening in instances of sexually harassing behaviours. The presentations in the workshops were conducted to set the context around what to expect in the VR training.

Further, the morning presentation introduced the project on Decent Work in Garment Supply Chains Asia and the VR immersive experience, including what they should expect, and a pre-training questionnaire. Participants then had 1.5 hours to take turns trying out the VR. The VR experience duration per participant varied though depending on the number of exercises attempted by each of them and also repeated attempts. Participants also had to wait for their turns as there were only a few goggles available for training. The VR practice session was followed by a 1-hour feedback session, 1 hour lunch break, and then 1 hour presentation on preventing sexual harassment and protecting health and safety. After a half hour break, the remaining 1.5 hours was spent on plenary reporting and discussion, taking away something practical in terms of preventive measures, and a post-training assessment.

Bodyswaps is the VR platform that was used in the VR pilot training in Indonesia. Bodyswaps is a VR soft skills training provider that lets learners safely practice soft skills through realistic scenarios and learn by observing their own behaviour. Their modules fall under six categories:

communication skills and public speaking, employability and job interview, diversity, equality and inclusion, management and leadership, soft skills for healthcare workers, and customer experience.[3] However, a separate training module was developed by Bodyswaps for sexual harassment prevention in the context of garment factories.

Participants could choose an avatar/character that they wanted to embody. They then practiced using their voice and moving their virtual hands. In a series of exercises, participants had a chance to test their knowledge about sexual harassment by selecting a response to different examples about what is appropriate in the workplace, and listening to a conversation between workers and clicking on their controllers anytime they heard an example of a sexually harassing behaviour. They could then also study a variety of options for intervening, and then put those into action in a one-on-one intervention with a character in the VR setting.

2. Methods and Data

2.1 Methods

The Kirkpatrick Framework (Kirkpatrick 1979) is a commonly used model for evaluating training effectiveness[4] (Sitzmann and Weinhardt 2019), and is comprised of four levels of evaluation: (1) Reaction; (2) Learning; (3) Behaviour; (4) Results. 'Reaction' considers what the participants thought and felt about the training (e.g., liking, acceptability, usefulness, relevance). A common method used to evaluate participant reaction is to conduct a quantitative survey immediately after the training. 'Learning' is the measurement of the increase in knowledge or capability – before and after. Common methods used to evaluate learning include pre- and post-training tests, quantitative surveys, qualitative interviews and focus group discussions. 'Behaviour' evaluation focuses on the extent to which the trainees applied the learning back on the job (i.e., how information is applied). 'Results' evaluation looks at the effect on the business environment, measuring the results or outcomes that occur because of the training.

Table 1 (on the following page) lists each level of the Kirkpatrick Model evaluated in this study: Reaction, Learning, and Behaviour. 1.5 months is not a long time to be able to observe behavioural change in the workplace. However, it was important to include this level of evaluation to glean insights on progress and intention for future behaviour. We did not include an evaluation of 'results' as it was too early to try to link training with effects on the business environment. The table also lists the methods used to evaluate each level of training effectiveness, and the purpose for each method, linked to the overarching goals of the VR

[3] More information about the full VR Soft Skills Training Library is available here.
[4] For an illustration of studies and methods used for each level of the Kirkpatrick Model, see Kirkpatrick, D. L. (1979). Techniques for Evaluating Training Programs. Training and Development Journal, 33(6), 78.

training (i.e., increase awareness of sexual harassment; increase likelihood of intervention), with some sample questions that were asked to participants.

Level of evaluation	**Method(s) used for evaluation**	**Purpose**	**Sample Questions**
Reaction	Post-training survey	Immediate reaction	(facilitated by ITC-ILO)
	Interviews	Dig deeper into immediate reaction, usefulness of training	
	Focus groups	Additional perspective on reaction	-What they liked most and why -What they found challenging -How does VR go beyond traditional training
Learning	Interviews	-Dig deeper into changes in knowledge, skills, attitude -Extent to which participants learned/experienced what was intended	-Did the VR experience feel immersive? -Did you repeat exercises in VR training? -How define SH before vs. now? -Do you know what to do if witness SH? -If witness SH, what would you do? -Do you feel safe intervening? -Do you feel confident intervening? -Clear processes, tools for action? -Something you immediately applied?
	Focus groups	-Additional perspective re: learned/experienced what was intended	-Provide definition & examples of SH (knowledge) -If witness SH at work, what should/can you do? (knowledge) -Feel equipped to intervene? (skills)
	Post-training survey (1.5 mos)	-Reach broader audience re: whether any change in knowledge post-training	-How would you have defined SH before vs. now? -Shared knowledge with other managers? Workers? -Does SH happen at your factory?
Behaviour	Interviews	-Extent to which applied learning on job -Noticeable change in target behaviour and/or intentions -Sustained and transferrable knowledge	-Have you intervened in SH since the SHP training? -If witness SH, what do you intend to do?
	Focus groups	-Additional perspective on noticeable change and/or intentions	-If witness SH, what do you intend to do?
	360° feedback tool	-Triangulate feedback from participant with superior and subordinate	-What changes do you see in participant? (knowledge, skills, attitude, behaviour) -What changes do you expect to see in the long-term?

	Post-training survey (1.5 mos)	-Probe if VR practice linked to change and intentions -Probe sensitive issues	-Do you intend to…

2.2 Data Collection

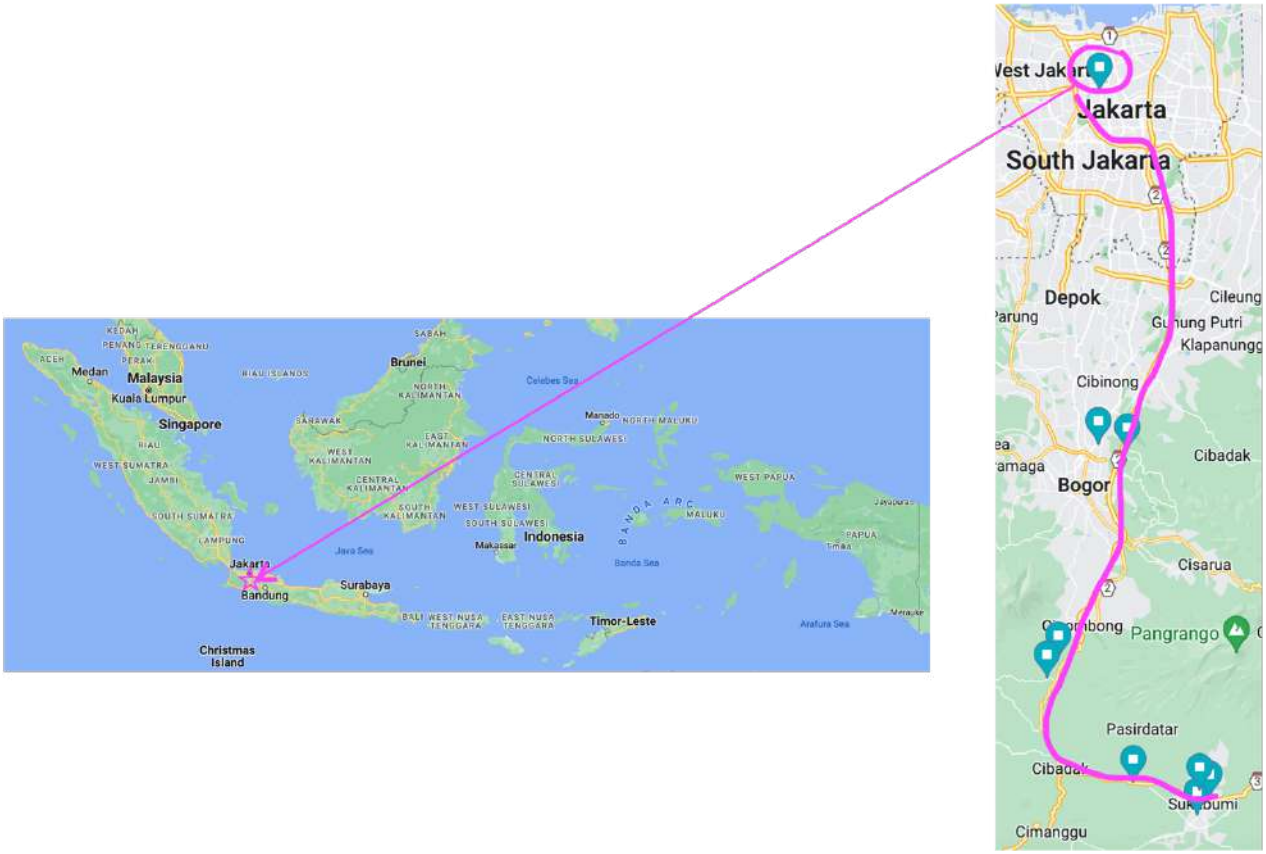
Both quantitative and qualitative techniques were utilized in this study. First, the ITC-ILO sent a post-test survey to all participants immediately following the training in late September. The survey included questions around participants' reaction to the ease and usefulness of the training, whether they repeated certain exercises, if it felt immersive to them, etc. The survey results were shared with the research team and analysed for any general patterns and/or questions that seemed important to dig deeper into with qualitative interviews.

Next, a sample of three factories were identified. Criteria for selection was that each factory was participating in Better Work Indonesia, had received both the Respectful Workplace Programme training (RESPECT) and the VR training (with a minimum of two people who participated in the VR training), and supplying to the US market. Moreover, there was a need to have participants that attended RESPECT training and VR training in the same factories. Such criteria were put in place from a logistics perspective to facilitate two studies simultaneously, to limit the number of interruptions to business hours and also to ensure some consistency with respect to the selection of factories and participants[5].

Each factory was in a different geographical region, and represented different sizes (one large, one medium, one small). Within each of the three factories, we interviewed two VR participants (usually from compliance and/or HR). We then identified one of the VR participants and selected someone from the factory that was superior to them (e.g., a factory manager) and one that was subordinate to them (e.g., a staff member). Interviews were conducted with those colleagues in order to triangulate the self-reporting by VR participants about perceived and actual behavioural change since the training. In total, then, we conducted twelve qualitative interviews: six in-depth interviews with people who received the VR training (a mix of three women and three men), and six interviews with people who work closely with those who participated in the training. Interviews took place in November 2022, about two months after the training.

Figure 1: A map of the research route and sites, with the BWI office at the top point

[5] In addition to the present study, another concurrent piece of research was indeed carried out to evaluate the impact of the RESPECT training in Indonesia, Jordan, Vietnam, and Nicaragua. The resulting report can be found here: Discussion Paper 50: Sexual harassment prevention in the global garment industry - Better Work.



It was difficult to visit more than three factories given the amount of time that we had in the region. To reach the broader pool of VR training participants, we arranged three separate (remote) focus group discussions while in Indonesia. We invited all other VR training participants who had not already participated in one of the six in-depth interviews. The focus groups were arranged on November 11th at 9am, 10:30am, and 1pm. They were organized according to the different training date groups. For example, the group that participated in the September 27th training was invited to the 9am focus group, etc. Participation across the three focus groups was somewhat low. In Group 1 had 3/10 invitees who participated; Group 2 had 5/15 and Group 3 had 3/11. In total, the 11 participants represent roughly 30% of the 36 in total who were invited.

As these focus groups followed the interviews, we had a better sense of which questions to focus in on, to understand whether there was general agreement or competing perspectives on the degree to which the VR training (a) adds something above and beyond traditional training, and (b) is likely to lead to behaviour change.

Finally, a 1.5-month post-test survey was developed to get more detailed information on behaviour change among participants in terms of any action they had taken to share knowledge and skills and/or to intervene directly in cases of SH, as well as their intentions to share knowledge and/or intervene in the future. It was also an opportunity to probe further on whether participants feel comfortable not just identifying SH but acknowledging that it

sometimes happens in their own factories. The survey was created in Survey Monkey and distributed to all 44 participants on the ITC-ILO eCampus platform on November 16th with a reminder sent on November 20th, 2022. A total of 21 participants completed the survey (47.7% response rate).

Table 2 provides a summary of the interviews and participants from each factory.

	Factory A **Nov 3**	**Factory B** **Nov 8**	**Factory C** **Nov 10**
Interview #1	VR: male, HR & compliance manager	VR: female, compliance manager (office)	VR: male, compliance manager
Interview #2	VR: female, HR & compliance manager	VR: female, compliance manager (shopfloor)	VR: male, compliance staff
Interview #3	Non-VR: male, HR manager	Non-VR: male, GM	Non-VR: HRD manager
Interview #4	Non-VR: female, HR staff	Non-VR: female, worker at 'entry pass'	Non-VR: male, compliance staff

Table 3 provides a summary of the focus group discussions and number of participants.

	Remote FGD 1 **Nov 11 @9am**	**Remote FGD 2** **Nov 11 @10:30am**	**Remote FGD 3** **Nov 11 @1pm**	**Total**
Participated	3 (2 female, 1 male)	5 (4 female, 1 male)	3 (2 female, 1 male)	11 (8 female, 3 male)
Invited	10 (6 female, 4 male)	15 (6 female, 9 male)	11 (7 female, 4 male)	36 19 female, 17 male)
				31% participation

3. Findings

Following the Kirkpatrick Model of evaluating training effectiveness, the findings are presented according to the three levels of evaluation included in this study: Reaction, Learning, and Behaviour. The analysis considers the core learning objectives of the VR training which were to better identify types of sexual harassment, and to improve the likelihood of intervening when witnessing sexually harassing behaviours. Several themes were identified in the findings, primarily around the factors that affected participants' ability to immerse themselves in the experience. These ranged from simple logistical issues to the language

barrier and the limitations of VR in contextualizing relationships or providing opportunities for dialogue that reflect the reality and dynamics of working relationships in a garment factory. VR participants offer feedback for improving the platform, content, and training environment, to be able to better immerse themselves in the experience and take advantage of opportunities to practice intervention repeatedly in a safe space – a crucial precursor to behaviour change.

3.1 Reaction

3.1.1 General enthusiasm

Throughout the feedback from all VR participants there was general enthusiasm and excitement. Participants were impressed with the technology, eager to try it and explore the virtual world. Participants used words like "so excited", "delighted" and "uplifting" when talking about their experience. One noted that he believed technology improves the delivery of content and that it's "the future of training, very engaging, interesting."

Back at work, they were excited to share their experiences with their colleagues, whether through email, photos, or in-person. They believed that their colleagues would also be eager to try the VR training if given the opportunity, that they would enjoy it and learn from it. Several participants referenced ILO Convention 190, concerning the elimination of violence and harassment in the world of work,[6] and awareness around sexual harassment as an issue of occupational health and safety. This reference of ILO Convention 190 was majorly because of two reasons. First, the nature of the work that some of these participants have been doing. They were very close to policies, laws, and compliance related to different matters and so they have had a better understanding of the latest updates. For example, compliance managers and HR managers. Second, the knowledge that they acquired through training programs. Together, they gained better awareness around the issues of sexual harassment and its impact on people and were in a position to analyse the implications of it in a holistic manner relating to what ILO Convention 190 calls for and as an issue of occupational health and safety.

3.1.2 Language barrier

Though they enjoyed the training, many found it difficult to keep up. The training is conducted fully in English. Some participants had very strong English, others only conversational, and others quite basic. They noted that other training participants (not interviewed) could barely understand what was happening and didn't feel confident to ask questions – neither during the workshop portion of the training nor during the VR exercise.

[6] ILO Convention 190, the Violence and Harassment Convention, was adopted on 21 June 2019 in Geneva and put into force on 25 June 2021.

Due to the language barrier, many participants did not get the full intended experience, saying they were so focused on the conversation between the two workers in the exercise that they couldn't do the exercise properly, or that they didn't understand what they were saying. As one participant said, "I was too focused on the dialogue, so I missed what to do with clicking for hostile work environment or quid pro quo. For me, I realized and could repeat. For others, they probably missed it or didn't understand. I heard someone say, "I don't know, I just skipped it." There were challenges with regard to the role play exercise as well where some participants had challenges while reprimanding Abdul. For example, one manager said "Because it's English, there isn't many things to say. Maybe I can just say 'Abdul, don't do it' but it would be better if there could be options of text that could be said."

According to the post-training survey facilitated by the ITC-ILO, 12% of participants (n=46) rated the language difficulty as "somewhat difficult" or "very difficult", 33% were "neutral", 28% said "somewhat easy", and only 15% said "very easy". When asked how difficult it was to learn to use the Bodyswaps application, 26% of participants found it "somewhat difficult" compared with 50% who found it "not difficult at all" or "somewhat easy" or "very easy" (and 24% who said it was "neither difficult nor easy"). However, when asked if they ever feel lost on what to do and had to ask for help, 72% of participants said, "one time" or "more than one time".

3.1.3 Logistics

Participants thought the meeting room was appropriate and were excited to try the VR but they also had logistical concerns. Some were simpler issues, like the goggles not fitting people who wear glasses. Others were a bit more concerning, like not knowing if they were being listened to or recorded. As one male manager said, "That was awkward. Very awkward. If we have to share our experience or recommendation, we need some time to make sure that we are secure first" and later added, "Typically we don't want to be seen as incapable of understanding something." While VR can provide opportunities to practice iterative procedures of complex scenarios in a safe and controlled environment (Fussell & Truong, 2021) as a key advantage, the participants must be provided with that environment in order for the training to be fully effective. In the pilot VR training initiative, there were some challenges with respect to the space where VR practice sessions occured, and the time that was available for the participants to experience at their own pace and hence some succumbed to the thought that their colleagues are waiting in line for their turns and wrapped up their sessions sooner. There were not enough goggles for everyone.

The image below shows a factory manager participating in the VR training at the hotel in Bogor. At least two temporary walls can be seen, with others nearby in the background. In addition to those waiting behind the wall, there is also someone else observing, and someone taking a photo. This was awkward for many, though the manager in this image reported that she wasn't too concerned about others because she felt very excited to be using the new VR technology. This could also be explained in part by the fact that, in her own factory, she is a

dynamic leader and plays a key role in conducting training for the Respectful Workplace Programme. She also has strong English speaking and comprehension skills. Challenges with language and other logistics are, of course, intimately linked to the learning experience.

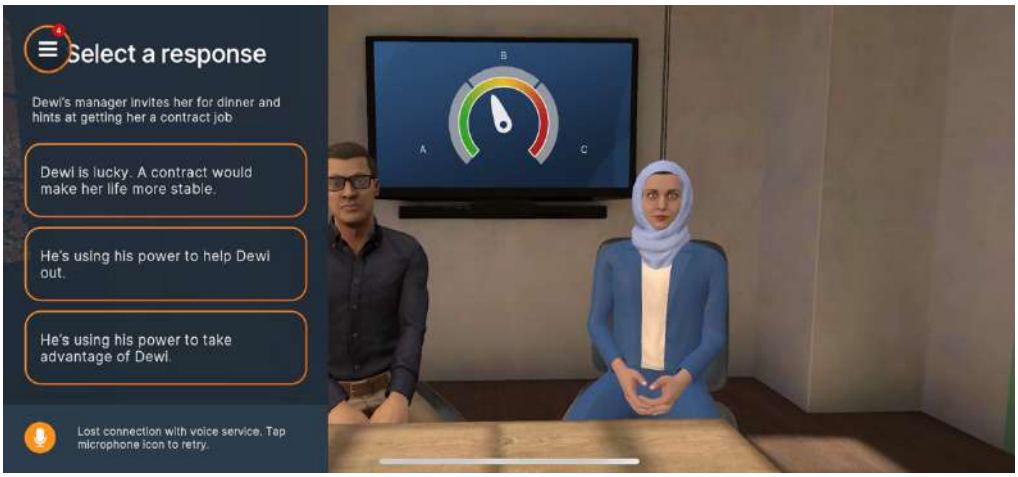
3.2 Learning

Key learning aims of the VR training included raising awareness on what constitutes sexual harassment, equipping participants with the knowledge to better identify sexually harassing behaviours and equipping them with the skills to intervene. Using the VR platform, participants have the opportunity to learn and test their knowledge in a more immersive environment, practicing different forms of intervention in a safe space.

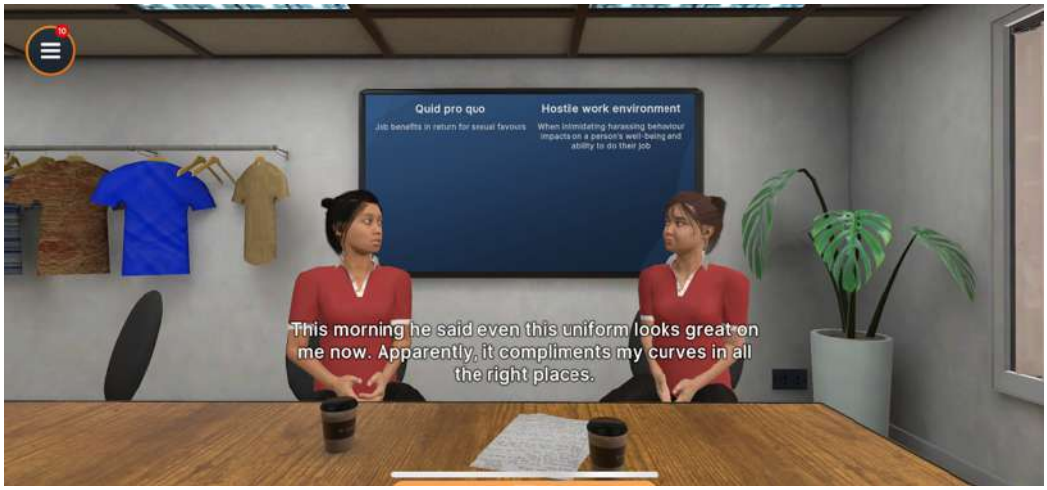
3.2.1 Knowledge building on types of sexual harassment - content and connection with characters

All participants said that the training helped them to better understand how to define sexual harassment and what constitutes it. Whereas before they may have believed that only extreme forms of violence constituted sexual harassment, they now understood that it can also include unwanted touching, staring, following someone, requiring a favour in return for assistance at work, and so on. They could relate to what the characters in the VR world were discussing, saying that “the examples they gave in the training were SO real, it is something that might happen in factory, for example touching or groping and also verbal harassment.”

In the VR training, participants had a chance to test their knowledge by listening to different scenarios and selecting a response. For example, in one scenario, the manager of Dewi (a female factory worker) invites her for dinner and hints at getting her a contract job. The user has to select whether Dewi is lucky to get this offer, or if the manager is using his power to help or take advantage of Dewi.



Participants had another chance to test their knowledge in an exercise that included two female factory workers (Linh and Dewi), discussing issues at work. The VR user could click one button to identify any time Linh or Dewi mentioned an example of quid pro quo, and another button any time they mentioned an example of a hostile environment. For those with stronger English, they could understand and relate to what the workers were saying. This module helped workers to understand what different types of sexually harassing behaviours could look like.



3.2.2 Increased awareness as preventative measure, safer workplace

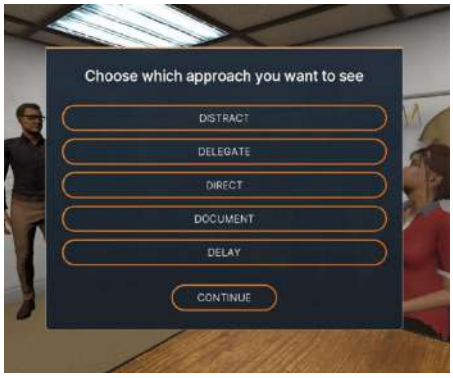
All interview participants said that there have been no instances of sexual harassment since the training. However, they identified common workplace behaviours that now seem to them to straddle a fine line, as they are more aware of the different examples of sexually harassing behaviours. Several, for example, said there is a lot of "joking around" or "just kidding around" between men and women. They said that they now speak up more to their colleagues, saying things like, "hey, I know you're kidding around but just be careful." They even said that they themselves try to be a little more careful – where in the past they may have put their arm around a worker as they spoke, or commented on their appearance, they are now giving more space and trying to be mindful about the kinds of things they say.

As a research team, we wanted to be careful about asking participants outright to give examples of sexual harassment in their workplace. Rather we asked them about how well they thought the VR training addressed the core learning objective of being able to better identify types of sexual harassment, and to give examples of something they learned at the VR training that they could immediately apply in their present job responsibilities. We recognize it is a sensitive issue and wanted to open a space for them to discuss it. We also, however, included an item in the 1.5-month follow-up survey, "sexual harassment sometimes happens at my workplace" to which 11 out of 18 respondents said "yes".

3.2.3 Knowledge building on the 5 Ds - different options for different types of bystanders

Another exercise in the VR training introduces Abdul, a factory manager who is behaving inappropriately towards Linh. The VR participant witnesses this and then chooses what approach they want to see the bystanders take with Abdul. They can choose any or all of the 5 Ds: Distract (De-escalate the situation using an indirect approach), Delegate (Seek someone else's help), Direct (Intervene in the situation directly), Document (Document the interaction

or escalated behaviour of the offender by taking photos or notes), and Delay (Help the impacted person when it is safe with support for reporting and other resources). The participants were presented these options as effective ways to tackle sexual harassment incidents as bystanders in the VR training.



In the training, participants had the opportunity to explore all five Ds and learn more about them, but most participants explored only 1 or maybe 2 or 3. When asked why, participants said that some people did not know they could explore all of them – that they thought it was more like a multiple-choice situation, where they had to choose one to explore. Others said they felt rushed, knowing that the next participant was waiting behind them to try the VR.

Despite the challenges, this module helped participants to start building some connection to the characters. As one female manager reported, "When the scenario depicts the victim reporting, then I felt sad and stressed. In that part they explain about the 5 Ds, so I felt really connected with that part of the story, so I remember the 5 Ds." Though only one interview participant remembered the names of the different Ds, three others were able to describe the essence of each of them, and two could recall one or two of the options.

Even at a basic level, being introduced to the 5 Ds helped to increase participants' awareness about the different options for different types of bystanders. Knowing that they could take a photo (document), or try to change the conversation (deflect), and that intervening directly was not only option, was helpful for people. One female manager described her learning process as she moved through the module, saying, "For me it was the first time I learned about the 5Ds so I tried 'document' and I found out that usually people would just take photos or videos as evidence, but no one has ever asked permission from the victim. And then 'direct', I thought that me or other people would not have the courage to speak up but now I know it's important. And for 'distract', now I know what to do at the moment." A male manager said, "5 Ds offer several ways to intervene based on the situation and the witness. If they are not brave, they can use document. If they are brave enough, they can intervene directly by giving reprimand or warning."

3.2.4 Knowledge building through exploring, practicing and potential beyond workplace

The VR character Abdul is a workplace manager who is engaging in sexually harassing behaviours towards factory workers. In one of the exercises, VR participants are given a chance to say something to him about it. First, your mic comes on and you are prompted to say something to Abdul about his behaviour. Then, you body swap with Abdul's character and watch yourself (the avatar you selected) deliver that message to Abdul. You see what you look like, hear what you say, are given some automated feedback, and have an opportunity to try again with a new message. The idea is that this kind of repeated practice can boost the participant's confidence and/or perceived control over the behaviour, which can positively impact intention to perform the behaviour in the future (Blume et al. 2019).

The participants were specifically asked in interviews about their experience interacting with Abdul. Most of the participants felt great about using their own words and voice to experience this learning in real time. Participants also attempted to practice and repeat their interventions to improve themselves after reviewing their own performance while reprimanding Abdul. However, some skipped multiple attempts due to some of the challenges that were explained earlier. Although the participants had suggestions on how to improve this opportunity to have a dialogue with Abdul by enabling Abdul with different emotions and abilities to respond, they all seemed to have gained that confidence to intervene as appropriate depending on the demands of the situations that they are in. The role play exercise generated some curiosity and interest among the participants, and it helped them learn to intervene through practice and feedback.

3.3 Opportunities and Challenges around Learning

3.3.1 Immersive experience

For those who explored all 5 Ds, several participants found this exercise exciting, saying, "We can have a more immersive experience, especially the part where we can reprimand the offender. That is more effective compared to traditional." And "the role play feels very realistic so we can feel what happens if we're in the position of each character."

VR training offered an immersive experience in a virtual environment which the participants got through a head mounted display (Sharples et al. 2008). Such immersive experience has the ability to enhance intrinsic motivation and self-efficacy among participants (Makransky et al. 2019). VR offers the participants an environment which is free from all the external disturbances and helps to focus and be absorbed in the topic. Further, it offers the ability to practice repeatedly and review the performance each time in order for them to gain more confidence and better themselves in the event of interventions. The dialogue with Abdul has been an excellent opportunity for the participants to gain that immersive experience through

exploration and interaction. The participants had the opportunity to observe Abdul's behaviour, make judgements about that and then react to his behaviour (reprimand) using their own words and voice. Participants who had prior experience were able to establish a connection with Abdul and reprimand Abdul in the first attempt itself while some others had to repeat to see themselves improve. However, because of the virtual environment and immersive experience they did not feel awkward about reviewing their own performance and repeating themselves.

3.3.2 Safe space

They also felt that VR provided a safe space for practicing new techniques or new ways of speaking, for example with one male manager saying, "If in a real world, traditional training, we have to sometimes actually touch someone and then that might cause a problem. In VR, there are no real touches because it's virtual reality. We are more free in the virtual reality". Another male manager said that "In the VR it allows the participants to repeat again, repeat again, repeat again, until they understand. If they don't understand they can repeat again until they understand. But in traditional training if we keep repeating the same question, maybe the trainer will be angry (laughing)." With that said, there were also other participants who felt that they weren't able to fully explore VR because their colleagues were waiting for their turns just behind a temporary wall and that they might have been able to see or listen to their practice sessions. Hence it is important to note that the VR experience to feel a safe space needs to happen in a private physical space as well for full privacy and freedom.

Yet another male manager said that "In VR, there are no consequences when we are intervening. There are no bad responses or negative feedback from the offender to us if we make any intervention." However, a couple of female managers had a different take on this, saying that it would be better to have a negative reaction from the VR character because that is a more accurate reflection of reality and would give them an opportunity to practice engaging in confrontational dialogue in a safe space.

3.3.3 Opportunity for dialogue

This exercise felt a bit strange to several participants, not just because it is slightly awkward to speak up in the VR experience (e.g., language and privacy issues noted above) but because of the one-way interaction with Abdul. As one female compliance manager said, "In the VR scenario, Abdul didn't get mad because of my reprimand. But in real life probably the offender might get mad." Another female compliance manager said that she "felt happy and delighted because I could express my anger towards Abdul, I felt the emotion at the time so I could express my anger" but that, "At first, it was a little bit strange, weird, because when I gave comments to reprimand Abdul, he didn't have any reaction to me as feedback."

When asked for suggestions on how to improve this feature of the VR experience, one participant said, "It will be useful, **especially** if there are expressions where he refuses the reprimand or warning from participants so there can be another dialogue with Abdul as a response to him saying 'no' or getting mad." And another said, "Make Abdul have reactions to what the participants have said. If possible, the system should be able to identify the words from what the participants said. For example, when I said "don't!" the system should be able to identify the word "don't" and show a certain response to a word. It's like we're having a chat."

"I think that, yes, we can give reprimand or scold someone in the VR but in real life it is not that easy. I cannot just call someone and reprimand someone because in real life usually the someone who does such things, or the offender, when they are being reprimanded or scolded, they might give reaction or bad feedback, they might get angry, and they might make negative comments. So, it would be better if in the VR there should be reactions or negative feedback from Abdul first."

3.3.4 Context of relationship

A second reason that this exercise felt strange to some participants is that they didn't feel they had the appropriate context for their relationship with Abdul. As one male HR/compliance manager described, "We need to establish the relationship, the scenario, in our mind first…and then we need to be able to fit ourselves in that scenario first, before the avatar is shown to us. Otherwise, we lost the connection, we lost the context then. We're just a stranger (laughing), seeing the case and seeing the violence, like, who are you??! (laughing)". He later added, "Maybe it's about the culture. Indonesian people, we think a lot about the other people's reactions first before we react to that case."

When asked for suggestions, he said, "It would be better if we can provide a role modelling. Some participants are asked to play the victim and the bully or the person who is (intervening). It's not to replace the VR, no, but at least before we do the VR session we can understand, okay, this is the context, you are the friend of this and you are the boss, things like that. And then we can try to replicate that scenario with the avatar in the VR session. So that will be some kind of a connection, then we feel attached. I think that will help to prepare us at least psychologically, we prepare to be given such condition. Otherwise, again, it's a cultural thing maybe…we don't know who you are (laughs). I don't want to make any comment, I don't want to fight with you (laughing)."

If participants don't feel comfortable, if the experience is not truly immersive for them, and if they don't connect to the characters, then they are unlikely to engage in the type of repeated practice that ultimately leads to behaviour change.

3.3.5 Summary of challenges

Many of these challenges for learning were rooted in language and logistical issues – participants are too focused on trying to understand the conversation between characters, don't know they can repeat segments, didn't realize they were supposed to say something to Abdul or couldn't articulate what to say. A deeper analysis of the language issues revealed that participants had difficulties navigating through the training at different stages and hence couldn't explore the different choices and possibilities that were available. Those options (for example, 5 Ds) were included with the intent to contribute immensely towards their learning experiences. As far as logistics is concerned, providing a physical space that can assure privacy and confidentiality would help the participants focus and experience VR freely. It seemed to have lacked in the pilot training to a great extent. Furthermore, the participant responses also reflected the lack of a better understanding of the context and difficulty in establishing connections with the avatars. Some participants also suggested that the technology be upgraded to include possible reactions from the avatar (character of Abdul) to make the role play seem more realistic.

However, as the examples illustrate, there are also other features of the VR that could be adapted to better reflect reality for participants. In addition to local language, sufficient time, and private space, it is also important to provide opportunity for dialogue and context for relationships – all of which help to create a virtual world that reflects their reality. This better positions them to have an immersive experience where they are connected to the characters and can engage in repeated practice of the behaviour (i.e., intervention).

3.4 Behaviour

It was difficult to measure behavioural change in the workplace for at least two reasons: (1) this research was done just 1.5 months after the VR training, and (2) all interview participants said they couldn't apply their learning yet because there is no sexual harassment in their factories. This was addressed in several ways.

First, in the interviews, participants were not only asked about the ways they put their learning into effect when back on the job, but they were also asked about their future intentions – what would they do if they were to witness sexually harassing behaviours in the future? Furthermore, the 1.5-month post-training survey (conducted after the interviews) focused

almost entirely on specific examples of behaviour change and future intentions/likelihood of behaviour change.[7]

3.4.1 Sharing knowledge creatively and confidently

The participant responses clearly indicated that there was knowledge building and increased awareness occurring through the VR training. The immersive experience and the opportunity to practice repeatedly contributed immensely towards their learning. The main way in which they were putting their learning into effect on the job was through sharing their knowledge with others. Some had simply shared an email to other managers, but others were more hands on. Most participants said they wanted to be able to share the Bodyswaps app with others so they could try it themselves but, at 1.8Gb, it was too large, and people could not download it. Instead, they took the creative approach of trying to recreate some of the visual scenes in the VR.

One female manager/trainer said that "the VR app was too large to share but from that I tried to make some materials that I will use in my job. I've already done role play on SH issues with the security guards and operators and what the witness should do" (drawing on the VR's 5D exercise). She also "made an activity where operators and security draw what they understand about sexual harassment because I want to know if they only think that sexual harassment is the obvious sexual harassment or if they already know that the smaller actions like whistling and sending bad texts or pornographic content are instances of sexual harassment as well." She later added, "If they don't understand the types of sexual harassment, then how can they report the incidents? So, I'm building the education first here."

The VR training also boosted confidence for some. One female manager reported, "When I'm doing counselling for the workers, I'm doing it more confidently and then there are things like the methods from the VR training and how to be wise in making intervention. I took those methods and information from the VR and applied it in my job, in the counselling… There are

[7] The survey was distributed to all 44 participants on the ITC-ILO eCampus platform, and completed by 20 respondents, the majority of whom are in HR or Compliance roles. This included 10 females and 10 males, 11 of whom were aged 30-39, and 5 between 40-49. 3 were 21-29 and 1 was 50-59.

no interventions because there are no cases. But I have the feeling of more awareness and I feel like the ambassador of anti-sexual harassment when I'm working here".

Another female manager said that she is also a trainer at her factory and that she now includes information in her training sessions about ILO 190, "especially about the psychological effects of sexual harassment on workers". She said that "After training, when I see a worker alone, I give her company and accompany them. When I am stressed, I share with others. There has been no incident in the factory since the training, but I am more equipped to intervene and reprimand the perpetrator".

3.4.2 Preventative behaviour change

3.4.2.1 Being (and reminding others to be) more careful

Though all interview participants said there have been no cases for them to intervene in, several commented that they are now being more careful or saying something to others when they see behaviour that could potentially become an issue. For example, a male manager from one factory said, "I'm more aware, I care more about the issue, if there is a case of sexual harassment. Because sometimes in Indonesia, in the community, people will be just joking around, fooling around, without knowing it is sexual harassment. Now I can understand, and I can reprimand someone if they do it."

Similarly, a female manager from another factory said, "When we see workers fooling around and just playing around, we remind them to be careful and watch themselves. They can fool around because they're still human, but we remind them to be more careful when they're kidding around". This type of direct intervention – though preventative – is already a step towards creating a safer workplace.

3.4.2.2 Risk assessment: Physical and psychological safety

Another preventative measure includes doing risk assessments. One male manager spoke about how he "understood better how to prevent sexual harassment rather than to discipline or fix the issues...I understand that there are some risk factors here. There are things we need to do to minimize all the possibilities of violence and harassment in our work setting... In my judgment people have become very careful dealing with their social interactions...but there are some areas, there are some departments that we also need to check. It's a continuous improvement, I think. We can't become complacent and say, okay, everything is good. No, it's an ongoing process."

A female manager at a different factory added, "the VR training discussed about the OHS and that gave me ideas to do a re-assessment of OHS in terms of sexual harassment. Up until now, OHS only relates to health and safety but never comes into sexual harassment. I will

brainstorm with workers, get some ideas first, and then input into risk assessment…it's still in progress (about 50%)."

When asked for examples of inputs that workers are giving to her, she spoke about: "Salaries, promotion, economic development, financial, risk assessment…and to build a house…that the factory builds a house and worker can stay if they have problem of sexual harassment in the house because sexual harassment not only happen in the factory, but between wife and husband, between family, and then they need protection, like staying in the house provided by factory to them."

3.4.3 Behaviour change through the eyes of superiors and subordinates

Six VR participants were interviewed, including two at each of the three factories selected for the study. Due to time considerations, only one of the two participants per factory was then selected for further study using a 360° feedback tool. For this one VR participant (typically an HR or compliance manager), we identified someone subordinate to them (e.g., HR or compliance staff), and someone superior to them (e.g., head of compliance, or factory manager/director).

In separate half-hour interviews, we asked both the subordinate and superior: if they knew when their colleague had participated in the training; what they had heard about the training in terms of their colleague's feedback; what changes they see so far in the workplace; what changes they see so far in their colleague; and what changes they expect to see in the long-term.

All of them knew about the training, when it was conducted, and that it was well-received. In terms of changes that they were seeing in the workplace and their colleague, they primarily referenced the training being offered to them, a shift in confidence level, and being more careful with their social interactions. For example, one male HR officer (superior) in the first factory we visited said he learned from his colleague who attended the VR training and felt that she had become more confident. A female cutting operator (subordinate) at the same factory said that she felt her colleague had become more knowledgeable as she could explain quid pro quo and sexual harassment in a confident manner. This reflected what the VR participant herself had said about being confident to explore the VR exercise and becoming even more confident to share the information in her factory, feeling like "the ambassador of anti-sexual harassment".

In the second factory we visited, both the factory director (superior) and the regular worker (subordinate) noted that their colleague was disseminating information about the training, including strategies on how to fight sexual harassment in factories. The director additionally noted that, "If we look at the people directly, there are no major changes in the way they behave but when you observe them closely you can see that they have become very careful in

their interactions with others. They try not to upset others even with words." He noted, however, that the specific colleague who received the VR training had "not changed much because they have always been nice and respectful." In this case, the VR participant had been quite forthcoming about her progress on making changes since the training, saying that she has been soliciting worker feedback but still has not yet had a chance to implement in the way she wants to. The feedback from her colleagues reflected this, in part, but also that they were somewhat disconnected (not working very closely with the colleague on a daily basis).

In the third factory, where the VR participants had spoken openly about being more careful now, their colleagues reiterated this. The male HR director (superior) said that "[They] have become very careful after the VR training as they know their boundaries. They used to 'joke around' earlier and were very casual. They have become very formal in their interactions now." Similarly, the male compliance staff (subordinate) also mentioned that "[They] have changed after the VR training. They used to 'fool around' with workers before the training. Now they are behaving better. I was afraid to say something to them when they were joking around."

3.4.4 Intention to change behaviour in future

Repeated practice in VR is likely to improve perceived control over the behaviour, which influences intention to engage in the behaviour. However, in the initial post-training survey done immediately after the training, only 46% of respondents (n=46) tried to deliver their message to Abdul more than once. This number was higher in the 1.5-month follow-up survey (75%), possibly due to selection bias, with more engaged respondents (n=20) signing in to take the survey.

Similarly, in the initial post-training survey, only 52% of respondents said they repeated the Linh and Dewi exercise (where they needed to identify examples of a hostile environment or quid pro quo in their discussion), and just 67% said they explored all 5 Ds. These numbers were again higher in the follow-up survey (75% and 85%, respectively). In the follow-up survey, respondents were also asked about specific actions they had taken in the workplace since the training, as examples of applying learning. For example, whether they had told at least one worker that they should say 'stop' if someone is making them feel uncomfortable; whether they warn people to be careful when 'joking around'; or whether they would intervene if they see someone making an unwanted advance. To each of these statements, all respondents (18/18) said "yes".

Other specific actions included whether they had talked to and/or provided training to managers and/or workers on different types of sexual harassment and options for intervention:

	Types of SH		Options for intervening	
	Workers	Managers	Workers	Managers
Have talked to:	16/19 (84%)	15/19 (79%)	15/19 (79%)	15/19 (79%)
Have provided training to:	15/19 (79%)	12/19 (63%)	14/19 (74%)	11/19 (58%)

Before anyone can think about acting or intervening in the case of sexual harassment, one must acknowledge that sexual harassment exists and takes place around them. In the interviews, participants were either reluctant to mention or didn't believe that sexual harassment happens in their workplace. The survey was an opportunity to get anonymous feedback on the question, not to expose the factories, but to gauge the degree to which participants are ready to acknowledge it as an issue – an important precursor to addressing it in the workplace.

	Sexual harassment sometimes happens at my workplace		If I knew about any examples of sexual harassment at my workplace, I would feel safe saying so	
	Yes	No	Yes	No
Female	6/10 (60%)	4/10 (40%)	9/10 (90%)	1/10 (10%)
Male	5/8 (62.5%)	3/8 (37.5%)	8/8 (100%)	0
Total	61%	39%	94.5%	5.5%

Respondents were also asked about their intentions: to advise workers and other managers that it's okay to acknowledge sexual harassment in the workplace (94% said yes, 6% maybe); to learn from workers what types of sexual harassment occur at their workplace (88% said yes, 6% maybe, and 6% 'in certain situations'); to collaborate with workers and/or the trade union to improve their grievance channels (82% said yes or already doing this, 12% maybe, 6% 'in certain situations'); and to provide more training for regular workers on sexual harassment prevention (88% yes, 6% maybe, 6% 'in certain situations').

The survey data suggest we can be cautiously optimistic about behaviour change on the horizon, taking into account that the follow-up survey respondents represent less than half of all those who received the VR training. Moving forward, it will be important to address some of the core limitations of the training, to ensure everyone is on board and can effectively participate.

4. Suggestions moving forward

The VR experience needs to feel fully immersive, where participants understand what is happening, what their options are, and feel that their reality is reflected in the experience, with a safe space in which to practice the intended behaviour (i.e., intervention). Interview participants had many suggestions to get the VR experience to this level, several of which have already been addressed, focusing mostly on the language barrier, logistics, and better reflecting their reality.

4.1 Addressing the language issue

In addition to the suggestions already made throughout, like being able to navigate through the VR experience by having proper instructions and context setting, opportunity to explore all the choices and options in the local language and not just English, allowing to follow the dialogue between the different characters to be able to select the right choices and by enabling the characters to react to the interventions, one participant suggested that the "facilitator could test the proficiency of each participant, divide into groups, adjust how they deliver the material… (Because) once we are in that setting, then there is no way we can go out and ask the meaning of something". Another added, "There should be a deeper discussion or explanation for each type…with animations and some examples. Also, methods for resolving the problem for each type of SH." This could be for the Linh and Dewi exercise, possibly including some pop-up animations to let participants visualize what they're saying. As in any training, it would have been possible that the participants were at different levels of their language skills and awareness of the topic, and it was evident from their responses. Some were proficient in English language and confident enough to intervene through their avatars maybe because of their job roles. For example, a compliance officer who was very proficient in English in one of the factories mentioned that she found the training to be very useful and had no issues reprimanding Abdul because she had been doing that in her job. Since VR is a technology driven training, it is possible to incorporate suggestions by providing as much explanation and clarity as possible before the training and through the training through instructions. In addition, the real-world training set up will be different from that of a pilot training where the participants have flexibility and can attempt the training multiple times. However, bringing participants at all levels on the same page and setting up the right context prior to and while on the training is important.

Furthermore on addressing the language issues, if instructions were provided in the local language, they could understand that they have the option to explore all 5 Ds. The participants offered multiple alternative suggestions if providing the experience in multiple languages is not possible: including subtitles; giving detailed instructions upfront in their local language so they know what to expect at each stage; including a visual/button/icon/symbol or logo to indicate options and potential actions they can take as they move through the program; block

access to go further before finishing all 5 Ds; have a clock or alarm to indicate how much time is remaining in each module.

4.2 Addressing the logistics issue

Although VR training offers immersion, privacy and safety as its advantages, it requires an appropriate physical environment as well. Many of the participants felt rushed as their colleagues had been waiting for their turns to practice and were concerned about the temporary walls that separated them from other participants. They couldn't explore VR freely. Participants suggested that having a more private space to do the VR, and providing enough headsets for everyone, could encourage them to take their time.

Another important thing that can be done to address issues around logistics is to provide as much clear instructions as possible before the beginning of the training itself. These instructions should cover the different aspects of the training including the objectives, different sections, and also about navigating through VR experience. In pilot trainings like this, the 1-hour session that is used to discuss about sexual harassment prevention and its implications after the VR training could be utilized before the training to address some of these issues in advance. The training can then be redesigned to include the suggestions in the app itself eventually.

4.3 Better reflecting reality

In addition to creating an opportunity for dialogue with Abdul and providing more context for their relationship with him, participants said they would have liked more (and more realistic) scenarios. One male participant suggested to first "seek audience feedback about what are the kind of typical daily activities, violence and harassment incidents or typical complaints in the factor." When prompted, he referred to 'grey areas' such as bullying someone because you know they need something from you, and that these grey areas that cannot be classified so neatly as sexual harassment, but which happen and are typical. He continued, "In the VR training, there's a part that's about risk identification, like what could happen in the toilet or night shifts. From those, from the training itself, you can use it to build the scenario, maybe what could happen in the toilet, night shift." Including input from other factories, having "more variety of scenarios that reflect that incidents that may happen on site…put that together with the 5 Ds we can understand what the 5 Ds are."

Furthermore, the participants also mentioned that they wanted to be able "to see what's the next process after the reprimand to the offender (Abdul), for example if it's processed or not, what's the decision, what penalty we can give to the offender. Maybe there should be options, like reprimand or warning or any other options." Through multiple options, the participants can learn about and explore the different ways of dealing with a situation and intervene as

appropriate. They will also get some visibility to the actions taken in the event of a sexual harassment incident, which can influence their behaviour positively leading to prevention of sexual harassment.

4.4 Considering implications beyond the workplace

Practice in the VR setting can potentially help participants to prepare for reality outside of the workplace as well. One female manager described how she might apply the intervention skills in the factory but also when taking public transportation. "…So maybe the warning shouldn't be too harsh, we shouldn't reprimand Abdul too hard. Because in real life if we give too harsh, it might make the situation more complex…we might have more problems rather than focusing on the real problem… For example, let's say if it's in public transportation and then I see an offender with the victim, if I get mad and use foul language, it might not solve the problem because the offender might harm me. Maybe there are other things that we can do, for example we ask for help from the driver or anyone who could help…"

However, this also demonstrates that (especially) female workers still need to be extremely careful or nervous as bystanders. Engaging in repeated practice with intervention in VR can help to build confidence and develop skills, but this is also an indication that the training can be further adapted to build empathy. For example, including a component on 'experiencing' sexually harassing behaviours in VR, or what it feels like to have the offender challenge you after you say something. Additionally, including training on how to react if you are confronted with sexual harassing behaviours you are engaging in (e.g., not becoming violent). One male VR participant suggested, that, "If there's an explanation in the VR about the impacts of sexual harassment on the victim, if it can be implemented, it will have a more direct impact to the users." When asked if he was referring to empathy, he responded, "Feeling empathy, yes."

4.5 Considering the role of social norms

The two older men included in the VR interviews both mentioned something about either 'grey areas' or 'in Indonesia it's normal to make comments on someone's body'. One of them said that workers now come to him asking if this or that is sexual harassment and he says, "For us, it's okay, but probably if it's for other countries from outside you cannot do that."

What does it mean for something to be okay in one culture but not another? Are comments on peoples' bodies considered a harassing behaviour only in some countries? At the core of it, it depends on whether the affected person feels uncomfortable and if the comments are creating a hostile working environment. For that, people need to (a) understand the definition of sexual harassment, and (b) be aware of how comments make others feel. This could be addressed in part by incorporating an 'experiencing sexually harassing behaviours' into the VR

experience and/or including information on what their peers do, think or believe (social norms pressure).

4.6 The target audience - who is best suited to receive VR training?

Participants felt it would be important to provide the VR training to supervisors and unions. As one described, "Supervisors supervise 50 operators per line… If supervisors and unions receive the training, once they receive complaints from the workers, they should be able to identify if it's sexual harassment and what type of sexual harassment it is. If it's only to HR, then it will only be education and information dissemination. But if the unions and supervisors already understand then they can apply it better. Especially the part where the two girls are discussing, it will be very good for the unions and supervisors."

The following is a summary of the learning and behaviour aims of the VR training, along with a brief recap of what worked, what challenges persist, and some suggestions.

LEARNING & BEHAVIOUR AIMS	WHAT WORKED	CHALLENGES	SUGGESTIONS
Improve ability to identify different types of SH	Linh & Dewi conversation was illustrative, gave new info, new types SH they didn't know before	Language: can't understand, too fast, didn't know they could repeat	Program in Bahasa (or subtitles or instructions at outset in Bahasa or much slower in English with visuals/buttons to indicate options)
Increase likelihood of intervention if SH	5 Ds were eye opening, practical, options cater to different types	Language: Thought it was multiple choice, didn't know could repeat, don't remember 5 Ds now	Local language or additional instructions upfront or a visual to clearly indicate they can repeat
Empathy building through connection with characters	Linh & Dewi conversation was relatable, realistic; Interesting to 'be' Abdul and see self	Language: Focused on words, can't react in time to identify SH; Not realistic to have no reaction from Abdul/no context about relationship with Abdul	Program in Bahasa (or subtitles). Provide options of reactions or style of engagement with Abdul (e.g., confrontational, agreeable). Provide context of relationship with Abdul (who is he to me, who am I to him?)
Skill development through practice in safe space	Practical skills and confidence boost through Abdul exercise	Language: limited things one can say. Privacy: People waiting nearby. Time: Rushed. More than half choose not to repeat	Bahasa. Or give options for phrases to say. Private space, more time on VR, less on training. Provide 1 VR gear to factory

5. How does VR go above and beyond traditional training?

Interview participants were asked how much they agree or disagree with the following statements: that the scenarios depicted in the VR experience were realistic (average response = 4.7/5); that they felt engaged and connected with the characters (4.7/5); and that they felt at ease intervening (3.8). They were also asked how they would rate the language difficulty (average response 3.8/5 where 5 is 'very comfortable'). Overall, they felt that the VR training

was either 'outstanding' or 'very good' at addressing the core learning objectives of being able to identify types of sexual harassment, becoming familiar with the 5 Ds, and improving their likelihood of using one or more of the 5 Ds when witnessing sexually harassing behaviours.

Interview participants were also asked how much they agree or disagree that: "Role-playing in VR is more effective than traditional training". Out of six respondents, two said they 'strongly agree' and three said they 'somewhat agree', with one saying that they 'neither agree nor disagree'. They were then asked to elaborate further.

Some participants reported feeling safe, that VR gave them the option to keep repeating something without frustrating others, to practice intervention without worrying about the ramifications of touching someone in traditional role play or having a bad reaction from the perpetrator. Others, for reasons documented earlier, didn't feel as comfortable or ready to engage in repeated practice.

For some, seeing their reality reflected to them in VR not only increased their awareness and empathy but was also affirming. It was the first time they were seeing in VR what they know is commonplace in garment factories. For others, it was hard to follow what was happening, or they felt the scenarios did not fully reflect their reality in the factory.

Others were able to see what different types of sexual harassment could look like, which inspired some self-reflection about how close to the line their own behaviour can be at times, with some reporting that they are being more careful about their social interactions and advising the same to others. Some also engaged in other forms of preventative behaviour, like doing risk assessments in the factory.

6. Conclusions

The VR pilot on sexual harassment was designed with a focus on bystander intervention as the target behaviour change. The intended experience was for participants to feel completely immersed, building empathy through their connection to the characters and scenarios, and that they were in a safe space to engage in repeated practice of a difficult behaviour (intervention). The participant responses have proved the impact of VR on knowledge building and increased awareness about sexual harassment. They have a better understanding of the issue and are confident and better equipped to intervene to tackle sexual harassment at work. All these aspects have the potential to enable behaviour change and build empathy among the participants of VR training.

Furthermore, according to the theory of planned behaviour, this should improve the participant's attitude towards the behaviour, their normative beliefs, and perceived control

over the behaviour – all of which influence their intention to perform the behaviour in question (Ajzen 2019). Though it was too early in this study to see broad-sweeping behavioural change in the workplace, the evidence shows that some shifts are starting to take place in attitudes toward the behaviour, normative beliefs, and perceived behavioural control.

VR participants' attitudes towards intervention are starting to change as they learn about different options for intervening and can choose from that menu (the 5 Ds) based on what they are comfortable with and as the situation demands. Normative beliefs are also starting to shift as participants learn more about sexual harassment as a health and safety issue, and a psychological issue – that turning a blind eye can be harmful to the victim as well as the business. Perceived control over the behaviour is also increasing for some, in particular for those who are already confident individuals or have had a boost in confidence through the VR experience, putting their knowledge to the test and practicing intervention.

Intention to perform the behaviour in question is an important antecedent to actual behaviour change. The findings show that VR participants intend to intervene in the future and to continue talking to, and training, both workers and managers on types of sexual harassment and how they can intervene. However, the findings also show that there are challenges with the VR training in its current format that are preventing most users from having the full immersive experience, and some less so than others.

Despite the challenges, it is possible to see how VR can go above and beyond traditional training when it comes to preventing sexual harassment in the garment industry. Though it is too early to see broad-sweeping behavioural changes in the workplace, the data shows that the groundwork is being laid and some preventative behavioural change is in the works.

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