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Assessing training on digital gender based violence in higher education taking into account gender and sexual orientation

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Abstract

Digital Gender-Based violence (DGBV) is a social problem affecting overproportionally younger people, especially women and LGTB. Training programmes to combat DGBV are recommended but we lack evidence-based evaluation of them. We evaluate a series of trainings at university for all participants ($N = 190$), taking into account gender and sexual orientation. A multimethod approach is used. Training is assessed with a pre–/post-test survey on DGBV concerning content and skills, including items and open boxes on overall satisfaction. We also include observations of the workshop and students' reflections. We measure learning outcomes and satisfaction for the whole sample, as well as differences for gender and sexual orientation. Previous knowledge confirms the need for training programmes on DGBV. The difference between previous and subsequent knowledge proves that short training programmes on DGBV can improve students' knowledge of DGBV. We could not find differences between genders, but there are some differences based on sexual orientation.

KEYWORDS
digital based violence, feminism, gender, sexism, sexual orientation, training, women

1 | INTRODUCTION

This article aims to promote the implementation of training programmes on Digital Gender-Based Violence (DGBV) and assesses a training experience in DGBV in Higher Education. First of all, we shall present a definition of DGBV and argue for the urgency to research on DGBV and train in DGBV. Here, we rely heavily on the presentation of data about the extension of DGBV. In this part, we also present numbers regarding aggressors and victimization. We then urge for the need of training in DGBV, indicating the main aspects that training in DGBV should include. Then, we present our research questions. Once we have introduced the background of our investigation, we explain our multimethod approach, adding a few reflections on feminist methodology. In the results section, we share our quantitative and qualitative results. Finally, we discuss them, contrast them with the existing literature, and outline some conclusions.

2 | BACKGROUND

2.1 | Definition

DGBV is a manifestation of discrimination and situations of gender inequality within the framework of a system of cishetero-patriarchal power relations, and is *produced*, *distributed* and/or *amplified* in digital environments and/or through the Relation, Information and Communication Technologies or RICT (Vergés Bosch et al., 2022). However, Digital Gender-Based Violence (DGBV) is a disputed terminology. Powell et al. (2020) explain that the social sciences have abandoned the terms "internet", "cyber"—or "online"—violence as these might give a limited vision of what DGBV is and where or how it takes place. Therefore, today it is more frequent to read about technology-facilitated forms of harassment or technology-facilitated sexual violence (Powell et al., 2020). Despite this criticism, we shall use the term DGBV here, as it adapts better to the Catalan context, where feminist movements act based on the notion of DGBV, and their activist positions have even been assumed by the legislator in the law of Women's Right to Eliminate Violence Against Women (Igareda et al., 2019; Vergés Bosch & Gil-Juarez, 2021). Although we find ourselves before the expansion and emergence of DGBV, we cannot consider it as completely new: DGBV is the same kind of violence as old Gender-Based Violence (GBV), but it takes place in new digital contexts and/or through new digital means (Ging & Siapera, 2018; Nuñez & Fernández, 2019; Nuñez Puente et al., 2016; Verge et al., 2018). Actually, DGBV often goes hand in hand with offline GBV (Amnesty International, 2018). What is new, though, is that it emerges in the context of the alliance between the far right and the digital manosphere (Bonet-Martí, 2020, 2021; Chávez Molina & Vergés Bosch, 2019; Fernández et al., 2019; Han & Yin, 2022; Lee, 2019; Martínez-Jiménez & Zurbano-Berenguer, 2019; Siapera, 2019; Van Valkenburgh, 2019). In this context, a specificity of DGBV is the multiplication and anonymity of the aggressors (Vergés Bosch & Gil-Juarez, 2021). If DGBV is perpetrated as Intimate Partner Violence (IPV), it opens up new and major possibilities for control (Donoso Vázquez et al., 2019; Vergés Bosch and Donestech, 2019). Feminist research has strived to emphasize the structural component in GBV in general, and DGBV in particular, outlining the responsibility of large technological corporations, especially online platforms (Bajo-Pérez, 2022; Cuomo & Dolci, 2022; Faith, 2022; Little, 2022).

2.2 | Consequences

DGBV is an important social problem with awful consequences, especially for women and LGBTQ+ people. Although DGBV is often treated as if it were less harmful because it is digital and, consequently, it is assumed to be less real (Vergés Bosch & Gil-Juarez, 2021), research has shown just the opposite. DGBV can affect a person's physical and mental health (Vergés Bosch & Gil-Juarez, 2021; Villar Varela et al., 2021),

educational and career opportunities, political participation, freedom of speech, as well as the ability to generate diversity-inclusive online spaces and narratives (Amnesty International, 2018; Bates, 2017; Europeans Women's Lobby, 2017; Igareda et al., 2019; Serra, 2018; Vergés Bosch & Gil-Juarez, 2021). Its impact on mental health may even include suicide (Powell et al., 2020). Generally, its impact is worse when DGBV affects younger people (Villar Varela et al., 2021).

2.3 | Extension

There is no consensus on the extension of DGBV. Data on victimization varies depending on the types and definitions of DGBV and its measurement. For example, the Pew Research Center (2014) alerts that 40% of women have undergone online harassment and the FRA (2014) states that 11% of European women have been victims of DGBV. In the case of undergraduate university students, Dir and Cyders (2015) state that 12 of the participants in their sample shared sexts with others without their consent. Baumgartner et al. (2010) found that, in their sample, women, especially younger women, receive unwanted sexual requests more often than men (19.1% of the women vs. 5.6% of the men in their sample). In the Spanish context, we know that 32.5% of adolescents feared that their partners might control them through the phone, 20% proved that their partners used a trustworthily shared password to control them, and 12% declared that others tried to intimidate them by messaging them (Díaz Aguda, 2016).

DGBV perpetrators tend to be men (Gámez-Guadix et al., 2022; Villar Varela et al., 2021), although, for some types of DGBV, such as controlling one's partner, data are contradictory (Donoso Vázquez et al., 2018; Donoso-Vázquez et al., 2017; Rebollo-Catalán et al., 2018; Villar Varela et al., 2021). As for the victims, research emphasized that both DGBV and non-digital sexist violence fundamentally affect women (Baumgartner et al., 2010; Gámez-Guadix et al., 2022; Huiskes et al., 2022; Pedersen et al., 2022; Powell et al., 2020; Vergés Bosch & Gil-Juarez, 2021). Their incidence is also higher among lesbian, gay, bisexual, transsexual and other sexual and gender minorities (Huiskes et al., 2022; Pedersen et al., 2022; Powell et al., 2020; Vergés Bosch & Gil-Juarez, 2021; Villar Varela et al., 2021), as well as in racialized women (Amnesty International, 2018; Duggan, 2017; Felmlee et al., 2018) and women with functional diversity (Henry et al., 2017). This debate should not divert our attention from the structural dimension of this sort of violence: critical feminism tries to deal with DGBV as a structural problem and not in an individualized way (Biglia et al., 2022; Faith, 2022). Patriarchal structures should be placed in the centre of the debate, especially when it comes to technology. The emergence of the manosphere on the internet reconfigures and reinforces these structures, but we should also pay attention to the broader construction of the relationship between gender and technologies (Chen et al., 2022; Gil-Juárez et al., 2018; Vall-llovera et al., 2021; Vergés Bosch, 2021; Vitores & Gil-Juárez, 2016).

2.4 | Response to DGBV and need for training

Similarly to offline violence, or analogue to GBV, DGBV is often unrecognized, especially by young adults and adolescents who do not perceive it as violence but see it as "normal" (Villar Varela et al., 2021). More than one third of DGBV victims or witnesses of DGBV do not do anything in response (Donoso Vázquez et al., 2019, 2022). Victims of DGBV develop greater content-knowledge and skills related to DGBV: they know better how to block users; they control privacy options better; they report pictures, and they are more aware of risks... (Donoso Vázquez et al., 2019). Thus, training in DGBV could contribute to the development of prevention strategies for DBGV before experiencing DGBV directly. Therefore, research makes it clear that there is a need for training when it points out the lack of knowledge and awareness of DGBV and strategies against it (Díaz Aguda, 2016; Donoso Vázquez et al., 2022, 2019; Villar Varela et al., 2021). These trainings should be part of the formal curricula as well as part of informal education (Villar Varela et al., 2021).

2.5 | Content for DGBV training programmes

With regard to the contents of the training, we should present DGBV as a continuation of GBV in the digital space or by digital means. Different typologies of DBGV can help present the multiplicity of DGBV (e.g. Gámez-Guadix et al., 2022; Huiskes et al., 2022; Vergés Bosch and Donestech, 2019; Vergés Bosch & Gil-Juarez, 2021). It is also important to emphasize the structural component of GBV in general, and DGBV in particular, outlining the responsibility of big technological corporations and, especially, online platforms (Bajo-Pérez, 2022; Cuomo & Dolci, 2022; Faith, 2022; Little, 2022), instead of individualizing the problem (Faith, 2022). People must be aware that, if platforms allow DGBV to happen there, they are co-responsible for it (Faith, 2022; Little, 2022; Powell et al., 2020; Vergés Bosch & Gil-Juarez, 2021); and on the other hand, DGBV is GBV and, as such, stems from a broader oppressive structure called heterocissexism (Biglia et al., 2022; Faith, 2022). As for GBV, it is important to avoid counterproductive effects such as victimization (Díaz Aguda, 2016; Verge et al., 2018; Vergés Bosch, 2019; Vergés Bosch & Gil-Juarez, 2021): the goal of DGBV prevention must be the equal and democratic participation of women in the cyberspace, creating feminist and inclusive RICTs (Cuomo & Dolci, 2022; Merino & Reyes, 2022; Vergés Bosch et al., 2021). In terms of skills, it is important that students are able to detect and distinguish between different kinds of DGBV, but most importantly, they need to know how to act if they ever suffer from DGBV or how to help others who are suffering from it. Goldsman (2019) suggests that everybody should undergo an analysis of digital risks, analysing their online identities and what risks can (and cannot) be managed and assumed. Hache et al. (2015) also consider the use of pseudonyms, masks, collective identities and fortification of accounts. Students learn by role-playing management and support in cases of DGBV, emphasizing the role of both online and offline communities and support groups (Vergés and Donestech, 2019). Students also learn about safer practices, such as anonymous browsing and other security devices (Tachtical Tech, 2016) in order to improve self-confidence in the digital space.

2.6 | Evaluation of the training programmes

Training in GBV already has a long tradition (Crooks et al., 2019) but, as argued above, DGBV introduces some specificities and complexities. In any case, there is need for robust evaluation of effective learning outcomes as current evaluations often lack scientific validity (Biglia et al., 2022; Raab & Stuppert, 2018). According to Biglia et al. (2022), without cautious evaluation, we might get the illusion that everything is fine. Generally, Dragiewicz et al. (2018) hold that it is important to give participants voice in the evaluation process. Jiménez et al. (2016) emphasize the need for, on the one hand, didactically educated coaches who are able to create an interactive and dialogical atmosphere, and, on the other hand, theoretically fit ones who are able to present DGBV in all their complexity. Evaluations should be gender-sensitive (Biglia et al., 2022; Raab & Stuppert, 2018). Crooks et al. (2019) identify a gap on research about training in GBV and its effect over most vulnerable groups such as LGBT.

2.7 | Project and research questions

Here we evaluate several 2-hour training sessions in DGBV at university courses in different degrees, aimed at improving students' knowledge on what DGBV is (content) and how to deal with it (skills). In this paper, we shall discuss the participant student s' knowledge before the training and compare it with their knowledge after the training. We shall also discuss differences grounded on gender and sexual orientation.

In order to find out about their initial knowledge regarding DGBV, we asked ourselves: What is the level of knowledge on DGBV among university students? Do they know what DGBV is? Can they identify and distinguish between different types of DGBV? Do they know how to act if they or others are suffering DGBV? With these

questions, we engaged with the existing literature, which sustains that there is need for more data on how young adults—especially—deal with DGBV, and supposes lack of knowledge and awareness of strategies against DGBV on their part (Donoso Vázquez et al., 2022, 2019; Villar Varela et al., 2021).

We also wanted to find out whether a short training programme improves students' knowledge. With this question, we contribute to the discussion which clearly states that there is a need for training (Donoso Vázquez et al., 2022, 2019; Villar Varela et al., 2021).

Granted that DGBV affects differently depending on gender and sexual orientation, we finally asked ourselves if there are any differences derived from gender and sexual orientation. In this sense, Donoso Vázquez et al. (2019) explain that victims of DGBV possess better skills in order to deal with DGBV; therefore, we expect them to score higher in knowledge on DGBV in terms of both content and skills. In the spirit of feminist methodology (Biglia & Vergés-Bosch, 2016), we wonder what effect might training programmes have in terms of gender and sexual orientation, contributing to fill a gap in research detected by Crooks et al. (2019).

3 | METHODS

We rely on a multi-method approach (Domínguez Amorós & Simó Solsona, 2003; López-Roldán & Fachelli, 2016) combining quantitative and qualitative data as well as different points of view.

3.1 | Data collection

To answer our research questions, we collected qualitative and quantitative data, including a questionnaire to gather information about the participants' knowledge of DGBV and their satisfaction with the training. As for the participants' knowledge concerning DGBV, the items include content knowledge (what DGBV is; the structural component of DGBV…) as well as skills (identifying DGBV, distinguishing between different types of DGBV, responding to DGBV, helping others who suffer DGBV…). All these items measure agreement on a scale from zero to ten. Participants had to answer the questionnaire before and after the training. This typical design for the evaluation of educational interventions (Etherington et al., 2021; Gutzweiler et al., 2022; Rocha Beardall, 2022) permits to assess changes in knowledge concerning DGBV. Two open boxes allowed students to write down the strengths and limitations of the training.

On the other hand, members of the research group attended the training and observed the sessions with the assistance of an open observation sheet, as it is usual in microsociological or ethnographic research (Lozares et al., 2013). The observation sheet was designed following the ideas of Biglia et al. (2022) to capture quantitative information about the number of attending students by gender. It required observers to be especially careful to register students' participation, interactions between trainees and coaches, resistances, responses as well as differences based on gender and other intersectionalities.

Finally, for one of the sessions, we also collected students' reflections on the training. We asked students to discuss in the course's Moodle the principal gains and flaws of the training programme.

3.2 | Techniques

In order to find out about their initial knowledge regarding DGBV and answer our research questions, we carried out a univariant analysis (Domínguez Amorós & Simó Solsona, 2003; López-Roldán & Fachelli, 2016) of the items designed to gather information on the participants' knowledge of DGBV before the workshop. In order to check if there were any differences based on gender or sexual orientation, we carried out t tests for different samples

(López-Roldán & Fachelli, 2016). We controlled for differences between men and women (there were too few non-binary students to perform an ANOVA test; the same is true for students who chose not to respond) as well as for differences between straight and LGB+ people (creating a binary variable opposing heterosexuals to a conglomeration of bisexuals, lesbians, gays and other non-normative identities).

To answer our research question about whether a short training programme improves students' knowledge on DGBV, we performed a *t* test for the same sample (López-Roldán & Fachelli, 2016). This allowed us to monitor whether the difference between the participants' knowledge on DGBV after the training was significantly higher than before.

In order to assess the outcome of the training programme, we carried out a univariant analysis (Domínguez Amorós & Simó Solsona, 2003; López-Roldán & Fachelli, 2016) of the items gathering information on the participants' knowledge of DGBV *after* the workshop, an analysis of their variation in each item, as well as an analysis of their degree of satisfaction. In order to check if there were any differences based on gender or sexual orientation, we performed t-tests for different samples (López-Roldán & Fachelli, 2016). We controlled for differences between men and women (there were too few non-binary students to carry out an ANOVA test; the same is true for students who chose not to respond) as well as for differences between straight and LGB+ people (creating a binary variable opposing heterosexuals to a conglomeration of bisexuals, lesbians, gays and other non-normative identities).

For the qualitative part of the analysis, we ordered the comments about the strengths and limitations of the workshops in subcategories. We analysed the content of the students' reflections on the Moodle platform with Atlas.ti using two codes: acquired content knowledge and skills. We then developed subcategories based on the content. Finally, we analysed and compared if gender differences occur. The observations by the research team members were discussed collectively in order to derive results.

3.3 | Sample

Activists from feminist social movements planned and imparted the workshop on DGBV during two academic courses (2020–2021 and 2021–2022) in four different Spanish universities (Universitat de Barcelona, Universitat de Girona, Universitat de València, and Universidad de Castilla y La Mancha) covering courses where Gender, Gender-Based Violence or Digital Gender-Based Violence were part of the curriculum. The programmes included mainly undergraduate programmes of Sociology, but also Social Education, Law, Criminology, Politics and Administration, as well as a Sociology Master and a Master on Gender Studies. In total, 190 students filled out the questionnaires. Detailed information concerning the composition of the participants is presented in the table below (Table 1).

4 | RESULTS

4.1 | Attendance and response rates

Based on the enrolled students' roster, the microsociological observations of our team members, and the responses to the questionnaire, we can calculate attendance rates (number of assisting students/number of enrolled students) and response rates (number of responses obtained/number of attending students). The results give us a first idea of the participants' interest in the training programme (Table 2).

Less than 60% of enrolled students attended the workshops. This may reflect little interest in the training; nevertheless, we want to underline that four of the training workshops had more than 65% of attendees. In this sense, the results seem to indicate that there existed a medium level of interest in DGBV training. We should be aware that it is unusual for 100% of enrolled students to attend university courses, especially undergraduate courses, where attendance is commonly low. An investigation by the University of Oviedo shows that university

TABLE 1 Composition of the university students answering the questionnaire.

	Female	Male	Non binary	Prefer not to respond
	N (%)	N (%)	N (%)	N (%)
University, programme, subject, year				
UB, Social Education Social exclusion, conflict and mediation, 2022	20 (13.50)	4 (11.10)	1 (25.00)	
UB, Sociology, Sociology of Gender, 2022	17 (11.50)	9 (25.00)		
UdG, Law, Criminology, Politics & Administration Globalization and Politics, 2022	10 (6.80)	5 (13.90)		
UV, Sociology, Gender Perspective in Research, 2022	16 (10.80)	3 (8.30)		2 (100.00)
UV, Master in Welfare and Family Change, 2022	15 (10.10)	2 (5.60)		
UB, Sociology, Sociology of the Family and Life Cycle, 2022	15 (10.10)	9 (25.00)		
CyM, Social Education, Gender Perspective, 2022	28 (18.90)			
UB, Master's in Women's and Gender Studies, 2022	16 (10.80)	1 (2.80)	1 (25.00)	
UB, Sociology, Sociology of Gender, 2021	11 (7.40)	3 (8.30)	2 (50.00)	
Total	148 (100)	36 (100)	4 (100)	2 (100)
Sex assigned at birth				
Men	1 (0.70)	35 (97.20)	3 (75.00)	1 (50.00)
Women	146 (98.60)	1 (2.80)	1 (25.00)	1 (50.00)
Lost	1 (0.70)			
Total	148 (100)	36 (100)	4 (100)	2 (100)
Sexual orientation				
Heterosexual	93 (62.80)	26 (72.20)	1 (25.00)	1 (50.00)
Bisexual	50 (33.80)	4 (11.10)	2 (50.00)	
Lesbian	4 (2.70)			
Gay		5 (13.90)		1 (50.00)
Other non-normative categories		1 (2.80)	1 (25.00)	
Lost	1 (0.70)			
Total	148 (100)	36 (100)	4 (100)	2 (100)

professors estimate attendance in Social Science courses at around 50% (Universidad de Oviedo, n.d.)—compared to this estimation, our training in DGBV achieved high levels of attendance.

The majority of university students who attended the training collaborated on our study, as they answered the evaluation questionnaire. Response rate was around 80%, which is quite high and may indicate satisfaction or, at least, willingness to collaborate on the evaluation. Finally, we did not observe any relevant and congruent gender differences.

4.2 | University students' knowledge regarding DGBV before the training

In terms of content, university students perceive themselves as having a good knowledge concerning DGBV: they think they know what DGBV is and are aware that Big Technology companies are co-responsible for DGBV (both

TABLE 2 Attendance and response rates.

	Attendance rates (%)	Response rates (%)	Response rates women (%)	Response rates men (%)
25/11/2021	42.50	68.00	57.44	77.78
29/9/2022	69.77	86.67	80.00	100.00
4/10/2022	66.67	94.12	100.00	62.50
5/10/2022	28.38[a]	–	–	–
5/10/2022	21.25	–	–	–
10/10/2022	71.79	85.17	83.33	90.00
31/10/2022	–	–	–	–
2/11/2022	96.77	60.00	96.55	100.00
Average of averages	56.73	78.79	87.53	81.99

[a]Since we do not dispose of attendance data, we calculate attendance rates = responses/enrolled students × 100.

items score slightly over 7 on a scale from zero to ten) and even over 9 in the case of item 2 (Internet is free of sexism), where the measurement scale is reversed. In this sense, university students claim to know what DGBV is, and they also have some knowledge about the structural aspect of DGBV: the embeddedness of DGBV both in the technologies that we use, and in the society we live in (Table 3).

In terms of skills, the level of knowledge is clearly lower, ranging between a worrying 4.65 (item 6) and slightly higher averages (items 4, 5 and 7). University students believe themselves to be less capable of helping someone affected by DGBV (4.65) and they regard themselves as a bit more capable of differentiating between different kinds of DGBV (5.06), knowing how to act when they themselves experience DGBV (5.08), and identifying DGBV (6.34).

4.3 | University students' knowledge of DGBV after the training

After the workshop, all the participant students gave themselves scores around or above 8 in all the items related to content knowledge and skills. The items about content knowledge (items 1, 2 and 3) continued to have higher scores, with averages above 8.3 (taking into account that item 2 is reversed). Among those items related to skills, the ability to differentiate between kinds of DGBV stands out with a score of 8.27. Items 5, 6 and 7 scored just below 8, with the following respective averages: 7.95, 7.89, 7.95 (Table 4).

4.4 | University students' satisfaction with the training in DGBV

The level of satisfaction of university students with the proposed training programme is very high, with remarkable scores in all items. The highest scores were those obtained by the items about new-content learning (item 9) and use of participatory dynamics (item 12), followed by comprehension of the developed content (item 8). The participant students were slightly less satisfied with the usefulness of the programme (item 10), the material used (item 11), and the proposed training programme in general (item 13) (Table 5).

4.5 | Change in the self-perception of university students' knowledge

In almost all the items, there was an improvement in students' self-perception of knowledge, except for item 2, which is the reversed direction item. The most important advances were registered for the items concerning skills.

TABLE 3 Knowledge of DGBV before the training.

	N		Mean	Median	Mode	SD	Variance	Minimum	Maximum
	Valid	Missing							
1. I know what digital gender-based violence is.	190	0	7.11	7	7	1.987	3.947	0	10
2. Internet as well as Information and Communication Technologies (ICT) are free of sexism.	189	1	0.96	0	0	1.788	3.195	0	10
3. Large technological platforms such as Google and Facebook are jointly responsible for digital gender-based violence.	190	0	7.02	7	10	2.401	5.767	0	10
4. I can identify digital gender-based violence.	190	0	6.34	7	7	2.122	4.501	0	10
5. I can distinguish between different types of digital gender-based violence.	190	0	5.06	5	5	2.343	5.488	0	10
6. I can help someone who is suffering from digital gender-based violence.	190	0	4.65	5	5	2.325	5.404	0	10
7. I know how to act when I suffer from digital gender-based violence.	189	1	5.08	5	5	2.463	6.067	0	10

TABLE 4 Knowledge of DGBV after the training.

	N		Mean	Median	Mode	SD	Variance	Minimum	Maximum
	Valid	Missing							
1. I know what digital gender-based violence is.	190	0	8.7	9	10	1.333	1.777	3	10
2. Internet as well as Information and Communication Technologies (ICT) are free of sexism.	190	0	1.68	0	0	2.998	8.99	0	10
3. Large technological platforms such as Google and Facebook are jointly responsible for digital gender-based violence.	190	0	8.39	9	10	2.365	5.594	0	10
4. I can identify digital gender-based violence.	190	0	8.27	8	8a	1.371	1.88	4	10
5. I can distinguish between different types of digital gender-based violence.	190	0	7.95	8	8	1.744	3.04	0	10
6. I can help someone who is suffering from digital gender based Violence.	190	0	7.89	8	8	1.741	3.03	2	10
7. I know how to act when I suffer from digital gender-based violence.	189	1	7.95	8	8	1.803	3.253	2	10

TABLE 5 University students' satisfaction with the training.

	N		Mean	Median	Mode	SD	Variance	Minimum	Maximum
	Valid	Missing							
8. I have understood the developed contents.	190	0	8.22	9	10	1.814	3.292	1	10
9. I have learned new content.	190	0	8.29	9	10	2.023	4.093	0	10
10. The training proposal has been useful to me.	190	0	8.05	9	10	2.111	4.458	0	10
11. The material used has allowed me to understand the contents.	190	0	8.06	8	10	1.782	3.177	1	10
12. Participatory dynamics have been used.	189	1	8.29	9	10	2.038	4.152	0	10
13. In general, the training proposal seems excellent to me.	190	0	8,01	8	10	2.024	4.095	0	10

Thus, university students self-perceive an improvement of over three points in knowing how to help others who suffer from DGBV (item 6) and more than two points in knowing how to differentiate between different types of DGBV (item 5) and knowing how to act when they suffer from DGBV themselves (item 7). They improved by almost two points when it comes to their perception of their own ability to identify DGBV (item 4) (Table 6).

Two out of the three items dealing with content knowledge registered an improvement of over one point: knowing what DGBV is (item 1), and understanding co-responsibility for DGBV (item 3). On the other hand, item two, which measured the degree of agreement with the statement that the internet and the Relationship, Information and Communication Technologies (RICT) are free of sexism, worsened. All the changes are statistically significant.

4.6 | Differences for gender and sexual orientation

All the indicators presented above were examined for gender differences. As there were very few cases of non-binary people or people who chose not to answer the question, this variable was treated with only two categories: men and women. We observed no differences by gender in the participants' self-perception of knowledge and satisfaction with the workshop (Table 7).

All the indicators were additionally examined for differences by sexual orientation, differentiating between people who identified as lesbian, gay, bisexual or other non-normative categories, on the one hand, and people who identified as heterosexual, on the other. When differentiating by sexual orientation, a few more differences between indicators were detected, although, broadly speaking, there are no significant differences either. We observed differences in the case of agreement with items exemplifying the existence of online structural sexism. Thus, LGB+ students stated that the internet is free of sexism less often than their heterosexual colleagues, and they held more often that Big Tech is co-responsible for DGBV. This tendency occurred before the workshop, and it was reproduced *after* the workshop. There was also another difference emerging after the workshop, namely: LGB+ people claimed to know how to identify DGBV more often. In terms of learning, i.e., the differential between knowledge before and knowledge after the training, we found another difference, too: LGB+ people's scores improved more than 3 points in knowing how to act if they suffer from DGBV, while in the case of their heterosexual peers the improvement was just over 2 points (Table 8).

4.7 | Students' short comments in the questionnaires

We asked students to say what they liked and what they disliked about the training. They said that they liked the coach with an uncommon profile, as she was older and closely related to feminist social movements, something which students also valued positively. As for the resources used in the workshops, they praised the participative dynamics and other active-learning methodologies, such as creating debates. They also liked the use of understandable and inclusive language, which, according to them, is not common at university. Regarding the course contents, they mentioned that the whole content regarding control through the internet and social media platforms was interesting to them; they also appreciated that the coach taught them about alternatives to Big Tech products. More closely linked to DGBV, they valued positively the given instructions in relation to safety and feminist self-defence; here, they especially liked the resolution of real-life cases.

To improve the workshop, students suggested even more participation, discussion and debate. Students would have preferred more role-playing and group activities. In terms of content, some missed more complexity and controversy over DGBV. Others lacked an LGBT+ perspective or warned about victimizing, sexual-terror discourses. They also suggested paying more attention to the possibilities of technologies for sexual freedom. Comments were inconclusive on whether the training was too focused on technological issues and should devote

TABLE 6 Test for paired samples for university students' knowledge of DGBV before and after the training.

		Paired differences			95% confidence interval of the difference				
		Mean	SD	SEM	Lower	Upper	t	df	Sig. (2-tailed)
Par 1	1. I know what digital gender-based violence is.	−1.595	2.108	0.153	−1.896	−1.293	−10.428	189	0
Par 2	2. Internet as well as Information and Communication Technologies (ICT) are free of sexism.	−0.72	2.875	0.209	−1.132	−0.307	−3.441	188	0.001
Par 3	3. Large technological platforms such as Google and Facebook are jointly responsible for digital gender-based violence.	−1.368	2.185	0.159	−1.681	−1.056	−8.633	189	0
Par 4	4. I can identify digital gender-based violence.	−1.926	2.087	0.151	−2.225	−1.628	−12.725	189	0
Par 5	5. I can distinguish between different types of digital gender-based violence.	−2.889	2.535	0.184	−3.252	−2.527	−15.711	189	0
Par 6	6. I can help someone who is suffering from digital gender based violence	−3.242	2.409	0.175	−3.587	−2.897	−18.551	189	0
Par 7	7. I know how to act when I suffer from digital gender-based violence	−2.862	2.65	0.193	−3.243	−2.482	−14.849	188	0

TABLE 7 Differences between male and female students.

	Men		Noies			
	M	SD	M	SD	t	p
Pre workshop: knowledge of content and competences						
1. I know what digital gender-based violence is. (pre)	7.03	2.035	7.13	1.987	−0.271	.787
2. Internet as well as Information and Communication Technologies (ICT) are free of sexism. (pre)	1.29	2.346	0.92	1.66	1.079	.282
3. Large technological platforms such as Google and Facebook are jointly responsible for digital gender-based violence. (pre)	6.42	2.59	7.15	2.308	−1.666	.097
4. I can identify digital gender-based violence. (pre)	5.97	2.36	6.43	2.084	−1.157	.249
5. I can differentiate between different types of digital gender-based violence. (pre)	4.89	2.734	5.06	2.259	−0.392	.695
6. I can help someone who is suffering from digital gender based. (pre)	4.31	2.681	4.67	2.236	−0.84	.402
7. I know how to act when I suffer from digital gender-based violence. (pre)	5.14	2.992	4.99	2.339	0.336	.737
Post workshop: satisfaction						
8. I have understood the developed contents. (post)	8.33	1.757	8.18	1.863	0.441	.66
9. I have learned new content. (post)	8	2.461	8.36	1.935	−0.959	.339
10. The training proposal has been useful to me. (post)	7.81	2.189	8.17	2.052	−0.941	.348
11. The material used has allowed me to understand the contents. (post)	7.78	1.838	8.13	1.785	−1.051	.295
12. Participatory dynamics have been used. (post)	8.03	1.949	8.35	2.066	−0.84	.402
13. In general, the training proposal seems excellent to me. (post)	7.61	2.333	8.15	1.907	−1.449	.149
Post workshop: knowledge of content and competences						
1. I know what digital gender-based violence is. (post)	8.64	1.515	8.74	1.269	−0.398	.691
2. Internet as well as Information and Communication Technologies (ICT) are free of sexism. (post)	2.47	3.59	1.52	2.856	1.701	.091
3. Large technological platforms such as Google and Facebook are jointly responsible for digital gender-based violence. (post)	8.11	2.095	8.46	2.383	−0.804	.422
4. I can identify digital gender-based violence. (post)	8.08	1.556	8.26	1.327	−0.706	.481
5. I can distinguish between different types of digital gender-based violence. (post)	7.89	1.879	7.93	1.729	−0.133	.894

TABLE 7 (Continued)

	Men		Noies		t	p
	M	SD	M	SD		
6. I can help someone who is suffering from digital gender based, (post)	7.61	1.661	7.92	1.775	-0.945	.346
7. I know how to act when I suffer from digital gender-based violence. (post)	7.77	2.143	7.93	1.723	-0.454	.651
Pre-post change of knowledge of content and competences						
1. I know what digital gender-based violence is. (change)	2.67	2.53	2.30	2.13	0.883	.379
2. Internet as well as Information and Communication Technologies (ICT) are free of sexism. (change)	1.20	3.53	0.60	2.73	0.939	.353
3. Large technological platforms such as Google and Facebook are jointly responsible for digital gender-based violence. (change)	1.69	2.42	1.31	2.13	0.942	.347
4. I can identify digital gender-based violence. (change)	2.11	2.38	1.83	2.03	0.717	.474
5. I can distinguish between different types of digital gender-based violence. (change)	3.00	3.05	2.87	2.42	0.271	.787
6. I can help someone who is suffering from digital gender based. (change)	3.31	2.35	3.25	2.46	0.123	.903
7. I know how to act when I suffer from digital gender-based violence. (change)	2.63	3.42	2.94	2.49	-0.506	.615

TABLE 8 Differences between LGB+ and non LGB+ students.

	LGB+		No LGB+		t	p
	M	SD	M	SD		
Pre workshop: knowledge of content and competences						
1. I know what digital gender-based violence is. (pre)	7.24	2.14	7.02	1.90	0.726	.469
2. Internet as well as Information and Communication Technologies (ICT) are free of sexism. (pre)	0.41	0.92	1.28	2.07	-3.930	.000
3. Large technological platforms such as Google and Facebook are jointly responsible for digital gender-based violence. (pre)	7.50	2.28	6.74	2.44	2.092	.038
4. I can identify digital gender-based violence. (pre)	6.24	2.33	6.39	2.01	-0.475	.636
5. I can distinguish between different types of digital gender-based violence. (pre)	5.15	2.39	5.02	2.33	0.366	.715
6. I can help someone who is suffering from digital gender based violence. (pre)	4.43	2.25	4.75	2.37	-0.924	.357
7. I know how to act when I suffer from digital gender-based violence. (pre)	4.79	2.37	5.25	2.51	-1.217	.225
Post workshop: satisfaction						
8. I have understood the developed contents. (post)	8.26	1.92	8.19	1.77	0.270	.787
9. I have learned new content. (post)	8.21	2.26	8.33	1.89	-0.405	.686
10. The training proposal has been useful to me. (post)	8.00	2.18	8.06	2.08	-0.180	.857
11. The material used has allowed me to understand the contents. (post)	8.15	1.76	7.99	1.80	0.574	.566
12. Participatory dynamics have been used. (post)	8.49	1.82	8.17	2.15	1.052	.294
13. In general, the training proposal seems excellent to me. (post)	7.99	2.18	8.02	1.95	-0.128	.898
Post workshop: knowledge of content and competences						
1. I know what digital gender-based violence is. (post)	8.78	1.45	8.64	1.26	0.666	.506
2. Internet as well as Information and Communication Technologies (ICT) are free of sexism. (post)	1.04	2.45	2.06	3.23	-2.427	.016
3. Large technological platforms such as Google and Facebook are jointly responsible for digital gender-based violence. (post)	8.88	1.98	8.10	2.53	2.357	.020
4. I can identify digital gender-based violence. (post)	8.50	1.42	8.14	1.34	1.706	.090
5. I can distinguish between different types of digital gender-based violence. (post)	8.07	1.82	7.88	1.71	0.713	.477

TABLE 8 (Continued)

	LGB+		No LGB+		t	p
	M	SD	M	SD		
6. I can help someone who is suffering from digital gender based. (post)	8.01	1.67	7.82	1.79	0.742	.459
7. I know how to act when I suffer from digital gender-based violence. (post)	8.25	1.53	7.78	1.93	1.740	.083
Pre-post change of knowledge of content and competences						
1. I know what digital gender-based violence is. (change)	2.54	2.47	2.26	2.08	−0.854	.394
2. Internet as well as Information and Communication Technologies (ICT) are free of sexism. (change)	0.63	2.63	0.78	3.02	0.345	.731
3. Large technological platforms such as Google and Facebook are jointly responsible for digital gender-based violence. (change)	1.38	2.40	1.36	2.07	−0.081	.935
4. I can identify digital gender-based violence. (change)	2.26	2.30	1.75	1.95	−1.627	.105
5. I can distinguish between different types of digital gender-based Violence. (change)	2.93	2.54	2.87	2.56	−0.152	.879
6. I can help someone who is suffering from digital gender based. (change)	3.59	2.53	3.07	2.33	−1.434	.153
7. I know how to act when I suffer from digital gender-based violence. (change)	3.46	2.61	2.53	2.62	−2.335	.021

more attention to gender-based violence or, the other way round, the technical part of the training should be reinforced.

4.8 | Students' comments on the Moodle platform

To analyse students' comments in the Moodle platform, we labelled the learning outcomes mentioned by the participants as "content" or "skills". Once we obtained all the references to content, we disaggregated the quotes into five subcategories: (1) DGBV definition, (2) Extension or magnitude of DGBV, (3) Types of DGBV, (4) the notion of safety and security and (5) the role of Big Technological Platforms. The definition of DGBV as well as different types of DGBV were the most frequently mentioned learning outcomes; the rest of the subcategories were on a similar level (Figure 1).

For example, in connection to the definition of DGBV, one student stated: "the training session made us clear what DGBV exactly is" (Comment 10). Another student underlined the seriousness of DGBV by saying that DGBV "facilitates a lot of harassment and online sexism. The problem is that it has serious psychological and physical consequences" (Comment 15). Comment 11 refers to "the great variety of DGBV types which we are often unable to name, such as 'doxing' or "image-based sexual abuse" (known as 'sexspreading' in Spain)" (Comment 11); and Comment 35 explicitly names "cyberharassment, sexist cyberviolence and cyberviolence in the partnership". The notion of security and how to apply it to the online world is just another aspect referred to in the comments: "I have learned the difference between security and privacy, as well as technology-related notions to security" (Comment 11). In comment 14, a student explains that she now knows "what Big Tech, Personal Identification Information or Personal Sensitive Information are". Comment 5 refers to the role of Big Tech Platforms: "we trust them, although they do not often assume their part of responsibility in dealing with DGBV."

Once we had gathered all the comments about acquired skills, we disaggregated them into six subcategories: (1) Non-reproduction of DGBV, (2) DGBV prevention, (3) DGBV identification, (4) Response to DGBV,
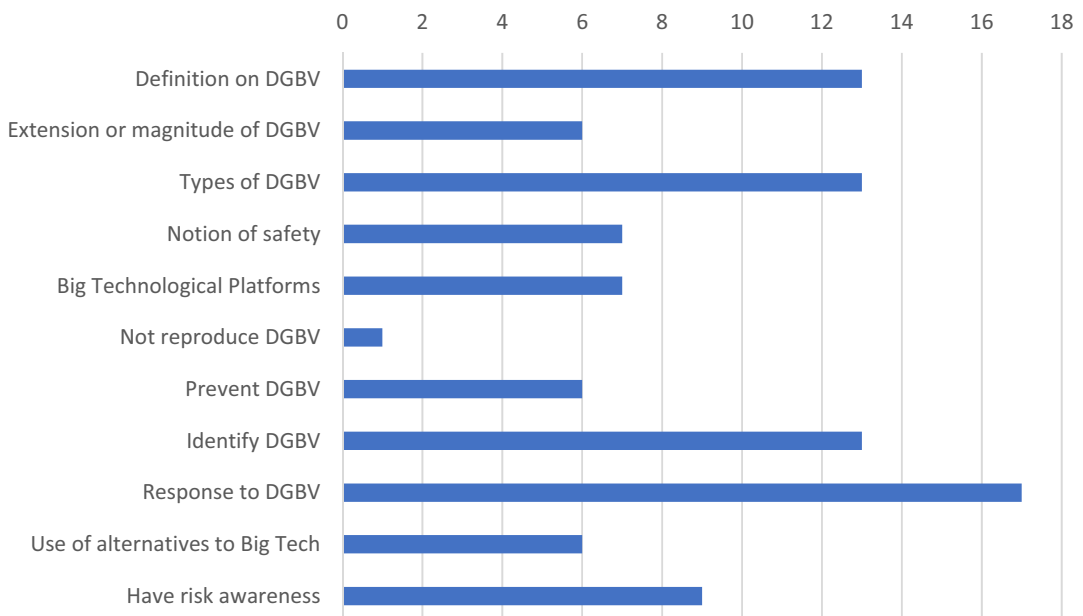

FIGURE 1 Frequency of the subcategories for content and skills. Source: Authors' own elaboration. *Excel.*

(5) Use of alternatives to Big Tech, and (6) Risk awareness. Responses to DGBV was the most mentioned skill in the comments found on the Moodle platform, followed by the DGBV identification skill, whole non-reproduction of DGBV was the least mentioned one. Concerning non-reproduction of DGBV, comment 12 states: "I learned how to recognize abuse toward third persons on the internet, and also when it's directed against you; I learned how to react, and also not to be part of the problem but, on the contrary, help overcome it." Concerning prevention, in Comment 9 a student explains that he learnt to "devise prevention strategies, resistance and security plans". Others explain that, in the future, they will be more aware of online risks. Regarding DGBV identification, a student states in Comment 12 that, thanks to the training, she is now "more prepared to detect DGBV." Another student admits, in Comment 15, that he knows "how to identify gender-based violence in the physical world but to detect DGBV is more complicated." Comment 10 acknowledges how the training improves the skills to respond to DGBV: "what I liked the most was the advice and the tools they gave us about digital self-defence, because, although we are very familiar with new technologies, I think we are not so familiar with the security of these." In comment 20, a student declares: "Although we've all heard about online gender-based violence, we don't know how to act in front of it, or how to defend ourselves if it happens to us. I think that, with this seminar, I was able to learn more about how to do it". In comment 22, a student explains about the training: "It has given me tools to be able to report it and support the victim in the event that it occurs and I witness it." Students appreciate that the training taught them some alternatives to Big Tech. For example, in Comment 16, a student praises: "It was also very good that they gave us alternatives of both applications and safer browsers." Comment 39 reaffirms this vision: "What the seminar gave me the most was how to surf the internet in a safer way and have as much privacy and intimacy as possible." On risk awareness, students say: "Many of the applications on our mobile phones we don't know how they work, and neither do we know to what extent we're being controlled through them. I thought it was a good idea for the seminar that they gave us time to delete one of these unknown apps" (Comment 13). Similarly, they say they learned "to stay aware of our vulnerability regarding Big Data" (Comment 24) and "not to let your guard down even for a moment on the internet and take special care with all free applications and where we are asked for any type of personal data" (Comment 29) (Table 9).

TABLE 9 Fisher's exact test: gender by code.

Code	p value
Content	
Content	.407
Definition	.415
Extension	.160
DGBV type	.120
Safety	.019
Big Tech	.592
Skills	
General skills	.475
Non-reproduction of DGBV	–
Prevent DGBV	1
Identify DGBV	1
Respond	.747
Use alternatives	.195
Risk awareness	.441

To detect gender differences, we observed if the frequency of the subcategories varied depending on gender or not. Based on Fisher's Exact test, we only detected one difference, related to the vision of safety.

4.9 | Team members' observations

The team members' observations are very brief and partly contradictory. Some team members think that the training focused too much on very basic concepts such as gender and sexism, and failed to go deeper into the link between technology and sexism, and more specifically DGBV. According to these voices, there was especially too much information on self-defence strategies. They also called for more interactive dynamics and debate. Other voices, instead, said that they missed more time devoted to basic concepts such as gender and sexism. Observers of the different sessions agreed that there were no important differences in participation between genders.

To wrap it up, we see that the participants' initial knowledge on DGBV ranges between insufficient, regular and good. Students claimed to know what DGBV is and be able to identify it. They were also aware of the structural aspects of DGBV. Their ability to distinguish between kinds of DGBV, as well as to deal with DGBV, scores considerably lower, which clearly indicates a need for training.

After the training, six out of seven indicators improved significantly. Both content-knowledge as well as skills improved considerably. However, content-knowledge still scored higher than skills. Although content knowledge was situated clearly over 8 on a scale from 0 to 10 (before the training, it scored slightly over 7), skills were now slightly under 7 (before the training, it was between 4.7 and 5.1). This also indicates that the improvement was especially strong as far as skills were concerned. Our qualitative data also suggest that students successfully acquired different contents and skills related to DGBV. As for contents, we can underline definitions and types of DGBV. Regarding skills, we much highlight DGBV identification and responses.

We could not find any gender differences in our quantitative data. Qualitative data suggest a single difference concerning the notion of security, which only women mention as one of the important contents learned at the training. Workshop observation did not detect any difference in participation between genders either, nor do we find any indications of differences in the training attendance rates or the questionnaire response rates. Unlike gender, sexual orientation does make a difference for different items: LGB+ students tended to have a more acute structural vision of DGBV than their straight classmates, both before and after the training. After the training, two more differences showed up: LGB+ people scored higher in perceived ability to identify DGBV as well as in perceived ability to act when they suffered from DGBV themselves.

We also have data concerning the global evaluation of the training made by both observers from our research team and participating students. Quantitative data prove that students believe they learned new content which will be useful for them. In addition, they appreciated the participative dynamics used and a responsive coach, which the qualitative comments confirm by praising dynamic and active learning methods. Overall, they were satisfied with the training programme. We did not detect any gender differences here. Thanks to the participants' comments, we also know that students praised the fact that the coach came from the environment of feminist social movements, and her using inclusive and easy language. As for the contents, they positively valued the linkage of technology and gender in DGBV, the focus on skills such as safety instruction and self-defence, as well as the attempt to offer alternatives to Big Tech. Methodologically, they liked the use of active learning methodologies and the fact of dealing with real-world cases. Future challenges are: to make the training more interactive and dynamic, to reinforce the LGBT perspective and avoid discourses that could be victimizing in terms of violence and discouraging in terms of technologies. Both, students' comments and teachers' observations are contradictory about the required degrees of complexity and/or basic notions: some call for more complexity, others for less.

5 | DISCUSSION

Academic literature demands more data on DGBV (Donoso Vázquez et al., 2022, 2019; Henry & Powell, 2016, 2018; Villar Varela et al., 2021). Specifically, it calls for data, not only on DGBV, but data helping us to advance in terms of prevention, response and eradication of DGBV (Crooks et al., 2019). Our data makes clear that university students already have some conceptual knowledge about DGBV but, in particular, their strategies to prevent, respond to and eradicate DGBV are underdeveloped. When Donoso Vázquez et al. (2019) argue that more than 30% of students do not do anything when they experience DGBV or observe others experiencing it, we now know that they generally do not know what to do. Therefore, training on DGBV, together with other forms of support such as webpages and helpdesks, are more than needed, as they can help students to prevent DGBV and devise strategies to counter them. Our results underline the call for training programmes of existing research (Díaz Aguda, 2016; Donoso Vázquez et al., 2022, 2019; Gámez-Guadix et al., 2022) with new data.

DGBV is a relatively young phenomenon. While training on GBV has over 25 years of history (Crooks et al., 2019) and evaluation, there are still few robust evaluations of training in DGBV (Biglia et al., 2022; Raab & Stuppert, 2018). Our data enrich the existing evaluations of training in GBV and ours is one of the first articles to evaluate training programmes on DGBV. Our data prove that short training workshops on DGBV in higher education can achieve very positive results, both in terms of definition of the problem and, even more, in terms of skills. We also show that students are satisfied overall and consider the training useful. In this sense, they offer universities another area for gender mainstreaming (Verge et al., 2018), introducing gender into technology-related careers.

Concerning the characteristics of training programmes, research calls for pedagogically highly trained staff (Jiménez et al., 2016). In the case of this very initial training, students explicitly welcomed that the couch came from social movements and gave overall positive feedback on the teaching methodology and content. For example, they welcomed the structural notion of DGBV (Biglia et al., 2022; Cuomo & Dolci, 2022; Faith, 2022; Little, 2022; Vergés Bosch & Gil-Juarez, 2021) and the need to construct a feminist internet (Cuomo & Dolci, 2022; Merino & Reyes, 2022; Vergés Bosch et al., 2021). However, some students, as well as the observers in our research team, wished for some didactical improvements to stimulate interaction. In this sense, we can complement Jiménez et al.'s (2016) call for suitably trained coaches with the realization that students also enjoyed a cyberfeminist social-movement activist being in charge of the training, including the feminist claim to bridge society and university (Biglia & Vergés-Bosch, 2016). Students' greatest need was to acquire the skills required to deal with DGBV, and the training improved such skills particularly. In this sense, training programmes seem to be especially powerful when offering skills to prevent, respond to and overcome DGBV.

Women are most affected by DGBV (Baumgartner et al., 2010; Gámez-Guadix et al., 2022; Huiskes et al., 2022; Pedersen et al., 2022; Powell et al., 2020; Vergés Bosch & Gil-Juarez, 2021) and the fact of being affected by DGBV boosts people's knowledge about DGBV (Donoso Vázquez et al., 2019). Therefore, we expected to detect important gender differences with respect to attendance and response rates, overall satisfaction, workshop utility and previous knowledge of DGBV, but also in relation to the training's knowledge improvement. However, we could not find any gender differences: men attended equally the training session and men responded the questionnaire as frequently as women did. In addition, men were as satisfied as women with the training, and they deemed it as useful as their female classmates. Observation also showed that men participated as intensively as women did. In this sense, our results showed that both men and women have a similar interest in learning about what DGBV is, how to deal with it and what to do to overcome it. This is not an argument *against* providing training only to the most vulnerable groups, as it is suggested by some research (Ellsberg et al., 2015), but it is a reason *for* mixed trainings with a universalist approach involving all students. This absence of a gender bias in content and competences needs some more discussion. As explained above, victims of DGBV are overproportionally women (Baumgartner et al., 2010; Gámez-Guadix et al., 2022; Huiskes et al., 2022; Pedersen et al., 2022; Powell et al., 2020; Vergés Bosch & Gil-Juarez, 2021), and victims are more familiar with prevention of and responses

to DGBV (Donoso Vázquez et al., 2019). Therefore, women should score higher on both content knowledge and skills. On the other hand, we know that the men taking part in our training workshops constitute minority in their respective courses and programmes. In this sense, it might well be that they do not represent traditional gender roles and show more interest in and engagement with DGBV. There could be another explanation though, one related to self-esteem. Social science has shown that women tend to underestimate their performance in masculine tasks in self-evaluations (Beyer, 1990; Exley & Kessler, 2022) and men generally score higher on self-esteem (Donald et al., 2018). Being DGBV an particularly technological issue, and being technology often considered as masculine thing (Vergés Bosch, 2012), our results might have been influenced by this bias. This means that we must interpret our results about the absence of relation between gender and attendance/response rate and about previous and subsequent content knowledge cautiously. They might indicate that, in general, universalist training programmes are a good way to deal with DGBV. However, they also could reflect the juxtaposition of biases annulling the effect of gender: non-traditional gender roles on the part of the male participants raises their knowledge of DGBV, their interest in it and their learning outcome, while women's gender biases in their self-evaluation in masculine fields lowers their scores. To answer these questions, we need further research with larger and more diverse samples, as well as the incorporation of different control variables.

Women, lesbians, gays, bisexuals and people with other non-normative sexual orientations (LGB+) are over-proportionally affected by DGBV (Huiskes et al., 2022; Pedersen et al., 2022; Powell et al., 2020; Vergés Bosch & Gil-Juarez, 2021; Villar Varela et al., 2021); as such, they should score higher in terms of knowledge of DGBV before the training (Donoso Vázquez et al., 2019), and we wanted to know if they also benefited overproportionally from the training. Indeed, LGB+ were overproportionally aware of those statements implying structural DGBV, as suggested by Donoso Vázquez et al. (2022; 2019). This might be explained by their higher exposition the digital space in general (Han et al., 2019; Tropiano, 2014), where they usually find more support than offline (Lucero, 2017) but where their epistemologically privileged position (Biglia & Vergés-Bosch, 2016; Harding, 1987) might allow them to detect more easily structural violence. In other words, spending more time online also makes them experience LGB+-related structural DGBV and, consequently, they scored higher in these items. This previous sensitivity to the issue seemed to work for LGB+ people during the training: after it, they still scored higher than their straight classmates did. After the training, they also achieved higher self-perception of skills when it came to identifying DGBV and dealing with the DGBV affecting them.

5.1 | Strengths and limitations

This article's strength is its robust evaluation of multiple training programmes on DGBV at different universities, taking into account not only the participants' gender but also their sexual orientation. Further research should rely on broader samples and other variables especially relevant for the analysis of biases derived from gender and sexuality. In addition, future research should go beyond the mere self-perception of knowledge and include data on effective learning, as it is also suggested by Biglia et al., 2022.

6 | POLICY IMPLICATIONS

Universities, platforms, institutional actors, and social movements should facilitate knowledge on prevention of and response to DGBV. Short training programmes to prevent, respond to and overcome DGBV at universities improved university students' low level of skills for dealing with DGBV. Universities should consider fostering such sort of training programmes.

Coaches should combine didactical professional skills with social implication. Training programmes should present DGBV as a complex and structural phenomenon, invoking the transformation of structural inequalities

and exclusions based on gender and technology. Participants appreciate participative dynamics and the discussion of real-life cases.

Our evaluation indicates that a universalist approach consisting of training all the students together independently of their gender and sexual orientation does not make an important difference. To design and assess the outcomes of training in DGBV, we need further research on training-programme evaluation. This is especially true for the impact of these on women and LGB+ people, which is why it is necessary to rely on larger samples.

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CONFLICT OF INTEREST STATEMENT

The authors declare that they had no conflict of interests.

DATA AVAILABILITY STATEMENT

Research data are not shared.

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