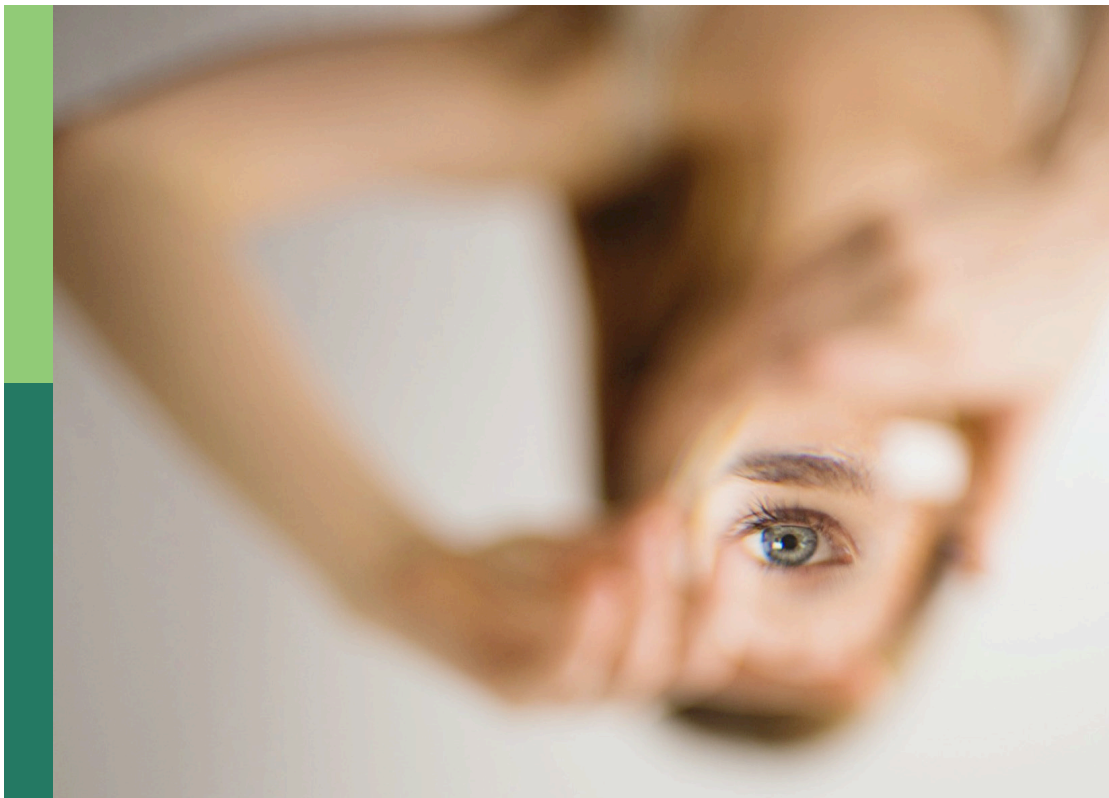
frontiers | Research Topics

Insights in gender, sex and sexualities 2022

Edited by
Kath Woodward

Published in
Frontiers in Psychology
Frontiers in Sociology
Frontiers in Public Health



ISSN 1664-8714
ISBN 978-2-8325-4633-8
DOI 10.3389/978-2-8325-4633-8

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Insights in gender, sex and sexualities: 2022

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Citation
Woodward, K., ed. (2024). *Insights in gender, sex and sexualities: 2022*. Lausanne: Frontiers Media SA. doi: 10.3389/978-2-8325-4633-8

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frontiers | Frontiers in Sociology

TYPE Editorial
PUBLISHED 08 March 2024
DOI 10.3389/fsoc.2024.1378891

OPEN ACCESS

EDITED AND REVIEWED BY
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RECEIVED 30 January 2024
ACCEPTED 23 February 2024
PUBLISHED 08 March 2024

CITATION
Woodward K (2024) Editorial: Insights into gender, sex, and sexualities: 2022.
Front. Sociol. 9:1378891.
doi: 10.3389/fsoc.2024.1378891

Editorial: Insights into gender, sex, and sexualities: 2022

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KEYWORDS

gender, sexualities, identification, sex, culture, insights

Editorial on the Research Topic
Insights into gender, sex, and sexualities: 2022

The 13 different articles in this Research Topic demonstrate the enduring relevance and importance of gender, sex, and sexualities in making sense of social relations and social change. Gender is a concept that can be used to explain sociocultural inequalities and the relationships between different axes of power, which generate inequalities in social systems, and as an empirical mode of classification that places people, often within a binary logic that has dominated Western culture, into one of two categories, i.e., as female or male. However, this is changing fast, due not least to the challenge to the binaries of sex and gender and of male and female. Change is recognized and addressed in the range of articles in this Research Topic. Historically, sex and gender have been theorized as separate and each has been given a different weighting, with biological sex being seen as shaping sociocultural gender. This view is challenged here; for example, in the context of non-binary and trans identities in child development by Salinas-Quiroz and Sweder, who explore what they term the authenticity of non-binary gender identification from an early age. They posit an argument that weighs up the impact of different influences, the availability of role models, and representations on children's perception of themselves as outside the gender binary. They consider how children who do not identify with existing feminine and masculine traits can be themselves agents in self-identification as non-binary. Their approach, like those of other authors in this Research Topic, demonstrates the nuances and complexities of understanding gender, sex, and sexualities outside the nature-nurture dichotomy.

The study of sexualities, including sexual orientation, increasingly manifests blurred boundaries between gender and sexuality, reflected in those on LGBTQI+ identities here. Comeau et al. extend the categories to include 2S, which brings in specific local cultural practices among indigenous people in Canada, in this case, the idea that a person can be two-spirited with feminine and masculine spirits. They demonstrate the specificities of the incidence and experience of health problems among gender minority groups, illuminating the interaction between social factors and health.

The articles in this Research Topic engage with transformations as well as acknowledging continuities in thinking about gender, sex, and sexualities and living with gender.

A diverse range is important to this Research Topic as its major concern is change in thinking about and understanding gender in an area of fast-moving change. The discussion ranges from conversations between feminism and the legacy of machismo in Peru in the context of representations of music and popular musicians [the cumbia singers Marisol and Rosado, who perform versions of the Latin American music with its percussion-heavy beat and fusion of rock and folk

(Gutiérrez-Gómez and Munaris-Parco)], to mental healthcare for young and adolescent LGBTQ+ individuals who experienced particular difficulties accessing care during the COVID-19 pandemic in the Indian sub-continent (Sanjeevkumar Gaur et al.). Some research is based upon global empirical statistical evidence; for example, of adolescent pregnancies (Fute et al.), which demonstrates the interrelationships between individuals and wider society and between personal experience and politics and policies, which could alleviate problems in both arenas. These articles illustrate the scope and fluidity of gender, sex, and sexualities, especially the practice, policies, and experiences of them across a wide range of social terrains.

Gender plays out in different ways but remains ubiquitous in that gender matters in shaping social and sexual relations and impacting upon experience, which makes gender a shared focus of the Research Topic, which covers a very wide range of empirical sites. The Research Topic includes an empirical and theoretical mix of subjects and specific locations and intersections with different social forces. Many of the contributions focus on health. Health care can involve prejudice against people who identify outside the gender binary as well as those occupying different socioeconomic classes and subject to other forms of exclusion. de Dios-Aguado et al. argue that the endurance of syphilis, a sexually transmitted disease that can be cured, can be attributed to discrimination against marginalized people who are not always able to access care and treatment for a variety of reasons. Sedighi et al.'s study explores reasons why relationship counseling is largely not offered to people with multiple sclerosis, and their partners report a lack of sexual satisfaction in the relationship. Other articles suggest more positive policy solutions; for example, in the case of a systematic review of digital interventions for young LGBTQ+ people with mental health problems (Liu et al.). Although these young people experience discrimination, the authors argue that digital intervention offers a more positive policy intervention than approaches deployed hitherto. At a more personal individual level, the role of sexting as an adaptive coping mechanism in couple relationships improved the wellbeing of Italian women during the second wave of the COVID-19 pandemic (Bonfanti et al.).

The issue of the rights of marginalized gender and sexual identities is also a concern of articles in this Research Topic. Rodrigues et al. argue that human rights are not available to trans people in Brazil and Portugal, rendering people "non-human." Rights and the denial of particular gender identities and sexual orientations can be affective in their impact. Feelings and emotions are included in the mix in analyses in the Research Topic. As Di et al. argue in the case of reactions to acute events, which they claim produce greater levels of stress in women than men. Gender still imprints a sexist logic on the organization of data, which has policy implications. Politics and personal feelings are connected in this field of research. Stigma produces a gay glass ceiling thus limiting promotion possibilities for gay people in Salvati et al.'s study of employment and promotion in Mexico. Additionally, Wicker and Cunningham's study suggests that affect matters in sport, which is dominated by gender binaries and gender stereotypes; however, club membership can mitigate the constraints of stereotypes and generate more democratic less stereotypical participation by mitigating the more oppressive aspects of stereotyping.

The studies in this Research Topic engage with the uneven pace of change in different parts of the world and with the diversity of lived experience and policies at a time when new identities and ways of thinking about gender, sex, and sexualities are on the agenda and are part of everyday life.

Author contributions

KW: Writing—review & editing, Writing—original draft.

Funding

The author(s) declare that no financial support was received for the research, authorship, and/or publication of this article.

Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

The author(s) declared that they were an editorial board member of Frontiers, at the time of submission. This had no impact on the peer review process and the final decision.

Publisher's note

frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 20 October 2022
DOI 10.3389/fpsyg.2022.987520

OPEN ACCESS

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SPECIALTY SECTION
This article was submitted to Gender, Sex and Sexualities, a section of the journal Frontiers in Psychology

RECEIVED 06 July 2022
ACCEPTED 06 October 2022
PUBLISHED 20 October 2022

CITATION
Fute A, Sun B and Oubibi M (2022) Early pregnancies among middle school students: Attribution of blame and the feelings of responsibility among teachers and parents.
Front. Psychol. 13:987520.
doi: 10.3389/fpsyg.2022.987520

Early pregnancies among middle school students: Attribution of blame and the feelings of responsibility among teachers and parents

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Introduction: Globally, 15% of adolescents give birth before turning 18, leading to considerable personal, social, and medical impacts on adolescents and to the general society.

Objective: This study aimed at exploring and comparing three psychological attributes (i.e., empathetic concern, feelings of responsibility, and attribution of blame) between parents and teachers for the phenomena.

Method: 672 teachers (54% females) and 690 parents (53% female) participated in the study.

Results: The results indicated a significant mean difference between parents and teachers on empathy (t=5.735, p<0.001), attribution of blame (t=6.902, p<0.001), and feelings of responsibility (t=1.727, p<0.001). Except for attribution of blame, parents' mean scores of other variables were higher than that of teachers.

Discussion: Teachers' higher attribution of blame to pregnant adolescents and lower empathetic concern raises a prominent concern over students' healthy environment at school.

Conclusion: Understanding social feelings about responsibilities over adolescents' general health is very essential, especially for fighting against the problem of early pregnancy.

KEYWORDS

early pregnancy, empathy, feeling responsible, blame attribution, adolescence

Introduction

Teenage pregnancy is considered a public health problem because of its considerable personal, social, and medical impacts on adolescents and the general population (Palomino Pérez et al., 2018). Globally, 15% of adolescent girls give birth before they turn 18, which is referred as early pregnancy or early childbearing (Doğan and Köse, 2022). Childbearing during

teenage years may destroy girls' healthy development into adulthood as their bodies may not be physically ready. Serious problems such as obstetric fistula, systemic infection, and eclampsia may develop in a short- or long-term (Bonner et al., 2018). The World Health Organization has ranked maternal conditions in the top five causes of death among adolescents aged 15 to 19 years, with the low- and middle-income countries contributing to 99% of it (WHO, 2020). Apart from medical complications, early pregnancies may also lead to issues of being rejected by peers or family members, stigmatized, and forced to early marriage. Generally, because of prolonged health and social problems, many pregnant adolescents, especially in developing countries, are forced to drop out of school (UNICE, 2021).

By 2018, the world had 129.2 million primary and secondary school girls out of school because of different factors, including pregnancy or childbearing (UNESCO, 2019). The reports indicate that at least 21 million adolescent girls 15–19 years old get pregnant annually in developing countries, and 10 million are unintended. Although 12 million give birth, it is approximated that 5.6 million abortions occur annually, with 3.9 million being unsafe, leading to morbidity, maternal mortality, and lasting or lifetime health problems (Ramos et al., 2017; WHO, 2020; Hakiminezhad et al., 2022). Generally, although adolescents of both sexes engage in risky behavior of early involvement with unsafe sex, girls are in the most vulnerable position of being severely affected by its outcomes compared to their boy counterparts (Nkosi et al., 2022).

For decades women have been socially disadvantaged because of early pregnancy, leading to many challenges, including denying their right to education. By 2019, two-thirds of the 750 million illiterate adults (500 million) globally were women, a situation that has never changed since 1976 (UNESCO, 2020). These statistics may reflect a historical record of women being vulnerable to social, political, and economic constraints. In some economically disadvantaged societies, girls are still prepared for nothing but marriage and childbearing (Misunas et al., 2021). In Sub-Saharan Africa alone, 33.6% of primary and secondary school-age girls were out of school by 2019 for different reasons, including early pregnancy. The region had the highest number of out-of-school girls worldwide, totaling 52 million, followed by Southern Asia with 45.6 million. Oceania has the least number of out-of-school girls, with 0.4 million children and adolescents (9.3%; UNESCO, 2019). Figure 1 shows the out-of-school girls by region and level of education.

Sub-Saharan African region leads by having more than 60% of secondary school-aged girls out of school. In Tanzania specifically, 3.6 million primary and secondary-aged girls are out of school because of pregnancy, while 5,500 girls drop out yearly (Fute and Wan, 2021). Although the education policy does not explicitly describe issues of the right to education among pregnant adolescents and young mothers, the government practically rusticated them from schools for several decades. Notwithstanding, as the result of internal and external forces against the exclusion and discriminative policies, in 2018, the government came up with an alternative education path for pregnant girls and young mothers (Iddy, 2021). In supporting the government's efforts, it is essential to consider different social norms by exploring the civic responsibility toward creating and maintaining a healthy, empathetic, and stable society in which everyone's dream is protected. Considering adolescents' time spent at home and school, parents and teachers may play a more prominent role in changing the situation.

Literature review

Feelings of responsibility among teachers and parents

In the context of health, early pregnancy among middle school students is a public health problem and a concern of everyone,

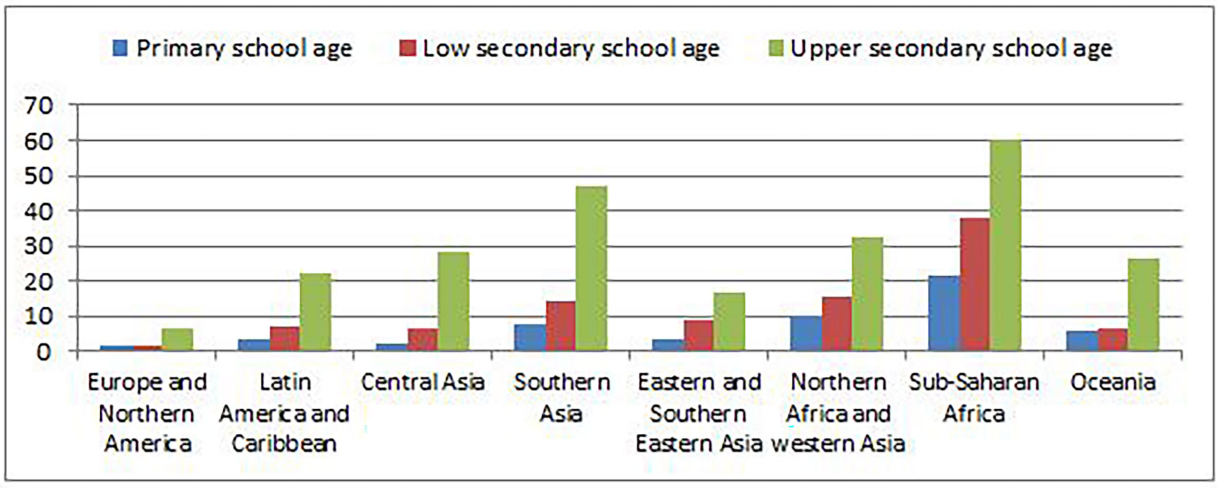

FIGURE 1
The percentage of out-of-school girl adolescents by regions.

including parents, teachers, and students (Sciacca et al., 2021). Students' risk behaviors like an early debut and unsafe sex are practiced at school and out of school (i.e., in homes), so the consequences of these risky behaviors are experienced (i.e., poor academic performance; Cohen-Gilbert et al., 2015). However, similar to other student behavior forms, literature has suggested that teachers and parents do not always feel automatically responsible for changing the situation (Dobson and Ringrose, 2016; Green et al., 2017).

Some teachers may feel they have full responsibility (Mura et al., 2014), while others feel being concerned about students' behaviors outside of school would mean overstepping the school authority (Young et al., 2017). In some cases, the schools blame the victims of risky behavior or early pregnancy (Jørgensen et al., 2019). With this approach, teachers may avoid working with the victim or students' parents toward solving the problem. We may hypothesize from this theoretical background that teachers' feelings of responsibility toward pregnancy among middle school students are different from that of parents (H1).

Empathy and attribution of blame

Blame attribution is the process of avoiding responsibility by blaming the victims. It is a behavior of constructing the causal explanation of the conduct by pointing at the victim as responsible for their suffering (Friedman et al., 2007). Evidence from the literature demonstrates that parents' and teachers' perceptions of students' risk behaviors (i.e., sexting and early initiation of sex which may lead to early pregnancy) are very complex without a straightforward opinion on the issue (Sciacca et al., 2021). In some contexts, their perception of students' pregnancy can be biased by their gender and students' sex. For example, in some countries, schools have started several campaigns to prevent students' risky behaviors that may result in pregnancy. However, most campaigns target girls and encourage them to limit sexual interaction with boys (Jørgensen et al., 2019). Targeting girls results from believing that they are provocative and blameworthy as they fail to think better about the sexual act, just like it often occurs with the victims of rape in most countries (Salter et al., 2013; Fute et al., 2022a).

In addition, teachers tend to discuss sexual matters with girls longer than they do with boys, highlighting their tendency to consider girls as the most responsible and decisive side of the sexual and other risk behaviors (Ricciardelli and Adorjan, 2019). Teachers' and parents' attribution to blame can be connected with individual attributes like empathy and understanding adolescents' experiences through adopting their point of view. Empathy can also imply a concern for other people (i.e., adolescents) and their emotional experiences or feeling of distress (Donaldson et al., 2022).

A study of cyberbullying incidences among students indicated the correlation between a lower level of empathy and higher attribution of blame toward the victims (Schacter et al., 2016; Murphy et al., 2018). Empathy has also been indicated to negatively correlate with attributing blame for cases of race discrimination and rape (Muller et al., 1994). From this literature background, it can be hypothesized that (H2) higher empathy correlates with higher feelings of responsibility, (H3) parents' and teachers' higher empathy level correlates with lower attribution of blame, (H4) teachers' attribution of blame is different from that of parents, and (5) females' empathy, feelings of responsibility, and their attribution of blame is different from that of males.

Problem of the study and objectives to achieve

Teachers and parents hold greater responsibility in shaping adolescents' behaviors because of the time spent under their supervision, the trust adolescents put in them, and the strong connection built between them. However, although society generally condemns the increasing rate of risk behaviors and pregnancies among adolescents (i.e., students), little is known about parents' and teachers' empathy over the matter, attribution of blame, and their awareness of their accountability or responsibility. Thus, in addition to the ongoing government efforts like policy and legal reforms toward equal education access for all, this study explores the three psychological constructs among teachers and parents on early pregnancy among students. Empathy and feelings of responsibility are fundamental constructs for the social efforts to prevent the problem before it escalates.

Materials and methods

Sample size

The optimal sample size was calculated based on statistical theories (Cohen, 1988), and information from the previous studies (Norman et al., 2012; Gowda et al., 2019). A statistical software (G* Power) was used to calculate the sample size based on the assumption of 95% certain that the sample would identify a statistically significant outcome should the hypotheses be true for the population. With two tails, the "P" value for statistical significance was set at 0.05, the allocation ratio (N2/N1) at one, and small effect size ($d = 0.02$). The output parameters from the software indicated that 1,302 total sample size for each group (parents and teachers) would be scientific and ethical.

Participants

The sample comprised 672 in-service teachers (54% women and 46% men) from 21 middle schools in Njombe region (Tanzania) and 690 parents (47% fathers and 53% mothers) whose children were studying in the sampled schools. Schools were randomly selected from the district in which according to official reports (URT, 2014; UNICEF, 2017), a number of adolescents get pregnant before they finish secondary school. Parents' sample was randomly

TABLE 1 Demographic differences between teachers and parents.

	Levene's test for equality of variances		*t*-test for equality of means					
	F	Sig.	*t*	df	Sig. (2-tailed)	Mean difference	95% confidence interval	
							Lower	Upper
Age	40.319	0.073	10.390	1,362	0.060	0.419	0.340	0.498
Education level	83.473	0.135	18.694	1,362	0.089	-1.487	−1.643	−1.331
Gender	0.473	0.492	1.348	1,359	0.178	−0.067	−0.163	0.030

selected from the pool which comprised only those whose students are studying in the sampled schools. In this case, only a sample of parents whose children were studying in the 21 selected schools participated in this study. However, on the other hand, 92% of teachers in the sampled schools participated in the study. The age range of all the participants was 25–54 (Mage = 35, SDage = 2.93) for teachers and 33–62 (Mage = 42, SDage = 3.73) for parents. The majority of teachers (89.2%) had a bachelor's level of education, while few had a master's (2%) and diploma (8.8%). Parents had at least a primary level of education (5%,) and at most master's level (03%). Majority of parents had secondary school education (43%), diploma education (21%), and bachelor degree (28%). The teachers' teaching experience ranged from 2 to 32 years (Mexperience = 11.53, SDexperience = 4.21).

In order to know whether the two groups (teachers and parents) are comparable, we checked whether there are significant differences in their socio-demographic variables (age, gender, and level of education). The results (Table 1) showed insignificant mean differences between parents and teachers on age [$t(1362) = 10.784$, $p < 0.060$], level of education [$t(1362) = 18.694$, $p < 0.089$], and gender [$t(1359) = 1.348$, $p < 0.178$]. The average age for parents was 0.419 higher than the average mean score for male teachers, the average education level for parents was −1.487 less than that of teachers, and the average mean score of parents' gender blame was −0.067 less than that of teachers.

Procedure

Participants were recruited from 11 middle schools (teachers) and their surrounding villages (parents). A questionnaire was designed, and all the participants with the help from research assistants filled out. Teachers from the sampled schools and a few parents were invited to participate in the study, which started in March and ended in April 2022. With the help of two volunteering assistants (university students), One assistant physically visited the schools and villages to administer the survey, especially providing instructions and answering any questions teachers and parents raised. The study got approval from the first author's university ethics committee, and all the participants were informed about the objective of the study prior to their voluntary participation. Informed consent was obtained from all the participants, and no compensation was given to participants.

Instruments

There were four sections of the survey which were used in this study. The first section was related to participants' demographics, whereby the participants were asked about their gender, age, education level, and teaching experience (for teachers). The second section involved a short statistical description (in one paragraph) that depicted the increasing number of adolescent pregnancies and their accompanying impacts (i.e., deaths). The third section included one standard and validated measure to assess participants' empathy. The last section included measures of participants' attribution of blame and feelings of responsibility.

Empathy: Interpersonal Reactivity Index (IRI) was used to measure participants' empathy. The scale was developed by Davis (1983), and it has two dimensions: empathic concern (EC sub-scale) and perspective taking (PT sub-scale; Davis, 1983; Briganti et al., 2018; Fute et al., 2022b). IRI has 14 items in general, and participants were asked to rate how well these items described them. A 5-point Likert scale ranging from 1 (does not describe me well) to 5 (describes me very well) was used, and the sample of the items is: "When I see someone being taken advantage of, I feel kind of protective toward them" (EC) and "I try to look at everybody's side of a disagreement before I make a decision" (PT). The scores of each participant for EC and PT were computed by averaging their responses across the items ($\alpha = 0.89$ for EC; $\alpha = 0.78$ for PT).

Exposure to a wider reality of early pregnancy and its associated effects: To expose a wider reality of early pregnancy and its associated impacts, participants were asked to read a paragraph that described statistically the number of adolescents who get pregnant annually. The paragraphs also described the rate of abortion (safe and unsafe), the percentage of deaths, and prolonged health problems among adolescents. The general social and economic problems that resulted from the incidences were also described (see Appendix A for full details). The idea of exposing the participants to the reality was adopted from previous studies (Wolak and Finkelhor, 2011a; Aarø et al., 2014;

TABLE 2 Instruments validation results.

Constructs	Sub-constructs and items	Factor loading	R^2
Interpersonal reactivity index (IRI; *TLI = 0.89, CFI = 0.91, GFI = 0.88, RMSEA = 0.053, ECVI = 0.96*)			
	EC1 I often have tender, concerned feelings for people less fortunate than me	0.74	0.695
	EC2 Sometimes I do not feel very sorry for others when they have problems (R)	0.82	0.901
	EC3 When I see someone being taken advantage of, I feel protective toward them.	0.79	0.784
	EC4 Other people's misfortunes do not usually disturb me a great deal (R)	0.65	0.773
	EC5 When I see someone being treated unfairly, I sometimes do not feel very much pity for them (R)	0.78	0.796
	EC6 I would describe myself as a pretty soft-hearted person	0.70	0.861
	PT1 I sometimes find it difficult to see things from the "other guy's" point of view (R)	0.69	0.793
	PT2 I try to look at everybody's side of a disagreement before making a decision	0.83	0.837
	PT3 I sometimes try to understand my friends better by imagining how things look from their perspective.	0.71	0.856
	PT4 If I'm sure I'm right about something, I do not waste much time listening to other people's arguments (R)	0.68	0.683
	PT5 I believe that there are two sides to every question and try to look at them both	0.85	0.837
	PT6 When I'm upset at someone, I usually try to "put myself in his shoes" for a while	0.77	0.892
	PT7 Before criticizing somebody, I try to imagine how I would feel if I were in their place	0.73	0.729
Attribution of blame and perceived responsibility (*TLI = 0.85, CFI = 0.93, GFI = 0.89, RMSEA = 0.063, ECVI = 0.90*)			
	AB1 I think the girl should feel ashamed	0.88	0.784
	AB2 I think the girl deserves the negative consequences	0.72	0.775
	AB3 I think it is the girl's fault for being treated this way	0.81	0.882
		0.67	0.703
	FR4 I would feel guilty as I should prevent these things from happening	0.89	0.809
	FR5 I think it is my responsibility to do something to fix the situation as soon as possible	0.71	0.793
	FR6 I think it is my responsibility to deal with this incident, even though it happened outside the school	0.86	0.693

EC means Empathetic concern, PT means Perspective taking, AB means attribution of blame, and FR mean feelings of responsibility.

Sciacca et al., 2021), which used vignettes (participants read vignettes) to assess participants' attitudes toward youths who produced and shared sexual imagery.

Attribution of blame and feelings of responsibility: Following the process of reading a paragraph that clearly and statistically describes the number of adolescents who get pregnant every year, all the participants were asked to express their level of agreement based on six statements which were about; (a) the attribution of blame for the targets of early pregnancy, and (b) their perceived responsibility of dealing with the problems (Oubibi et al., 2022a,b). All their answers were measured by a 5-point Likert scale which ranged from 1 (Strongly disagree) to 5 (Strongly agree). A modified version of items from Sciacca et al. (2021) was used in this study (see Appendix C), as more studies had already used the same items and showed higher reliability (Holfeld, 2014).

Data analysis

The analysis of the data started with the coding process. SPSS 26 version was used to analyze data, whereby the descriptive statistics and correlation analysis were done for all variables, including the participants' demographics. The second analysis involved an independent sample *t*-test for testing the hypotheses. The differences in participants' empathy, attribution of blame, and feelings of responsibility were calculated and reported through a *t*-test table of results.

Results

Preliminary analysis to validate the instruments validation

Prior to hypothesis testing process, a Confirmatory Factor Analysis (CFA) was done to test the discriminant validity of the variables of our primary concern. The model fitness index was also assessed and the adopted items were validated. A series of CFA were used, including Tucker–Lewis Index (TLI), Comparative Fit Index (CFI), Expected Cross-validation Index (ECVI), Root Mean Square Error of Approximation (RMSEA), and Goodness of Fit Index (GFI). The reliability of IRI and attribution of blame and Feelings of responsibility was high ($\alpha = 0.84$ and $\alpha = 0.91$ respectively). All the Items from Interpersonal Reactivity Index (IRI), Attribution of blame, and the feelings of responsibility had factor loadings above 0.6, suggesting their fitness. Table 2 below shows important results from CFA analysis.

Normality and homoscedasticity test

Normality test was conducted to determine whether the data deviated from the expectation of a normal distribution. Table 3 shows both Kolmogorov–Smirnov (KS) and Shapiro–Wilk test of normality. The results were insignificant

TABLE 3 Normality test.

	Kolmogorov-Smirnov[a]			Shapiro–Wilk			Skewness		Kurtosis	
	Statistic	df	Sig.	Statistic	df	Sig.	Statistic	Std. error	Statistic	Std. error
Empathy	0.191	1,362	0.063	0.937	1,362	0.080	0.666	0.076	−1.536	0.152
Blame	0.170	1,362	0.103	0.938	1,362	0.126	1.417	0.076	1.434	0.019
Resp.	0.163	1,362	0.091	0.809	1,362	0.069	0.784	069	0.504	0.162

[a]Lilliefors significance correction.

TABLE 4 Correlation co-efficiencies between variables.

Variable	*M*	*SD*	1	2	3	4	5
Age	35.1741	0.996	1	-	-	-	-
Education	1.9685	0.056	0.513	1	-	-	-
Empathy	3.9390	0.873	0.764	0.394	1	-	-
Attribution of blame	2.9117	0.706	−0.631	−0.003	−0.778	1	-
Feelings of responsibility	4.1755	0.682	0.502	0.407	0.690	−318	1

TABLE 5 Group statistics on empathy, attribution of blame, and feelings of responsibility between parents and teachers.

	Gender	*N*	Mean	Std. deviation	Std. error mean
Empathy	Parents	690	4.0101	0.79518	0.02752
	Teachers	672	3.8287	0.76926	0.01653
Attribution of blame	Parents	690	2.8623	0.34070	0.01179
	Teachers	672	2.9548	0.29688	0.00638
Feelings of responsibility	Parents	690	4.1871	0.61953	0.02144
	Teachers	672	4.1429	0.63092	0.01356

($p \geq 0.05$), indicating that the values were sampled from the population that follows a normal distribution. Each normality test works slightly differently and may produce different results when using the same data set (El Bouch et al., 2022). However, in this study, several tests indicated similar results of normal distribution. The results from skewness and kurtosis test also indicated values which were within an accepted range. Table 3 below shows the results in detail. Skewness and Kurtosis tests of normality are encouraged larger sample ($n \geq 300$), and so we encourage to consider Skewness and Kurtosis test results in this study. On the other hand, the homoscedasticity test results indicated that the residuals were equally distributed.

Descriptive analyses and bivariate correlations

Table 4 provides the descriptive statistics for the variables of our primary concern (empathy, attribution of blame, and feelings of responsibility) and participants' demographics. Except for attribution of blame (M = 2.9117, SD = 0.706), the average ratings for other variables were high above the midpoint, indicating participants' higher level of empathetic concern and feelings of responsibility toward early pregnancy among middle school girls. The bivariate correlation between the study variables supported our hypotheses (H2 and H3). There were negative correlations between participants' attribution of blame and their empathetic concerns ($r = -0.778$) and feelings of responsibility ($r = -0.318$). In addition, the higher level of empathic concern and feelings of responsibility correlated to a lower level of attribution of blame. Participants' age and their education level positively correlated with all variables of our primary concern (except the attribution of blame), meaning higher age and education level correlated to a lower level of attribution of blame.

Empathic concern, attribution of blame, and feelings of responsibility between parents and teachers

Table 5 shows the group statistics between parents and teachers on empathic concern, attribution of blame, and feelings of responsibility. Parents' mean scores of empathetic concern and feelings of responsibility were higher than teachers' mean scores, except for attribution of blame. Teachers' mean score of attribution of blame was higher (M Attribution of blame = 2.9548, SD Attribution of blame = 0.29688) than it was for parents (M

TABLE 6 *T*-test results for differences in empathy, attribution of blame, and feeling of responsibility for parents and teachers.

		Levene's test for equality of variances		*t*-test for equality of means						
		F	*Sig.*	*t*	*df*	*Sig.* (2-tailed)	Mean difference	Std. error difference	95% confidence interval of the difference	
									Lower	Upper
Empathy	Equal variances assumed	1.057	0.304	5.735	516	0.000	0.18142	0.03163	0.11940	0.24345
	Equal variances not assumed			5.651	654.860	0.000	0.18142	0.03210	0.11845	0.24440
Attribution of blame	Equal variances assumed	11.644	0.001	7.334	516	0.000	0.09253	0.01262	0.06779	0.11727
	Equal variances not assumed			6.902	654.403	0.000	0.09253	0.01341	0.06623	0.11883
Feelings of responsibility	Equal variances assumed	0.890	0.345	1.727	516	0.054	0.04416	0.02557	−0.00598	0.09431
	Equal variances not assumed			1.741	654.687	0.042	0.04416	0.02537	−0.00559	0.09392

TABLE 7 Group Statistics on empathy, attribution of blame, and feelings of responsibility.

	Gender	*N*	Mean	Std. deviation	Std. error mean
Empathy	Female	728	4.0416	0.78284	0.02571
	Male	634	3.8365	0.76899	0.01632
Attribution of blame	Female	728	2.8642	0.34646	0.01138
	Male	634	2.9592	0.29856	0.00634
Feelings of responsibility	Female	728	4.2025	0.61037	0.02005
	Male	634	4.1455	0.62856	0.01334

Attribution of blame = 2.8623, SD Attribution of blame = 0.34070). The independent sample *t*-test was conducted to test the hypotheses. It helped to establish whether these mean differences (in Table 2) happened by chance in our sample or existed in the population.

Independent sample *t*-test results on empathy, attribution of blame, and the feelings of responsibility between parents and teachers

Table 6 shows that equal variance was assumed for empathetic concern ($f = 1.057$, $p > 0.05$) and feelings of responsibility ($f = 0.890$, $p > 0.05$), but not assumed for attribution of blame ($f = 11.644$, $p < 0.05$). Supporting our hypotheses (H1 and H4), the *t*-test results indicated a significant mean difference between parents and teachers on empathy [$t(1362) = 5.735$, $p < 0.001$], attribution of blame [$t(654.403) = 6.902$, $p < 0.001$], and feelings of responsibility [$t(1362) = 1.727$, $p < 0.001$]. The average empathic concern for parents was 0.18142 higher than the average mean score for teachers, and the average attribution of blame for teachers was.09253 higher than the average for parents. In contrast, the average feelings of responsibility for parents were 0.04416 higher than the feelings of responsibility for teachers. All the results were significantly below the level of chosen significance (95% of confidence interval).

Empathic concern, attribution of blame, and feelings of responsibility by gender (H4)

Table 7 shows the group statistics between female and male respondents on empathic concern, attribution of blame, and feelings of responsibility. The female respondents' mean scores in empathetic concern and feelings of responsibility were higher than the males' mean scores, except with the attribution of blame. Males' mean score of attribution of blame was higher (M Attribution of blame = 2.9592, SD Attribution of blame = 0.29856) than it was for female (M Attribution of blame = 2.8642, SD Attribution of blame = 0.34646). The independent sample *t*-test was also conducted for testing our hypothesis (H4), and it helped to establish if these mean differences of our variables between genders happened by chance in our sample or existed in the population.

Independent sample *t*-test results on empathy, attribution of blame, and the feelings of responsibility

From Levene's test (Table 8), equal variance was assumed for empathetic concern ($f = 0.388$, $p > 0.05$), and feelings of responsibility ($f = 0.551$, $p > 0.05$), but not assumed for attribution of blame ($f = 14.554$, $p < 0.05$). Supporting the hypothesis (H4), the *t*-test results showed significant mean differences between female and male respondents on empathy [$t(1362) = 6.784$, $p < 0.001$],

TABLE 8 *T*-test results for differences in empathy, attribution of blame, and feeling of responsibility by gender.

		Levene's test for equality of variances		*t*-test for equality of means						
		F	*Sig.*	*t*	*df*	*Sig.* (2-tailed)	Mean difference	Std. error difference	95% confidence interval of the difference	
									Lower	Upper
Empathy	Equal variances assumed	0.388	0.533	6.784	516	0.000	0.20511	0.03023	0.14583	0.26438
	Equal variances not assumed			6.735	106.893	0.000	0.20511	0.03045	0.14537	0.26484
Attribution of blame	Equal variances assumed	14.554	0.000	7.756	516	0.000	0.09506	0.01226	0.07103	0.11909
	Equal variances not assumed			7.298	127.991	0.000	0.09506	0.01302	0.06951	0.12061
Feelings of responsibility	Equal variances assumed	0.551	0.458	2.340	516	0.019	0.05704	0.02437	0.00926	0.10483
	Equal variances not assumed			2.369	181.900	0.018	0.05704	0.02408	0.00981	0.10427

attribution of blame [$t(654.991) = 7.298$, $p < 0.001$], and the feelings of responsibility [$t(1362) = 2.340$, $p < 0.001$]. The average empathic concern for female respondents was 0.20511 higher than the average mean score for male respondents, the average feeling of responsibility for female respondents was 0.05704 higher than the average for male respondents, while males' mean of attribution of blame was 0.09506 higher than that of females. All the results were significantly below the chosen significance level of 95% ($\alpha = 0.05$).

Discussion

The general goal of this study was to assess the empathetic concern, attribution of blame, and the feelings of responsibility among teachers and parents toward early pregnancy among middle school adolescents. It is essential to know the feelings of teachers and parents on this sensitive and vital phenomenon that escalates beyond expectations, crippling youths across Tanzania and internationally. Building on the previous works (Wolak and Finkelhor, 2011b), it was predicted that parents' and teachers' attribution of blames and their feelings of responsibility are influenced by their level of empathy toward the victims. The findings of this study are in line with the prediction, as they indicated a higher level of empathy being correlated with a higher level of feeling of responsibility (H2) and a lower level of the attribution of blame (H3), meaning that empathetic teachers and parents feel more responsible for early pregnancy among middle school students, and rarely attribute their blame to the victims (pregnant adolescents).

Although studies have yielded inconsistent results on age issues and empathetic concern among people of different cultures (Cavallini et al., 2021; Tremblay et al., 2022), this particular study indicated the positive and significant influence of age on the empathetic concern. The evidence showed a positive and significant correlation between teachers' teaching experience and their empathic concern, from which it can be argued that general life experience among teachers and parents positively influences the empathetic level. Although junior teachers add new energy to teaching (Nja et al., 2022), they may hardly put themselves in a victim's shoes and perceive the problem as the victim does. Young teachers' perspectives and feelings toward the victims of risky behaviors (i.e., early sex debut and early pregnancy) are yet to the level of their senior teachers' counterparts.

It was also predicted based on previous literature (Pechorro et al., 2017; Tremblay et al., 2022) that females' level of empathy, feelings of responsibility, and attribution of blame are different from that of males. Building on those past studies, the findings in this study supported the hypothesis (H6). Except for attribution of blame, female participants' levels of empathy and their feelings of responsibility were significantly higher than that of male participants. Males' attribution of blame was significantly lower than that of female counterparts, meaning that women may highly take responsibility for adolescent girls' risky behaviors, while blaming the victims less. These results are very important in fighting against early pregnancy. Females (i.e., parents) spend more time with adolescents, meaning that they can play a more significant part in abolishing the problem with their more profound empathetic concern and feelings of responsibility.

Empathetic concern for children has also been discussed in the previous studies, especially toward children of different races in multiracial countries like the United States (Wang et al., 2020). However, this study has added new insights from one of the developing countries by comparing empathic concerns between parents and teachers for pregnancy among middle school students. A significant difference in empathy levels between parents and teachers toward pregnancy problems has been indicated, which is also reflected in their attributing blame to the victims. Although theoretical studies may suggest that parents' empathy toward any child is natural, a pretty different picture is printed from our findings. In line with a few literature (Young et al., 2017), the findings from this study have revealed that teachers (including females) feel being concerned about students' behaviors outside

school would mean overstepping the school authority. Sometimes the school may even blame the victims of risky behavior or early pregnancy (Jørgensen et al., 2019).

However, all participants' general feelings of responsibility for early pregnancy are beyond the midpoint, indicating that they all feel responsible for the problem. Nevertheless, it can further be argued that because the feelings operate under different perspectives and feelings (empathy), their reaction to the problem can also be of varying intensity. Being in adolescents' shoes (empathizing) and taking their perspectives may help teachers and parents understand their difficulties and finally come up with solutions (Liew and Fadil Azim, 2022). The findings reveal that higher feelings of responsibility relate to lower attribution of blame among teachers and parents, meaning that most teachers with deeper empathetic concern tend to blame the targets less. Aligning to few previous studies (Schneider and Arnot, 2018; Bordalba and Bochaca, 2019), teachers, parents, and students need to work together and take responsibility for the problem.

The higher parents' feelings of responsibility mean they perceive higher responsibility for early pregnancy among adolescents than teachers. However, the higher level of education attained correlates with higher feelings of responsibility for both parents and teachers. These results indicate the importance of education and its role in effectively fulfilling a child-rearing obligation. Children from educated parents have less probability of engaging in risky behavior (Liu and Yang, 2022). The findings in this study add to the existing literature by highlighting parents' level of education, empathy, blame attribution, and feelings of responsibility. In addition, looking at pregnant adolescents as responsible for their victimization (attribution of blame) correlated with lower empathy and feelings of responsibility.

Strengths and limitations

In this study, the criteria which were used to split teachers and parents into two different groups are: (1) responsibility differences, (2) time spent with adolescent students per day, and (3) attachment and connection. However, teachers are also parents to their children. Their feelings of responsibility, empathy, and attribution of blame may also be influenced by their being parents as well. In the future study, parents whose adolescents have experienced early pregnancy can be treated as a group to compare with those parents who have never experienced their children getting pregnant during their adolescent period. There are parents who are very occupied with their jobs, and for that, they do not spend a long time with their children, meaning that in this context, teachers may form a stronger attachment with children than their parents do.

Students are also responsible for risky behaviors (i.e., early sex debut and unprotected sex,) which result in early pregnancy and infection with sexually transmitted diseases (STDs). However, in this study, the feelings of responsibility and attribution of blame were not measured from them. Future studies can also explore students' feelings of responsibility toward their pregnancy. In this way, the intervention programs may be effective, especially after knowing the level of understanding among adolescents about their responsibility and self-blame (guilt) for their pregnancy.

Practical implications

The prevention and intervention program for early pregnancy among middle school students needs to create awareness among parents and teachers on their responsibilities. Teachers and parents can be essential in preventing risky behaviors, including early sex debut, unprotected sex, and sharing sexual images (sexting). Because early pregnancy affects adolescents' education and school lives, it is also imperative for teachers to feel responsible for the intervention. Although the previous studies have indicated that teachers feel responsible for educating students about delaying sex (postponing), safe sex, and their advantages like avoidance of legal consequences (Hayes et al., 2013), special training on how to deal with the problem of early pregnancy would benefit many teachers who hesitate to do so.

Our findings have also demonstrated the influence of individual factors like empathy on perceiving the problem of early pregnancy among adolescents. Pre-service teacher education programs and in-service training should encourage empathy and consider empathy as a critical element of being a teacher. Teachers' and parents' empathy toward the victims of early pregnancy increases the likelihood of engaging with the intervention programs and supporting the targets. Future programs may also involve training parents because adolescents spend more time with their parents than teachers. In addition, because early pregnancy affects society in general, everyone needs to take responsibility for abolishing all the risky behaviors that may result in early pregnancy and school dropout.

Conclusion

Teenage pregnancy is a public health problem because of its considerable personal, social, and medical impacts on adolescents and the general population. The responsibility for preventing adolescent pregnancy lies in the hands of everyone, including adolescents themselves. Preventive measures and programs implemented under different policies continue to work, especially in developing countries. However, understanding the social feelings about their responsibilities is very important. To successfully combat early pregnancy and its associated impacts (i.e., deaths), every social member must assume responsibility and avoid the blame game. Higher attribution of blame, as it stands with the findings of this study, correlates with lower feelings of responsibility. Although women are known for their empathetic character toward the victims, teacher training programs need to integrate empathy with both men and women because teaching needs perspective-taking and empathy arousal. Teachers are parents need to work together toward preventing adolescents' risk

behaviors like early sex debut, unprotected sex, and finally, unplanned pregnancy.

This study acts as an alarm toward teachers' in-service training and the content into which the emphasis is put. The responsibility of ensuring students' safety, both physically and psychologically, lies on the hand of teachers and parents. Both parents and teachers need feel responsible for early pregnancies among girl students, empathize with students, and find the solution toward the problem. The question remains on ways through which teachers empathize more than they do, feeling more responsible and reducing blaming. Because the problem of early pregnancy is becoming common throughout developing countries, teachers' colleges and all the training institutions need to consider extensiveness of training content. The results from this study are very important for parents, teachers, students, and government at large. Everyone is responsible toward fighting against early pregnancy among students, including the victims. Attributing blames to the victims reduces empathetic concern and the feelings of responsibility among social members.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by the Ethics Committee of Zhejiang Normal University's College of Teacher Education. The patients/participants provided their written informed consent to participate in this study.

Author contributions

AF and BS designed the study, collected data from students, analyzed the data by using SPSS, wrote the first draft of the manuscript, worked on ethical approval, and collected all the information from the college. MO codded the data, prepared all the figures, proofread, and prepared the last version of the manuscript. All authors contributed to the article and approved the submitted version.

Funding

This work was supported by the National Natural Science Foundation of China (grant number 31871124).

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Appendix

Appendix A: Exposure to the broader reality of early pregnancy and its associated effects.

Globally, 15% of adolescent girls give birth before they turn 18. At least 21 million adolescent girls 15–19 years old get pregnant annually in developing countries, and 48% of them are unintended. At least 5.6 million abortions occur annually, and 70% are unsafe, leading to severe problems like morbidity, maternal mortality, and lifetime health problems. Maternal conditions are in the top five causes of death among adolescents (15–19 years), and developing countries contribute 99% of them. Early pregnancies may also lead to issues of rejection, stigmatization, and forced early marriage. Tanzania specifically has 3.6 million primary and secondary-aged girls out of school because of pregnancy, and 5,500 continue to drop out annually.

Appendix B: Interpersonal Reactivity Index (IRI) items by Davis (1983).

Empathic concern (EC)

1. I often have tender, concerned feelings for people less fortunate than me
2. Sometimes I do not feel very sorry for others when they have problems. (Reversed)
3. When I see someone being taken advantage of, I feel protective toward them.
4. Other people's misfortunes do not usually disturb me a great deal. (Reversed)
5. When I see someone being treated unfairly, I sometimes do not feel very much pity for them. (Reversed)
6. I would describe myself as a pretty soft-hearted person.

Perspective-taking (PT sub-scale)

1. I sometimes find it difficult to see things from the "other guy's" point of view. (Reversed)
2. I try to look at everybody's side of a disagreement before making a decision.
3. I sometimes try to understand my friends better by imagining how things look from their perspective.
4. If I'm sure I'm right about something, I do not waste much time listening to other people's arguments (Reversed)
5. I believe that there are two sides to every question and try to look at them both.
6. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.
7. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

Appendix C: Attribution of blame and perceived responsibility items by Sciacca et al. (2021).

1. I think the girl should feel ashamed (attribution of blame).
2. I think the girl deserves the negative consequences (attribution of blame).
3. I think it is the girl's fault for being treated this way (attribution of blame).
4. I would feel guilty as I should prevent these things from happening (perceived responsibility).
5. I think it is my responsibility to do something to fix the situation as soon as possible (perceived responsibility).
6. I think it is my responsibility to deal with this incident, even though it happened outside the school (perceived responsibility).

frontiers | Frontiers in Sociology

TYPE Policy and Practice Reviews
PUBLISHED 09 January 2023
DOI 10.3389/fsoc.2022.978403

OPEN ACCESS

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SPECIALTY SECTION
This article was submitted to Gender, Sex and Sexualities, a section of the journal Frontiers in Sociology

RECEIVED 26 June 2022
ACCEPTED 15 December 2022
PUBLISHED 09 January 2023

CITATION
Gutiérrez-Gómez E and Munaris-Parco SB (2023) The spectacle of feminism and machismo in two Peruvian cumbia singers: Marisol and Tony Rosado. *Front. Sociol.* 7:978403. doi: 10.3389/fsoc.2022.978403

The spectacle of feminism and machismo in two Peruvian cumbia singers: Marisol and Tony Rosado

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The objective of this research is to analyze and interpret the entertainment section of the most important media in Peru, concentrated on two private companies: Grupo La República and Grupo El Comercio, with great journalistic dominance of national information. The entertainment section is as old as the foundation of the newspapers themselves. The method of analysis with qualitative documents has allowed us to reach the conclusion that the fight for gender equality promoted by the government is a spectacle for the national press. The entertainment section of the Peruvian press has exposed the private lives of representative characters such as the singers Marisol, "La Faraona de la Cumbia" and Tony Rosado, "El Ruiseñor de la Cumbia", from there the differences in feminism tolerated in Marisol and machismo censored in Rosado are popularized. It is concluded that the exposure of the struggle for gender equality is entertainment news where machismo and feminism are underhandedly justified with the parameter established with these public figures, that is, Peruvian cumbia singer–songwriters, and that offers evidence of the tolerance to the feminine voice that incites machismo, justifies the mistreatment of men and makes the male complaint a synonym of cowardice.

KEYWORDS

Quechua, cinema, Andes, identity, sexism

Introduction

Governments, in different parts of the world, deal with and legislate the defense of gender equality, especially women's rights, due to the long history of paternal machismo in the different manifestations of society. The evolutionary development of humanity was adverse for women in their struggle to vindicate their gender in social standards of rational acceptance. Incrementation to this is the proliferation of Protestant churches that encourage machismo in the popular sectors: "75% of Peruvians are Catholics, 14% Evangelicals, 5% of other religions and 6% agnostics or atheists. The trend is declining" (Torres, 2018). These congregations interpret the Bible literally through their evangelical pastors who personify the earthly divinity for their parishioners.

The media considered the "fourth estate," plays a decisive role in the education and re-education of the population. In Peru, most of them are divided into two groups: El Comercio and La República, being almost the only owners of information and disinformation, which have an editorial line according to the great financial interests. Access to information is exclusive to these two large business groups since they have printed newspapers, television or video programs, and radio programs for each sector of society, which are accessed according to the culture and place they occupy in Peru's geographic space. These media, concentrated on two business owners, have special entertainment or show business sections dedicated to frivolity in the daily news.

The essence of the research of this article is to analyze feminism and machismo in entertainment and show business news. It is necessary to analyze and expose the underhanded information of the national problem of machismo and feminism in the media in the entertainment section: "machista societies are where most men abandon children, where taking care of children is considered a woman's issue, and Latin American society is enormously machista and religious societies are conservative and patriarchal" (Bel, 2021). Iris Marisol MuguerzaMego nicknamed in the artistic world "Marisol, la faraona de la cumbia (the Female Pharaoh of cumbia)" and Victor Agustin Rosado Adana, artistically nicknamed "Tony Rosado, elruiseñor de la cumbia (the Nightingale of cumbia)" expose crude apologies of machismo and feminism in Peru, which should be worrisome news, but is spread in the entertainment section of the mass media. Peruvian society has only two corporate media segmented for each sector stratified as A, B, C, D, and E; therefore, access to news is restricted and invaded by the so-called chicha (peruvianism press show) press: "characterized especially by its vulgar style of exploitation of the female sex, attacks and hurtful adjectives to public figures, the elderly, the disabled and everything that may be new, useful, impactful or of human interest" (Cappellini, 2004). The power of journalistic information influences the popular sectors due to the lack of heterogeneity, plurality, and veracity of the entertainment section.

The public user considers feminism and machismo are part of the spectacle in Peru, which is part of the gossip of everyday life. As feminism and machismo exalted by the "Faraona de la cumbia" and the "Ruiseñor de la cumbia" is a spectacle in their different presentations, it is entertainment news that is not considered a social danger for their followers who consume it as frivolous news; as such, machismo and feminism extremes by the singer–songwriters feed the mistreatment against women and men. The Peruvian state established the Law of Equal Opportunities between Women and Men No. 28983 in 2007, which is the theoretical framework that supports this research, endorsed with the founding of the Ministry of Women and Vulnerable Populations in 1996, and whose mission is to prevent, eradicate and punish gender violence in its different manifestations. This research aims to demonstrate the little importance given by the media, divided into two monopolized business groups in Peru, to the struggles for gender equality, placing in the entertainment section the important news about male and female mistreatment in Peruvian singer–songwriters.

Scenarios of machismo and feminism in Peruvian cumbia

Composers, performers, and songwriters worldwide subsist on their audiences who buy tickets to their concerts and national and international tours. Each musical genre has specific followers and audiences to whom the content of their inspiring performances is directed. The triumph of provincial artists is not enough outside the metropolis of Lima's centralism that marginalizes the provinces; thus, artists have to migrate to the capital of Peru to spread their music. In the words of Marisol: "for me it has been a little difficult to leave my town since all my life I have lived in Chiclayo and getting used to Lima, to another type of environment, it is very difficult," added the singer in tears in "El gran show" (The Great Show) (Comercio, 2015).

Extreme feminist expressions against men are accepted as normal in Peruvian society, especially by the media in their entertainment sections, and chanted in unison as: "with Marisol we have come together in this show at the request of the public, thanks to DEA Promotora. They are going to have traditional Creole, black and cumbia music... let that men get ready," said Eva Ayllón (Comercio, 2016). These expressions expressed against men in the show programs that swarm the Peruvian press should be questioned by the authorities who defend gender equality, but these expressions on the part of the singers are accepted as a defensive standard.

The male version that bursts into macho manly actions and laments in his artistic presentations is that of the "Ruiseñor de la cumbia," constantly questioned for uttering macho phrases against women, which have the same morbidness as those of the "Faraona de la cumbia," but she is tolerated in all the media, entertainment section. Both characters express feelings of their personal lives, evidencing their family failures. Rosado confesses: "'I arrived home quietly and found her with my neighbor. That is where my story began'. This bitter experience would have formed his character on stage, which emits bitter and violent comments against women" (Comercio, 2019c). The public that follows the artistic presentations identifies with the character and chants his songs while drinking liquor, crying loudly with the song, and expressing their comments on each stage where he performs. The artistic presentations are every weekend in different parts of the Peruvian territory with a captive audience that fills the artistic stages set up for this purpose.

At a national level, in every town, there are countless festivities where artistic presentations are valued, which are propitious spaces for the presentations of Tony Rosado and

Marisol. The captive audience of the artists always requires them to see them in the musical presentations they attend: "after the success of 'Nacida para triunfar' (Born to triumph), a biographical TV series of singer Sonia Morales, we had to look for a new story equally or more exciting. Marisol was in fashion, and her life was worthy of being brought to the screen" (Águila, 2021). In Peru, there are holidays or non-working days calendared as mostly religious holidays; also, from time to time, the government in power ingratiates itself with the state worker and decrees some weekends or early in the weeks as national holidays to promote domestic tourism.

The life of the artists referred to, then, is no stranger to miniseries and special attention in Peru. Fans of Tony Rosado's songs and music do the same by requesting his presence at important events: "fans dissatisfied for not including Tony Rosado's songs in the *playlist* of the Pan American Games" (República, 2019e). In the same way, the show business section of the Peruvian press has more tuning in television and radio audiences and readership of written circulation focused on the artists, subject of this investigative study: "Marisol, The Female Pharaoh of Cumbia, and Tony Rosado will return to deliver the best of their songs in a show to be presented on the Central Highway" (RPP., 2011). All media outlets have a daily *rating* section on the positioning of the show business section. In one case, a hostess was: "qualified as sexist, retrograde. Magaly TV La Firme (The True One) had 10.5 points in Lima and 9.8 in Lima +6 ciudades (+6 cities), being in sixth place. The morning show +Espectáculos (+Entertainment) had 4.5 points in Lima and 4.1 in Lima +6 ciudades" (Perú, 2022).

Political parties in the macho and feminist campaign

The political parties personified by their occasional leaders on duty, feed machismo and feminism knowing that in Peru they: "establish measures to prevent situations of political harassment, such as those related to dissemination and awareness campaigns, conducting studies and research that help to learn more about the situation of women, in particular, from an intersectional view" (Freidenberg and Gilas, 2022; p. 9). For their part, the leaders in electoral competition identify themselves with the cumbiambera music to promote their candidacy in festive scenarios, distribute liquor and finance popular parties:

> A few days ago, the municipality of Tarapoto announced the list of artists who will be invited for the activities of the 237 years of the Spanish foundation of Tarapoto. Tony Rosado was going to perform on Tuesday, August 20. The promoter who was going to hire him said in a statement that he will not be included in the event, for justifying the mistreatment of women (Anteparra, 2019).

At the national level, local municipalities have funds and offices dedicated to the promotion of popular culture in order to identify and promote the indigenous culture of the towns. In these artistic presentations, due to the effects of alcohol, they vent their sorrows and frustrations that they could not express in sobriety. The observations and criticisms of the politicians when they assume power or have some position are delimited by the offenses that the singers can offer. Criticisms with adjectives, if they come from a woman against men, as in the case of the "Faraona de la cumbia," are considered contemplative; on the contrary, if it is a man who pronounces himself with adjectives against women, he is condemned and slammed in the same media, in the entertainment section, as reported here:

> This man is disgusting. I can't think that he would be hired again and that he would leave the woman like that. We have to remind this asshole that he was born of a woman, right? Why so much anger against women, he must have been a cuckold, right? What is one's fault if he does badly in love and then comes out saying bestiality and a half," said the former minister (República, 2019f).

The comment of the former Minister of Women is adjectival and pejorative; as such, it continues to feed extreme feminism to have indicated a "cuckold" for the action of the infidelity of a woman that the former minister minimizes. Justifying the "cuckold" of a man because of a woman's infidelity seems to be a normal situation. In an opposite scenario, if a former minister were to publicly declare as the former minister did, the consequences would be disastrous for men; however, the macho opinions of women are contemplated and even accepted. The vulgar expressions emitted by the singers mentioned in this article are received with acclaim by the attendants to their events, and politicians always have an active participation with the singer–songwriters who are popular:

> Tony Rosado had no qualms in assuring that the burgomaster told him that he hired him to say the characteristic swear word that is part of his popular song. "Mr. Mayor has told me 'I have hired you to say mother f***er'. I have it recorded there just in case," he said (República, 2019i).

Rosado's insults against someone's mother in his presentations are cheered by the audience identifies them as being for women who have already forgotten their past marital relationship. Rosado's musical presentations have long introductions that allude to an aggressive machismo, such as: "...I've already forgotten you, I've already forgotten you, I'll mother f***er" (Producciones, 2017; pt. 1:51). Attendees eagerly await their comments and chant in fascination; hundreds of young people and adults attend their presentations, and no one is uncomfortable with their expressions. This duo of musicians, which is dedicated in Peru to performing shows in favor of

machismo and feminism, both vulgar and extreme, is approved by political organizations and entities that promote and control cultural diffusion. The essence of the controversy, which goes unnoticed, is the demonstrations for and against Marisol:

> After Tony Rosado was accused of inciting violence against women through the words and attitudes in his concerts, through social networks an event was organized against the singer Marisol called "March for Marisol to stop denigrating men." (República, 2019g).

Peruvian society struggles for the defense of gender equality: "one of the challenges of Peruvian feminism is how to respond to the context of social, political and economic changes in Peruvian society. A society without political parties, but rather electoral fronts" (Silva and Cabrejo, 2014; p. 643). With a Ministry of Women and Vulnerable Populations, this has tacitly allowed the denigration of men and has become common practice in the show media, as the political practice itself in the Congress of the Republic, and political campaigns at the national level demonstrate: "several cases of gender violence in Congress paraded through the Ethics Commission, chaired by Karol Paredes (Acción Popular). However, the complaints were shelved" (García, 2022). Men must constantly measure their expressions in political debates and the media, while women express themselves with total immunity, as happened in a TV show: "Gisela Valcárcel intervened to flatter the singer and dancer. "Please, I have to say it. That was wonderful, careful if I see you [man], I break your snout. You're a great one," she said. "You have to conclude that," Pamela replied" (Ojo, 2021).

Important public figures on Peruvian television approve of the expressions of women against men with total ease, and the Ministry of Women does not speak out about it. Marisol, such as Tony Rosado against women, expresses vulgar comments toward men in her concerts in the presence of hundreds of attendees who listen to her song: "La escobita" [The Little Broom]: "... but, when I see you, I'll kick your... you know..." (XefabianX, 2020; pt. 3:02). The expressions that Rosado utters are the same in her concerts which were censored with polemic declarations of different institutional entities of the state, influential personalities in Peruvian politics, while with Marisol the attitudes are contemplative and go unnoticed.

Research on the macho attitudes of singer–songwriter Tony Rosado

In Peru, from time to time, extreme macho and feminist attitudes have manifested that end up as anecdotes of journalistic spaces in shows, cases referred to as:

> President Martin Vizcarra made reference to some of the victims of femicide such as Elsa Salas De La Cruz, Gaby Vásquez Gómez, Micaela LamanAcho, Gloria Pacheco Yucra, Mary Huayllapuma Lima, Yudith Solis Leandro, Lucinda Vásquez Sánchez, EyviAgreda Marchena, Olga Aponte Mariño, Juanita Mendoza Alva, Mayra Pérez Gilberti, Dilma Suarez Jiménez, Estefany Taboada Mendoza and all those anonymous victims of femicide (Prensa, 2018).

Also, some politicians had past events tinged with machismo and feminism, as in the case of the president of the Women's Commission of the Peruvian Congress: "Maritza García said that women 'sometimes without reason give men the opportunity' to commit femicides" (De La Quintana, 2017). These are some cases of the Peruvian political scenario, which are the news of spectacle in schedules not suitable for minors. Regarding Tony Rosado "the Ombudsman, Walter Gutiérrez, asked the Prosecutor's Office to open an investigation against him for apologizing for aggression against women" (Comercio, 2019b). It is an opinion against the macho attitudes of Rosado, who is investigated for his comments in his public presentations, taking into account that hundreds of people attend his concerts of their own free will and pay a certain amount of money for the presentations tickets:

> "Expressions of singer Tony Rosado are absolutely despicable and unacceptable for inciting violence against women." "@FiscaliaPeru must initiate investigation immediately. Apology (Art. 316 of the Penal Code) to femicide is a crime and as a society we cannot allow it," Gutiérrez wrote on his Twitter account (Comercio, 2019a).

Demonstrations against Rosado's expressions were issued after his constant presentations nationwide. In all his presentations, there was no lack of insults against women's mothers and incitement of hatred toward them for their unfaithful behavior by going with other men. The musical solidarity is accompanied by praise from other artists who consider him the best interpreter of Peruvian cumbia, as in the case of DeyvisOrosco, who declared: "the interpreter of 'Gotitas de lluvia' [Tiny drops of rain] described Tony Rosado as a 'Maestro'. "For me, Tony Rosado will always be a Maestro" (República, 2019c).

Opinions about the controversial expressions with a macho sense of Rosado are divided as the news says: "in the video not only Tony Rosado is observed insulting women and the driver but also referring to rape, in a light way. The name of the 'Ruiseñor de la cumbia' is trending on Twitter" (República, 2019b). In one of the many presentations, Tony expresses: "there is a lady who appeared on television (Magaly Medina) to tell me that I am a criminal, who have I killed, who have I raped? No one. The only one I have raped is my wife and that's why they call me a delinquent" (Perú21, 2019). As evidenced in

the publications of newspapers of national circulation in Peru, the most pressing problem of gender violence is entertainment news, without any importance for the authorities who should prevent violent expressions against men and women in Peru.

There are a series of shows that broadcast "showbiz" content, so-called by the same media. Tony Rosado was at the center of the news in relation to machismo in a show business program where people from his close environment intervened: "it was Tony Rosado's wife who asked him to show his face in order to apologize to all the women who have felt offended by the words he said" (República, 2019d). After receiving a series of remarks about his behavior in his musical presentations, Rosado changes his speech with other words that still have the same effect, but with special care, he modifies his vocabulary in all his presentations. The reporters of the media, and show business section, made constant follow-ups to all his presentations. The Tony Rosado phenomenon was news in the entertainment section, taking into account the problematic nature of the denunciations for his aggressive macho manifestations:

> He thinks that, if the girls wear miniskirts, they have to be raped. If she is with cleavage, you have to stick your hand in. You are a disgrace, you humiliate women. We have to listen to you so you don't kill us. He's sick and tricky, that's what this guy is (República, 2019a).

The observations and questioning of Rosado's statements follow the same thread of offensive and pejorative language. In response to these remarks, the singer–songwriter continues to use sexist language with a subtle vocabulary of irony, such as "distinguished lady," instead of a mother's insult.

Artistic stages of Marisol, *the Pharaoh of cumbia*

The lack of balance in research and judgments of relevance on the human gender makes machismo and feminism evident in Peru. Popular manifestations should be neutral for both genders, but popular justice and legislations are contemplative for one of them; in this case, expressions of violent feminism are allowed in women: "Marisol is in the eye of the storm after giving her opinion about Tony Rosado and his controversial concerts. Now, users of social networks have called for a march against him, and she was compared to the 'Ruiseñor de la cumbia'" (República, 2019h). This demonstration was quite a spectacle and went unnoticed because men were seen as weak before the feminist sector of society, marching in defense of their rights to be offended with their songs that, yes, have much to do with Tony Rosado: "Canalla" [Scoundrel], "La escobita" [Little Broom], and "Yo lo quería" [I loved him] are some of the songs where Marisol used certain passages of her love life as inspiration" (República, 2020). The music she plays in her concerts shows her private life and is aired with expressions of anger and pain, similar to those of the audience who identify with the lyrics of the singer–songwriter's music.

In constant showbiz news about the artistic life of Marisol and Tony Rosado, she balances her repudiation of him with statements about her personal life: "I do not rule out anything, nor do I say that I will not drink from this water. I leave everything in God's hands. There are many women who forgive for the sake of their children, but it must be for the sake of love. The truth, I do not deny it. I still love my husband, but that will pass" (Redacción RPP, 2012). The expressions referred to are notorious in the singer's followers; as the women of the popular sectors of Peru say, it is a way of justifying the negative actions of men; however, what the singer emits in her presentations is contrary to repudiation to them. In the history of Peruvian music of the cumbia genre, there is no evidence of marked manifestations of machismo and feminism, as noted in this part of an article:

> Among the first groups that ventured into the tropical environment, "andinizing" the melody, were the Sanders de Ñaña, Los Orientales de Paramonga, Los Diablos Rojos de Marino Valencia and Grupo Celeste. It was the latter that had as one of its vocalists Alfredo Escalante Quispe, "Chacal", one of the first singers who gave the "ahuaynado" tone to cumbia (Bailon, 2013, p. 54).

Cumbia music is linked to the popular expressions of the Peruvian highlands and provinces, where it shows the manifestations of machismo from ancestral times, as well as the way of living in the field of agriculture. The huayno musical genre, which is purely provincial, reflects the spectrum of suffering in the countryside, in the transformation of the land and planting, only in times of rain once a year. The metropolis society, which is the capital of Lima, looks askance at the provincials, who do not adapt to the capital's social class that has social interrelations with foreigners; hence, the social movement of migration from the countryside to the city:

> Marisol, La Faraona de la Cumbia, enters the select circuit of "Cumbia VIP" and will take her "strong woman image" next Thursday, February 19 to the stage of a crowded nightclub in Lince, in a concert dedicated to all the "pitucas" [posh girls] in which she promises to crucify all the infidels with her hits "30 segundos" [30 s] and "Canalla" [Scoundrel], besides being the first time that the singer performs in a nightclub of another purchasing power level (Redacción RPP, 2009).

Marisol, as a female public figure who summons and acclaims thousands of fans nationwide, distorts the image of women and men in Peru with her musical content of macho and feminist expression. The musical classification

of genres by social class is another negative factor in the struggle for gender equality in Peru. Women's actions and manifestations are neglected by politicians and legislative decision-makers. In political life, the power quotas established in the legislation feed the participation of women and young people as an obligation, without previous evaluation of their competencies for a specific position; many times, they only participate as a complement to fulfill the requirements of the gender quota in the political parties of Peru.

Conclusion

In Peru, the media glorify informative content in accordance with the editorial line of their economic interests. Political scandals linked to the private lives of their protagonists are the economic income of media companies; they are the ideal space for the entertainment section of the media: "basically, the media privilege certain ways of constructing the news, to highlight them over others" (Turpo Gebera, 2020; p. 469). These media overlap issues of social importance with irrelevant information in entertainment news that complements the current political issues. The private lives of show business personalities have a higher profile in the society that consumes this type of news on a daily basis. The media's coverage of Marisol and Tony Rosado in the entertainment section is constant, which encourages machismo and feminism in Peru.

The vindicatory struggles for gender equality are belittled by the media in the entertainment section, as indicated in this article; since they violate the norm: "according to Article 40 of the Radio and Television Law, during 6:00 and 22:00 h, programming must avoid violent, obscene or other contents that may affect the inherent values of children, adolescents and the family" (El peruano, 2022).

The radio stations that, at a national level, broadcast Peruvian cumbia also feed the machismo and feminism of Tony and Marisol's expressions, and to this are added the macho and feminist humor programs, such as "Qumbias y Risas[Cumbias and Laughs] with Edwin Sierra and Oscar Del Río as hosts and El Show de las Mamis [The Mommies Show] with Chris Alegría as host" (Radio nueva Q, 2022). In these programs with assured ratings, the show of feminism and machismo with the music of Tony Rosado and Marisol is in tune with the popular sector of Peruvian society. Their music is broadcasted daily with humor in Cumbiaradios. To these stations, Radio Nueva Q [New Q Radio] and the program "El Super Show de la Karibeña" [The SuperShow of the Caribean] are added: "From Monday to Saturday from 6 to 9 a.m., with Kike Suero and Miguel Moreno, who are the vaccine against boredom on radio La Karibeña ¡SíSuena!" [Caribean Radio, Yes, it sounds!] (Radio Karibeña., 2022). These are some radio programs that spread feminist and macho jokes among a popular audience.

A broader political space is required to discuss and legislate on artistic presentations and, above all, the control of information that discredits formal education in Peru. The consumption of information by the power groups leaves minimal space for other journalistic companies that broadcast culture and education as an independent press. On the other hand, analyzing the message of the artists referred to in this study is the task of political decision-makers, who take advantage of the popular fame of the singer–songwriters, while neglecting the laws that they themselves enacted.

The limitations of this research are due to the excessive broadcasting of entertainment programs in different media and scattered schedules, managed by the two large journalistic groups that do not respect the laws of content control, which require a sustained statistical treatment.

Author contributions

EG-G developed and directed the research project and led the writing of this manuscript. He did the search and analysis of the literature on this topic and also contributed to the analysis and interpretation of data and the revision of the English version and writing in Frontiers format. SM-P drafting and review of the draft and original. All authors contributed to the article and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

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frontiers | Frontiers in Psychology

TYPE Review
PUBLISHED 20 January 2023
DOI 10.3389/fpsyg.2023.1060543

OPEN ACCESS

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SPECIALTY SECTION
This article was submitted to Gender, Sex and Sexualities, a section of the journal Frontiers in Psychology

RECEIVED 03 October 2022
ACCEPTED 04 January 2023
PUBLISHED 20 January 2023

CITATION
Gaur PS, Saha S, Goel A, Ovseiko P, Aggarwal S, Agarwal V, Haq AU, Danda D, Hartle A, Sandhu NK and Gupta L (2023) Mental healthcare for young and adolescent LGBTQ+ individuals in the Indian subcontinent. *Front. Psychol.* 14:1060543. doi: 10.3389/fpsyg.2023.1060543

Mental healthcare for young and adolescent LGBTQ+ individuals in the Indian subcontinent

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The coronavirus disease (COVID-19) pandemic has led to a significant change in the way healthcare is dispensed. During the pandemic, healthcare inequities were experienced by various sections of society, based on gender, ethnicity, and socioeconomic status. The LGBTQ individuals were also affected by this inequity. There is a lack of information on this topic especially in the developing countries. Hence this issue requires further exploration and understanding. Previous literature briefly explored the mental, physical, and emotional turmoil faced by the LGBTQ community on a regular basis. They feared rejection by family and friends, bullying, physical assault, and religious biases. These issues prevented them from publicly speaking about their sexual orientation thereby making it difficult to collect reliable data. Although they require medical and psychological treatment, they are afraid to ask for help and access healthcare and mental health services. Being mindful of these difficulties, this article explores the various underlying causes of the mental health problems faced by LGBTQ individuals, especially, in the Indian subcontinent. The article also examines the status of healthcare services available to Indian sexual minorities and provides recommendations about possible remedial measures to ensure the well-being of LGBTQ individuals.

KEYWORDS

COVID-19, LGBTQ (lesbian, gay, bisexual, transgender, queer), adolescent, mental healthcare, sexual and gender minorities

Highlights

- Present condition of LGBTQ + mental healthcare accessibility in the world.
- Present condition of LGBTQ + mental healthcare accessibility in India and neighboring regions.
- Prevalent healthcare disparities faced by the Indian LGBTQ + individuals.
- Reform measures and steps toward providing healthcare to LGBTQ + individuals in the Indian subcontinent.

Introduction

The word LGBTQ is an acronym for Lesbian Gay Bisexual Transgender and Queer. It is used to describe non-heterosexual and non-cis-gendered individuals. As these terms are often difficult to define, we have utilized the United Nations Human Rights Council (UNHRC) definitions for these terms (Definitions, 2017). These definitions have been provided for reference in **Table 1** to provide context and clarity in our discussion. The COVID-19 pandemic has dynamically changed the way healthcare services are being delivered to the public. It led to the worsening of inequitable access to healthcare services based on gender, socioeconomic status, and ethnicity (Lopez et al., 2021). The LGBTQ community has experienced a disproportionate impact of the COVID-19 pandemic with 56% of LGBTQ individuals reporting job losses compared to 44% of the non-LGBTQ individuals. Moreover, 74% of the LGBTQ individuals reported worry and stress related to the pandemic had a negative impact on mental health compared to 49% of the non-LGBTQ individuals (Dawson et al., 2021). There is currently a dearth of data on this topic in developing countries particularly in the Indian subcontinent. Our paper aims to fill this gap in knowledge by examining the mental health issues faced by adolescents who identify as LGBTQ in the Indian subcontinent, their inequitable access to healthcare services, and suggest the possible remedial measures which can lessen the impact of these inequities with a special focus on the COVID-19 pandemic.

India legalized gay relationships on September 6, 2018, marking the first step toward recognizing LGBTQ rights in the country (The Times of India, 2018). The first Pride March of India was held in Kolkata in March 1999 (Deccan Herald, 2019). However, there is no reliable systematically collected data on the prevalence of LGBTQ individuals in India as the 2011 Census did not record this data accurately (Mandal et al., 2020). Individuals may be hesitant to come out as LGBTQ due to familial stress, religious bias, fear of rejection, fear of physical assault, cultural stigma, etc., making it difficult to collect reliable data (Centers for Disease Control and Prevention, 2020). The aforementioned factors and others may exacerbate their need to conceal their personal and sexual experiences making them more susceptible to medical and mental health concerns with an insufficient access to healthcare services.

Figure 1 shows the percentage of individuals who identify as non-heterosexual in the different countries of the Indian subcontinent. However, there are limited data to adequately identify individuals who self-report their identity as not being heterosexual.

Mental health of the LGBTQ youth

A practical paradigm for comprehending mental health disparities among LGBTQ people is Meyer's Minority Stress model (MS model). MS model implies the stressors and their impact on sexual minorities. The stressors comprise objective external occurrences, expectations of these occurrences, and the internalization of negative societal attitudes. With the division of stresses into proximal and distal categories, the theory puts forth various aspects of the strains on LGBTQ individuals. It affirms the direct connection between the problems of LGBTQ individuals and environmental stress. It also highlights several aspects, i.e., prejudice events, stigma, disclosure, suicide, and mental disorders on the health of LGBTQ. Consequently, we attempt to illustrate several difficulties the LGBTQ youth in the Indian subcontinent experience that have a substantial influence on them (Meyer, 2003; Frost and Meyer, 2009).

Role of adverse childhood events

Adverse Childhood Events (ACEs) refer to maltreatment, abuse and residing in an environment harmful to the development of a child. They tend to have traumatic and lasting negative impact on the health and well-being of the child (Sutter and Perrin, 2016; Boullier and Blair, 2018). Individuals exposed to greater than four ACEs have stronger association with sexual risk-taking, poor mental health, alcohol and drug abuse and self-inflicted violence (Hughes et al., 2017)It may also lead to the development of feelings of shame which itself has been associated with adverse health outcomes (Scheer et al., 2020).

In a survey conducted with LGBTQ youth between 14 and 18 years of age in the United States and Canada, 43% of the respondents reported being exposed to more than 4 ACEs, with higher scores in 9 out of 10 categories when compared to national samples (Craig et al., 2020). Additional studies from Canada, Mexico, Miami, and Israel show that female sex workers who identify as a sexual minority report having poor mental health compared to sex workers who do not identify as minorities, have a history of childhood trauma and suffer from mental health burdens (Cwikel et al., 2004; Ulibarri et al., 2009, 2013; Surratt et al., 2012; Puri et al., 2017). There is a growing body of literature indicating that LGTBQ individuals endure higher levels of traumatic experiences with a disproportionate impact on their physical and mental health.

TABLE 1 Gender identity definitions as per the UNHRC (Definitions, 2017).

Term	Definition
Lesbian/Gay	Attracted to individuals of the same sex and/or gender identity as themselves
Bisexual	Attracted to individuals of the same and opposite sex and/or gender identity as themselves
Transgender	Comprises a wide range of identities including transsexual people, those who identify as a third gender, and others whose appearance and characteristics are perceived as gender-atypical and whose sense of their gender is different from the sex that they were assigned at birth
Queer	Queer is an umbrella term commonly used to define lesbian, gay, bisexual, transgender, and other people, and institutions on the margins of mainstream culture

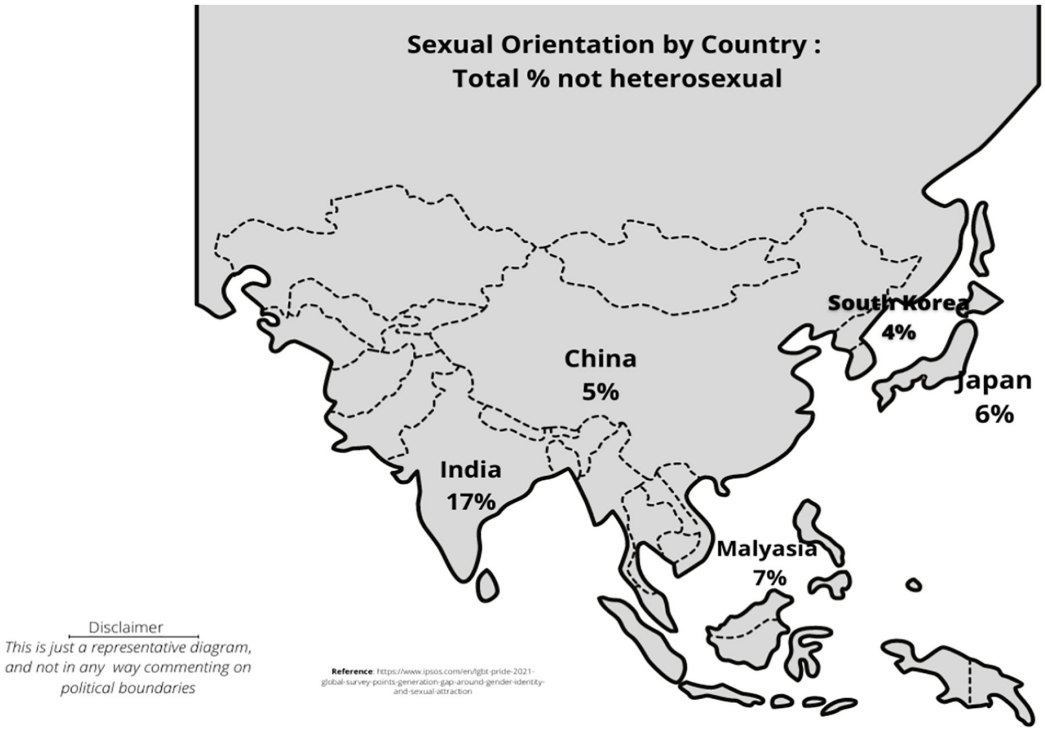

FIGURE 1
The percentage of individuals who identify as non-heterosexual in the Indian subcontinent according to LGBT + Pride 2021 Global Survey Report.

Role of bullying

LGBTQ youth are more likely to be victims of bullying (Juvonen and Graham, 2014; Earnshaw et al., 2017). LGBTQ victims of bullying in school report higher levels of absenteeism and lower academic achievement (Nishina et al., 2005). It has been linked to emotional distress, somatic complaints such as anxiety and headache, feelings of loneliness and self-blame as well as depression and anxiety (Gini and Pozzoli, 2013; Bruce et al., 2014).

Role of unstable housing or homelessness

Households which follow heteronormative ideologies are a source of distress for the LGBTQ youth (Castellanos, 2016). Homeless LGBTQ youth report heteronormative attitudes, stigma, and discrimination at home which lead to significant physical and mental health concerns, including engagement in risky sexual behavior, substance abuse and family conflict due to disclosure of sexual orientation (Corliss et al., 2011; Rhoades et al., 2018; Baams et al., 2019).

Many LGBTQ youth are left homeless after disclosing their identity to parents and facing rejection (McCann and Brown, 2019). Studies show that 37% of people reaching out to crisis service providers experience homelessness and a large percentage of those in foster care or unstable housing are LGBTQ youth (Gangamma et al., 2008; Tyler, 2013). These LGBTQ youth face mental health issues like depression, anxiety, suicidal tendencies, substance abuse and show disparate school functioning (Gangamma et al., 2008; Tyler, 2013). Homeless LGBTQ youth are more likely to contract sexually transmitted diseases compared to homeless heterosexual youth and are more likely to report more internalizing symptoms, depression and suicide attempts compared to heterosexual youth (Tyler, 2013).

The coronavirus pandemic forced many LGBTQ youth to stay at home or return back home. This was a possible stressor for those individuals whose sexual orientation was not known at home. The college campus or other out-of-home environments may have been the first opportunity for such individuals where they could continue to explore their sexual identities. They might have participated in educational opportunities such as sexuality and gender studies classes to better understand their identities. However, taking such classes at home may be a cause of discomfort for their families affecting their continued ability to take such classes (The Chronicle of Higher Education, 2020).

Role of religion

Religion plays an important role in societal evolution. This role extends to the acceptance of LGBTQ individuals in society. However, religion is often reported as a source of emotional distress by some of the LGBTQ youth. Most LGBTQ youth cite religion as a negative factor in their lives as their faith communities often show antagonistic behaviors toward same-sex relationships (Ream and Savin-Williams, 2005; Higa et al., 2014). Many LGBTQ youths (73% men and 43% women) may opt for "so called conversion therapy in an attempt to align with expected norms through personal righteousness, individual efforts, church counseling, psychotherapy, support groups, psychiatric treatment, family therapy, peer support and electroconvulsive shock treatments (Dehlin et al., 2015). Although these efforts may have some positive effects such as reduced depression and suicidal ideation, there is a lack of evidence on their

effectiveness and they may also have adverse effects (Serovich et al., 2008; Dehlin et al., 2015).

Role of self-harm, suicidality, and substance abuse

A study conducted in the US reported that 38.6% of the total LGBTQ participants had considered completing suicide while 27.9% of the participants had attempted suicide (Green et al., 2020). The rate of suicidality was higher among those who had undergone sexual orientation or gender identity conversion efforts (Green et al., 2020). Female LGBTQ youth report higher rates of self-harm and suicidality, as they are prone to face more abuse and violence; however, there is no difference in substance abuse among males and females (Russell and Joyner, 2001). Another study showed that LGBTQ adolescents in the grades 7–12 were twice as likely to complete suicide suffer from depression, alcohol, and substance abuse compared to their heterosexual peers (Russell and Joyner, 2001).

Mental health problems faced by the Indian LGBTQ youth

There is a dearth of literature regarding the psychological issues faced by LGBTQ youth in India. However, extrapolating the difficulties faced by the adult population some basic assumptions can be made about the healthcare accessibility for adolescents (Rao and Jacob, 2012). A discord between gender identity and natal role, poor self and social acceptance of one's sexual orientation, discrimination, physical, verbal and sexual abuse from family, friends, and peers during after coming out, fear of law-enforcement, loneliness, and lack of coping mechanisms lead to poor physical and mental health outcomes among the LGBTQ youth (Bhattacharya and Ghosh, 2020).

In Kolkata, a large proportion of the Hijra, Kothis and Transgender individuals (HKT) engage in traditional means of income (logon, cholla and badhai) due to the lack of proper education and employment opportunities, which can take a toll on their mental, physical, and sexual health. The HKT individuals that rely on cholla (begging on the streets and in trains) and logon (singing and dancing at weddings) are more prone to sexual abuse and survival sex (formally known as prostitution or sex work). A study among transgender individuals found that 16.7% of the participants had experienced sexual violence in the last 3 months. HKT individuals often report inaccurate health status, perhaps as a coping mechanism, although they claimed to be healthy but the PCS (Physical Composite Score) and MCS (Mental Composite Score) reflected otherwise (Bhattacharya and Ghosh, 2020).

Men who have sex with men (MSMs) suffer from depression due to the discrimination based on their sexual orientation, gender, physical or sexual violence, alcohol use, STIs and HIV status (Patel et al., 2015). One study reported a prevalence of 52.9% for psychiatric illness among MSMs according to the General Health Questionnaire (GHQ) which measures somatic symptoms, anxiety and insomnia, social dysfunction, and severe depression (Prajapati et al., 2014). Studies on a sexual minority of the Indian subcontinent have explored the explicit detrimental impacts of substance abuse on their mental health. Sexual minorities fall into a higher-risk population susceptible to substance abuse. With the involvement of a lot of physical illnesses, it overtly gives rise to a variety of mental health concerns (Tomori et al., 2016; Wilkerson et al., 2018; Wandrekar and Nigudkar, 2020). A study on women of sexual minority showed a high prevalence of alcohol abuse, Generalized Anxiety Disorder (GAD), depression, and suicidal risk among transgender individuals (Yr et al., 2018).

Among the adult gay population of Manipur, 6.2% of the participants suffered from GAD, 3.1% had panic disorders and 9.3% had social phobia (Niranjan, 2018). Similarly, mental health disorders were also found among individuals who identified as lesbians (Niranjan, 2018). In Bengaluru, among individuals 18 years and older who are the "Nirvana," "Akwa," " Kothis," the mean depression and anxiety score was 8.5 and ranged from 6.1 among participants identifying themselves as "others" to 9.4 among the Nivana (Thompson et al., 2019). A significant statistical difference was also seen in reports of depression and anxiety based on gender identity. Nearly half of the Nirvana and Akwa hijra participants and a quarter of the Kothi participants reported physical violence in the previous 6 months and experiences of rape in the previous year mostly associated with younger age and working in Basti, sex work as Chelas or at a CBO (community-based organization) (Thompson et al., 2019). A majority of the studies in India focus on transgender individuals who are employed in survival sex including adolescents who are excluded by family and/or society and represent a marginalized community (UNDP, 2010).

Mental healthcare for the Indian LGBTQ youth

Transgender adults and MSMs report avoiding free government healthcare and prefer to self-medicate or access private healthcare as they face discrimination due to social stigma (Patel et al., 2012; King, 2015). Sexual minority women avoid accessing mental healthcare due to the fear of mental health malpractice, the stigma of mental illnesses, and previous negative experiences (Ganju and Saggurti, 2017). Physician homophobia can be a deterrent for LGBTQ patients to seek healthcare (Bowling et al., 2016). Even though healthcare providers are developing positive attitudes, discriminatory practices like delayed services and judgmental attitudes using direct and indirect verbal indicators inhibits the LGBTQ community from accessing healthcare services (Agoramoorthy and Minna, 2007).

Senior psychiatrists have been found to discriminate against LGBTQ individuals based on the traditional gender stereotypes, leading to reduced access to high quality healthcare services (Chakrapani et al., 2011). Despite the efforts of the WHO and the Indian Psychiatric Society to non-pathologize homosexuality, many healthcare professionals still carry out unethical practices such as "so called conversion therapy based on social stigma (Rao et al., 2016). Blood banks are being scrutinized as some of them discourage or "ban" the donation of blood by LGBTQ individuals according to the Central government's guideline for Blood Donor Selection and Blood Donor Referral that was brought into effect in the 1980s to control the global AIDS pandemic (Kalra, 2012; Hindustan Times, 2021).

Some Indian states, Tamil Nadu being the first, have framed transgender welfare policies under which transgender individuals can access free sex reassignment surgery with proper documentation (UNDP, 2013). A survey among medical students showed that students with greater knowledge about homosexuality showed positive attitudes toward LGBTQ individuals (Banwari et al., 2015).

Women had a more positive attitude, which did not correspond with greater knowledge in the study (Madhan et al., 2012). Dental students were less informed and thus, lacked positive attitudes toward LGBTQ patients. This indicates the need for an all-inclusive non-discriminatory curriculum focused on problems of the LGBTQ individuals. Academic books used by the medical students are also seen to contain negative stereotypes regarding LGBTQ individuals which promote social stigma among young medical students (Chatterjee and Ghosh, 2013). A psychiatry book used by the West Bengal University of Health Sciences contains terms such as cross-gender homosexuality and ego-dystonic homosexuality. A forensic medicine book states that homosexuality is an offense, and such individuals may pose a social, moral, and psychological problem. However, the National Medical Commission recently released an advisory to amend the discriminatory information in medical textbooks, taking a step toward LGBTQ inclusion in the medical fraternity (Meyer, 2003).

The health disparities faced by the LGBTQ community in India due to discrimination and exclusion reflects the deeply embedded cultural practice of homophobia and transphobia, supported by a lack of adequate legal protection against discrimination based on sexual orientation and gender identity.

Recommendations for improvement of healthcare services for LGBTQ youth in India

First, strategies must be developed from the ground up to tackle this issue. Childhood experiences profoundly shape our future. Considering the predominance of unfavorable childhood events among LGBTQ youth, a secure and supportive upbringing might lessen their mental health burden to a great extent. An effective strategy for addressing childhood issues should be started with proper conditioning of schools since this is the primary setting where most children learn about social mores and standards (Willging et al., 2016a). The LGBTQ youth and the SHPs agree that there is a need to increase knowledge, improve skills, and change attitudes toward LGBTQ-related topics among SHPs (Reisner et al., 2020). Elimination of the bullying culture could be an impactful approach owing to it having a severe negative impact on victims. In the Indian subcontinent, there is a dearth of effective prevention strategies to deal with bullying toward LGBTQ youth; this problem has instilled panic in LGBTQ youth for ages. To overcome this challenge, training School Health Professionals (SHPs) can be helpful as they would be enabled to serve as a source of care and support for LGBTQ youth. SHPs need to address bullying and victimization to help prevent poor psychological outcomes among LGBTQ youth.

Unstable housing is one of the major challenges LGBTQ youths encounter in the Indian subcontinent. With the provocation of many problems, mental health has also drastically deteriorated due to homelessness or domestic disputes. While family support could be a big comfort for LGBTQ youth, their rejection instead makes it challenging for LGBTQ youth to live with family. If the family members were enlightened and empathetic toward LGBTQ youth, the quality of their life could substantially improve. Therefore, our recommendation in this regard is to educate and involve family members to improve the lives of LGBTQ youth. We must identify ways to safely involve family members who are vital to the LGTBQ individuals' lives. If a welcoming environment could be established in the family for this vulnerable population, it could relieve many of the mental health issues (Meyer, 2003; Pufahl et al., 2021).

Homophobic hospital settings have been one of the omniscient worries for most of the LGBTQ youth. Though they have been battling several mental health issues for years, they are hesitant to get help from healthcare providers due to cultural baggage. They have many unaddressed health concerns they fear disclosing, which keeps inflating their health. If the clinical setting environment could be improved, it would aid in resolving both biological and mental health difficulties. In enhancing healthcare services for LGBTQ youth in India, it is essential to better understand the unmet medical needs of LGBTQ individuals and develop competencies among healthcare workers to handle such patients with compassion and sensitivity.

In light of this pressing issue, our recommendations skew toward training healthcare professionals to provide appropriate care to LGBTQ youth. Taking into consideration the six building blocks of the CanMEDs 2015 Physician Competency Framework of the Royal College of Physicians and Surgeons of Canada, the health inequities of the LGBTQ population in India can be addressed by psychiatrists with a range of skills to work with varied patients to achieve a complete understanding of youth predicaments, advocacy, and leadership within communities (Frank et al., 2015; Kealy-Bateman, 2018). LGBTQ–informed treatment involves easily implementable additions to practices like asking the clients about the pronouns they prefer, avoiding disrespectful language, and not making assumptions about the health risks and stereotypes associated with LGBTQ individuals (Frank et al., 2015; Kealy-Bateman, 2018). It has been seen that simply inquiring about the sexual identity of a person decreases the probability of treatment dropout by 30% (Mandal and Dhawan, 2018).

Consequently, healthcare providers must be trained to create a welcoming environment for this vulnerable population. A study by Saahas (meaning courage), a non-profit organization in India, showed that LGBTQ participants showed positive attitudes toward LGBTQ-affirmative treatments. The primary reason for reaching out to Saahas was to discuss queer-specific experiences related to stigma and relationship challenges, such as dealing with family members. Using preferred pronouns and identity validation made the LGBTQ participants more willing to seek help at the organization. In particular, they discussed the multiple types of issues that affect LGBTQ youth, including impacts of religion, caste, class identities, differentiation between environmental problems and those arising from dysfunctional thoughts, and the absence of being in an open space to reveal and discuss the manifestations of sexual abuse and victimization (Wandrekar and Nigudkar, 2019).

Furthermore, healthcare services for LGBTQ youth must be based on the best evidence for clinical effectiveness. Ratner's 12-step recovery model for homosexual alcohol abusers proved effective and is used by LGBTQ individuals (Ratner, 1988). The reason Ratner's program worked is that it makes a conscious effort to differentiate between a lesbian and gay lifestyle and the effects of addiction in both (Wandrekar and Nigudkar, 2019). The model also considered possible addiction-related issues like sexual abuse, grief, and victimization (Ratner, 1988). It has been seen that four sessions of motivational interviewing (MI), as compared to Cognitive Behavioral Therapy (CBT) and MI for alcohol-dependent MSM, can reduce drinking for a sustained time period (Morgenstern et al., 2007). Community Reinforcement Approach (CRA) has been seen to be effective for homeless LGBTQ youth (Grafsky et al., 2011).

Transparency, effective communication, and extension of community health resources to these vulnerable communities are fundamental to ensuring their overall health and wellbeing.

Although LGBTQ youths have been associated with many undesirable health concerns like more serious self-harm attempts, depression, and substance abuse disorders, there is no standard and reliable source to understand their health issues. Standardized statistics on LGBTQ health status would be eye-opening here since it could help draw attention to the areas that require it the most. In India, there is a scarcity of research related to the understanding of the mental health needs of LGBTQ individuals, and therefore, there is a lack of protocols in place to address gaps in their care. Although some practitioners have established LGBTQ-friendly practices, systematic documentation of these practices is needed with the participation of members of different health professions to develop guidelines providing holistic and gender-affirmative healthcare services (Ranade and Chakravarty, 2013).

In this context, we recommend focusing on developing standardized methods for collecting information about the health status of LGBTQ youth. In doing so, the APA (American Psychological Association) LGB (lesbian, gay, and bisexual) guidelines provide an example of evidence-based guidelines on the management of psychological issues and their determinants for LGB individuals (American Psychological Association, 2021).

Although LGBTQ people's past experiences led them to view religion as a menace to their lives, it has the potential to save LGBTQ youth if implemented positively. Religious communities can play an important role in the management of mental health issues being faced by LGBTQ youth. Some religious communities provide support to LGBTQ individuals such as the provision of anti-suicide counseling and resources for homelessness with most LGBTQ individuals displaying a preference for in-person resources (Raedel et al., 2020). If implemented In the Indian subcontinent, its adaptation might aid in solving many mental health concerns of LGBTQ youth.

Social media, which possesses a great capacity for transformation, can spell its magic cast on the LGBTQ community if utilized in an effective direction. Previous literature has indicated the use of social networking sites (SNSs) among LGBTQ youth has led to the creation of a community with some level of social support and increased access to sexual health-related information which contributes to positive identity development (Gray, 2009; DeHaan et al., 2013; Craig and McInroy, 2014; Fox and Ralston, 2016). While they are coping with various psychological issues, social community support can help ease the load of addressing it rather alone. Therefore, the use of social media to create a sense of community among LGBTQ youth should be encouraged. However, some of these SNSs have also facilitated cyberbullying or discrimination and victimization based on their sexual orientation and gender identity, which has led to psychological distress and worse mental health outcomes among LGBTQ youth (Varjas et al., 2013; Fox and Moreland, 2015; McConnell et al., 2017; Abreu and Kenny, 2018).

Those who are experiencing a mental breakdown may find great comfort in connecting with a peer who has gone through comparable experiences. A positive shift in the delivery of LGBTQ mental healthcare might result from the formal incorporation of peer intervention in the healthcare setting. With the exploration of many underreported physical and mental health concerns, it can provide remedies to LGBTQ individuals at a root level. It can also create a sense of empowerment with recognition of their necessities (Willging et al., 2016b; Worrell et al., 2022). Therefore, to achieve a positive transformation in LGBTQ mental healthcare, our recommendation leans toward the incorporation of a peer intervention in healthcare delivery.

Our last contribution to the list of recommendations is the digitalization of healthcare settings. This endeavor of comprehensive service delivery may be made achieved through the inclusion of technology. The recent "LGBT Health and Wellness Cloud" initiative in Bengaluru has demonstrated the potential of technology for global healthcare services (The New Indian Express, 2022). If such models are implemented throughout the nation, it can open the door of healthcare services to many underserved LGBTQ people (Nisly et al., 2018). We thus advocate for the alignment of technology in healthcare with a view to raising the bar for equity.

Conclusion

This article highlights the various aspects in which the LGBTQ community has been marginalized within the complex Indian medical system. There is a vital need for reliable centralized statistical data regarding the number of individuals identifying as LGBTQ in India, their healthcare needs as well as the barriers and facilitators of care. As gaps in healthcare demands and accessibility are identified, remedial measures can be taken to ensure the availability of high-quality healthcare services for this traditionally marginalized group. Due to the diversity of this community, reliable collection of accurate information may seem challenging. However, without adequate resource allocation, the medical and mental health needs of a large proportion of this population are being missed or under-identified.

Healthcare professionals must be trained to adequately interview and provide their services to LGBTQ individuals, with compassion and acceptance for all human experiences. Through high quality, evidence-based medical training, health professionals will be better equipped to provide a holistic care. Professional and political organizations should develop policies to allow for the provision of easily accessible healthcare services in an inclusive medical environment for the LGBTQ community. Ultimately, these health disparities must be eliminated as they have the potential to impact the overall health of the community as no group exists in isolation and the health of a community is defined by the health of all those that inhabit it.

Author contributions

LG, PG, SS, and VA: conceptualization. LG, PG, SS, SA, and NS: investigation. LG, PG, SA, and PO: methodology. LG, PG, and SS: resources. LG: software. LG, PO, SA, VA, AUH, and DD: supervision. LG, PG, SS, AG, AH, and NS: validation. LG, PG, SS, AG, PO, and SA: visualization. PG, SS, LG, and NS: writing – original draft. All authors: data curation, writing – review and editing.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

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frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 07 March 2023
DOI 10.3389/fpsyg.2023.1107935

OPEN ACCESS

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SPECIALTY SECTION
This article was submitted to Gender, Sex and Sexualities, a section of the journal Frontiers in Psychology

RECEIVED 25 November 2022
ACCEPTED 16 February 2023
PUBLISHED 07 March 2023

CITATION
Di S, Ma C, Wu X and Lei L (2023) Gender differences in behavioral inhibitory control under evoked acute stress: An event-related potential study.
Front. Psychol. 14:1107935.
doi: 10.3389/fpsyg.2023.1107935

Gender differences in behavioral inhibitory control under evoked acute stress: An event-related potential study

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Purpose: This study investigated gender differences in behavioral inhibitory control among college students under acute stress state by using event-related potential technique.

Methods: Acute stress was evoked in 41 college students (22 males and 19 females) using the Trier Social Stress paradigm, and the neutral state was matched using out-of-speech reading, with subjects completing a two-choice Oddball task in each of the two states. In combination with the ERP technique, the area under the stress curve, reaction time, number of errors, and the difference waves between the two stimulus conditions in the frontal-central region N2 wave amplitude and the parietal-central region P3 wave amplitude were compared between the two groups of subjects in the stressful and neutral state.

Results: The results revealed that the area under the stress curve was larger under the stress condition compared to the neutral condition, and the area under the stress curve was larger in females than in males. Behavioral results showed no statistically significant differences in reaction time and number of errors between the two genders in the acute stress condition. The ERP results showed that the wave amplitudes of N2 and P3 decreased significantly in both genders in the acute stress state. The decrease in N2 amplitude was greater in females during the transition from neutral to stressful condition, while the difference in P3 amplitude was not statistically significant in both genders.

Conclusion: The findings suggest that evoked acute stress can promote behavioral inhibitory control in both genders and that females are more sensitive to acute stress state.

KEYWORDS

acute stress, behavioral inhibition, gender, oddball, event-related potential

1. Introduction

Behavioral inhibitory control, also known as response inhibition, is one of the core components of executive functioning (Miyake and Friedman, 2012). Behavioral inhibitory control refers to people's inhibition of their inappropriate external behaviors under specific environment conditions, such as resisting external temptations and suppressing impulsive behaviors (Puiu et al., 2020). From a cognitive perspective, behavioral inhibitory control includes early perceptual processing, conflict awareness, and late response inhibition (Yuan et al., 2008). With better behavioral inhibition control, individuals can monitor and suppress their current or upcoming inappropriate behaviors, effectively guiding them to adopt corresponding behavioral patterns in response to changes in the environment and ultimately make correct behavioral decisions (Goldstein and Tuescher, 2007). The lack of behavioral inhibitory control

often leads to a series of problems. On the one hand, reduced behavioral inhibitory control may lead individuals to uncontrolled violent behavior, delinquency, and suicidal behavior. On the other hand, weaker behavioral inhibitory control is also detrimental to the development of physical health. Some studies have found that most obese patients cannot control their diet because of their low behavioral inhibition control, which eventually leads to obesity. At the same time, as further research has been conducted, researchers have found that some disorders are also associated with behavioral inhibition control, such as attention deficit hyperactivity disorder, depression, obsessive–compulsive disorder, and schizophrenia (Hatta et al., 2001; Kelly et al., 2020; Zhao et al., 2020). Therefore, the importance of behavioral inhibitory control for individual development cannot be overstated.

It has been shown that there may be gender differences in behavioral inhibitory control. As an important executive function, behavioral inhibitory control is critical to the success of both males and females in modern society and may have played a key role in the evolution of human social intelligence (Li et al., 2006). Sjoberg et al. used the Go/No-go paradigm to examine gender differences in behavioral inhibition and found that female exhibited better behavioral inhibition (Sjoberg and Cole, 2018). However, when Melynyte et al. (2017) used the same method for their study, they found that females were less correct and required more time for conflict monitoring and response inhibition, suggesting that females have worse behavioral inhibition. Some other researchers have argued that there are no gender differences in behavioral inhibitory control. For example, Herba et al. (2006) examined changes in behavior inhibitory control using the Go/No-go paradigm and found no gender differences (Yuan et al., 2010). Neuroimaging findings were similarly divergent, with Liu et al. (2012) finding more statistically significant activation of the left sub-parietal and striatal regions in behavioral inhibitory control processing in females, while males showed greater activation of the right sub-parietal and suprachiasmatic regions, as well as stronger anterior cingulate gyrus activation. In contrast, other studies have not found similar statistically significant lateralization features (Garavan et al., 2006; Liu et al., 2012). In summary, the available studies have not clarified whether there are gender differences in behavioral inhibitory control, presumably because they may be influenced by factors such as research paradigms and situational factors.

It has been found that behavioral inhibitory control is also influenced by acute stress. Stress is a series of physiological and psychological reactions of the organism to maintain homeostasis when its internal steady state is threatened (Zhenzhen et al., 2017). Acute stress is a part of everyone's life, and there are many sources of acute stress in life. In daily life, individuals often face various threats and challenges, such as sudden exams or interviews, various public emergencies, and so on. In the face of acute stressors, the body's internal homeostasis is rapidly unbalanced and can trigger a series of physiological stress responses. The results of the effects of acute stress on individual behavioral inhibition remain divergent. Some studies have shown that acute stress impairs individuals' behavioral inhibition (Jiang and Rau, 2017; Roos et al., 2017). When Jiang et al. used the Trier Social Stress Test (TSST) to study behavioral inhibitory control in individuals, they found a statistically significant rise in reaction time and an increase in P3d volatility in the stress group. However, other studies have suggested that acute stress elevates the behavioral inhibition capacity of individuals (Farbiash, 2016; Qi et al., 2017; Dierolf et al., 2018). Dierolf used the Trier Social Stress Test (TSST) paradigm to evoke different age males in an acute stress state, followed by testing the subject's behavioral inhibitory control using the Go/No-go task, and found shorter inhibition time and smaller N2d wave amplitudes in the stress state (Dierolf et al., 2018). In summary, the direction of effect of acute stress on behavioral inhibitory control in individuals has not been clarified by existing studies. Furthermore, currently, gender differences in behavioral inhibitory control under acute stress have not been directly explored.

In this study, we chose a modified two-choice Oddball paradigm to evoke behavioral inhibitory control in subjects (Yuan Jiajin et al., 2017) and combined it with the event-related potentiation technique, which is known for its high temporal resolution, to explore gender differences in behavioral inhibitory control under acute stress state. In the two-choice Oddball task, subjects are required to respond to two types of stimuli, one type is the standard stimulus with a high number of occurrences and corresponding responses. The other category is the deviant stimulus, which occurs less frequently and corresponds to fewer responses. Subjects were required to respond to both types of stimuli with keystrokes. The time difference between the responses to standard and deviant stimuli is used as a behavioral inhibition index, which effectively resolves the interference of motor contamination on the electrophysiological results existing in the Go/No-go task and the stop signal task (SST). ERP has a high temporal resolution and is often used to examine the time course of behavioral inhibitory control. Among the ERP components, the main focus is on two components, frontal-central N2 and central-parietal P3. N2 is a negative component that usually appears around 200 ms after stimulus presentation, and the maximum wave amplitude generally occurs in the prefrontal region. N2 emerges in the early stage of behavioral inhibitory control and mainly reflects conflict monitoring and conflict control. The change in N2 wave amplitude is related to conflict monitoring ability (Donkers and Boxtel, 2004; Dong et al., 2009). P3 is a positive component that usually appears around 300 ms after stimulus presentation, with the maximum wave amplitude generally appearing in the central parietal lobe. P3 emerges in the late stage of behavioral inhibitory control, mainly reflecting the inhibition process itself and related to the completion of the inhibition process. The change in P3 wave amplitude is related to the degree of cognitive effort invested (Donkers and Boxtel, 2004; Dong et al., 2009). We expected to see a moderating effect of gender on the amplitude of the N2 and P3 components, and this variation reflects the changing process of behavioral inhibitory control.

It has been shown that acute stress can affect behavioral inhibitory control and that gender differences may also have an impact on behavioral inhibitory control. However, the direction of the effect of acute stress on behavioral inhibitory control in gender-specific individuals is still unclear. Investigating the gender differences in behavioral inhibitory control under acute stress can help us understand the characteristics and discrepancies in behavioral inhibitory control between the two genders in the face of stress, which in turn can help us provide targeted strategies to enhance behavioral inhibitory control. In addition, it is especially helpful to help both genders of college students to have higher behavioral inhibitory control when facing the stress in current society, dealing with various problems in life calmly, resisting temptations better, and making correct behavioral decisions. Based on existing studies, this study hypothesized that acute stress would motivate individuals to respond

positively, which in turn would enhance their behavioral inhibitory control, as evidenced by a decrease in the time of behavioral inhibition and a reduction in the number of errors under acute stress. Furthermore, we hypothesized that behavioral inhibitory control is more susceptible in females than in males under acute stress state.

2. Materials and methods

2.1. Participants

A priori analysis was completed using G*Power 3.1 software (effect size $f = 0.3$, $\alpha = 0.05$, $1-\beta = 0.80$, repeated measures, 2 between-group*2 within-group), and calculations showed that a total of 24 subjects (12 in each group) were required. The convenience sampling method was adopted to recruit 44 university student subjects, 22 females and 22 males, through a recruitment announcement on campus. Subject selection criteria: age 18–25, right-handed, without major physical illness, no history of neurological or psychiatric disorders, no previous participation in relevant trials, non-restricted dieters, no color weakness or color blindness, body mass index in the normal range (18.5–23.9), and normal visual acuity or more positive visual acuity. Subject exclusion criteria: scores (26.1 ± 3.8) higher than 48 (moderate anxiety or higher) on the Trait Anxiety Inventory (Dai, 2014) and scores (6.7 ± 3.1) higher than 14 (moderate depression or higher) on the Beck Depression Inventory (Jackson-Koku, 2016). After the experiment, one subject failed to record all data due to an instrument error, and the other two subjects were deleted due to excessive signal noise caused by physical activity during the trial, resulting in an insufficient number of valid trials. 41 participants were actually enrolled, including 22 males and 19 females, aged 18–25 years, with a mean age of (20 ± 2) years. The study was in accordance with the Declaration of Helsinki, was reviewed and approved by the local medical ethics committee, and the subjects voluntarily participated in the experiment and signed the informed consent form.

2.2. Materials

2.2.1. Subjective measurement

The Short State Anxiety Inventory (Marteau and Bekker, 1992) measures an individual's state anxiety. The scale includes a total of eight entries, including sad, disgusted, angry, distracted, nervous, upset, relaxed, and calm. The scale is scored on a seven-point scale from 1 (very nonconforming) to 7 (very conforming), with the last two items scored inversely, and a higher total score represents a higher level of state anxiety.

2.2.2. Stress-evoking

The study used the TSST paradigm to evoke an acute stress state, which consisted of two parts: free speech and mental arithmetic (Kirschbaum et al., 1993). In the acute stress state, subjects were simulated to participate in a multi-competitive recruitment event. Subjects were given 2 min to organize their language and then completed a self-presentation of about 5 min. When subjects had less than 5 min for self-presentation, each of the three main testers asked subjects about the prepared questions. The entire presentation was recorded. After completing the free speech task, the subjects were asked to complete the mental calculation task of subtracting 17 from 2023 in succession, without giving feedback if the calculation was correct and reminding the subjects to stop and start again from 2023 if the calculation was incorrect. The two states were balanced between subjects.

2.2.3. Task

The two-choice Oddball task evoked behavioral inhibition, and the stimulus materials were the letter pictures "W" and "M." "M" was the standard stimulus, press the "F" key; "W" was the deviant stimulus, press the "J" key. The whole test procedure was prepared by E-prime 2.0, and the stimuli were presented on a DELL 23-inch LCD monitor with a picture size of 356 pixel × 391 pixel, and the subject's eyes were about 80 cm from the center of the screen. 280 trials were included in the test, including 200 standard stimuli and 80 deviant stimuli. First, a red "+" gaze point appears in the center of the screen for 800 ms, followed by a random blank screen for 500 ~ 1,500 ms, then a random standard stimulus/deviant stimulus with a presentation time of 1,000 ms, the subject needs to respond correctly in time, and after the keystroke ends, there will be a blank screen for 1,000 ms. The entire process used E-prime 2.0 to record response time and number of errors. See Figure 1.

2.3. Procedure

Participants were contacted 1 day in advance and told not to exercise and not to eat for 2 h prior to the test. Subjects were asked verbally prior to the test whether they had met the above requirements. Upon arrival at the laboratory, subjects first washed their hair and sat quietly for 20 min, then filled in their personal information and administered the 1st SSAI. Subsequently, after wearing the equipment and completing the practice trials, the 2nd SSAI was administered. Afterwards, the TSST paradigm/reading was performed for 15 min, and the 3rd test was administered. Following the stress/neutral state evocation, the Oddball trial task was completed, EEG data were recorded, and the 4th measurement was taken after the task was completed. After a 20 min rest, the 5th measurement was taken. Afterwards, TSST/reading was performed, and the 6th measurement was taken, the Oddball trial was completed, EEG data was recorded, and the 7th measurement was taken afterwards. The 8th measurement was administered after the completion of all test tasks and the end of hair washing. The 1st measurement was used as a baseline for mood, and the last measurement was used as a recovery of mood after completing the task. The results of the intermediate 6 Measurement were used to assess the status of the subject and also to calculate the area under the stress curve for both genders. See Figure 2.

2.4. Data recording and analysis

The EEG signal was collected using the Neuroscan EEG collection system. The EEG cap was a 64-conductor cap. The EEG data were collected using Curry7 software and the mean values of bilateral mastoids (M1, M2) were used as a reference. At the beginning of the experiment, the resistance between all electrodes and the scalp was less than 10kΩ. The EEG data was collected in DC mode at a sampling frequency of 1,000 Hz/conductor and was filtered online by a

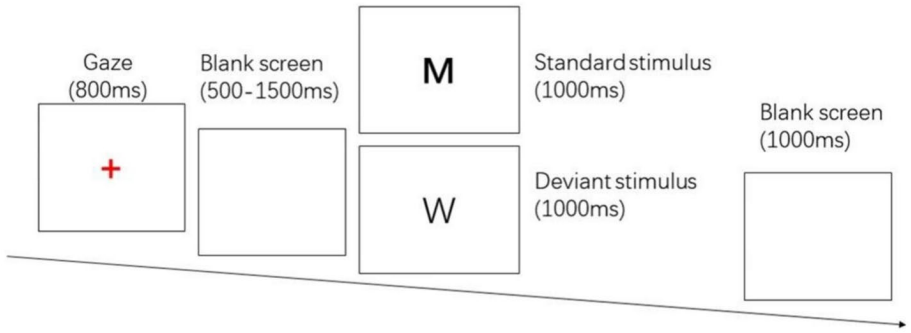

FIGURE 1
Two-choice Oddball task.

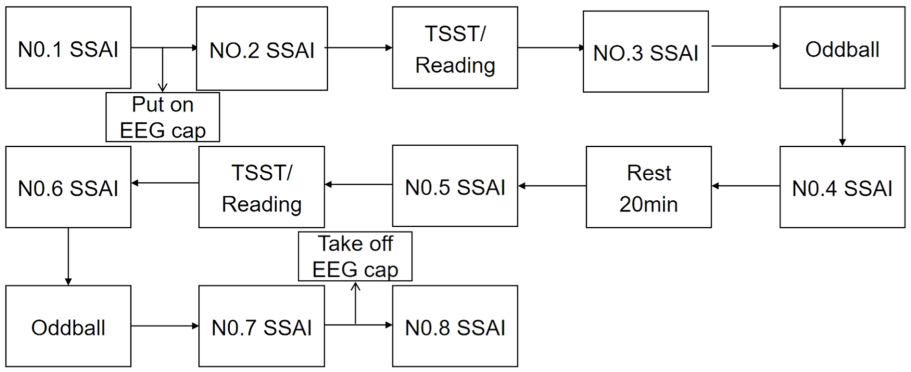

FIGURE 2
Experimental flow chart.

DC-100 Hz bandpass filter at the beginning of the experiment. After continuous data collection, the data was processed off-line using eeglab13.0. Waves below 0.05 Hz and above 30 Hz were removed by eeglab13.0. The sample rate was reduced to 500 Hz/conductor. The segmentation was performed at 200 ms before and 800 ms after the spike, with the spike occurrence as the zero point. After the segmentation, artifacts such as eye-electricity were removed using independent component analysis (Garber et al., 2011), and then extreme values with voltages greater than ±100 μV were removed. Finally, all remaining segments were superimposed and averaged to calculate the difference waves between the two stimulus conditions.

According to previous studies, behavioral inhibition is mainly associated with frontal areas (Gaertner et al., 2015). Therefore, N2 values were chosen as the mean of (F1, FZ, F2) three electrode sites and P3 values were chosen as the mean of (P1, PZ, P2,) three electrode sites. In order to separate out the inhibitory control components, the ERPs under the two stimuli were subtracted (deviant-standard) to obtain the difference waves between the two stimulus conditions. 225-275 ms was chosen as the time window for N2 according to previous studies (Rueda-delgado et al., 2021). The time window of P3 was chosen as 350-500 ms (Alatorre-Cruz et al., 2021).

The study used the SSAI scale score as an indicator of stress, and a repeated measures ANOVA of 2 (gender: males, females) × 2 (state: stress, neutral) was performed on reaction time and number of errors. The measures conformed to a normal distribution and were expressed as mean ± standard deviation, and the p values of all repeated measures ANOVAs were Greenhouse spherical corrected, and statistical analysis was performed using SPSS 26.0 software.

3. Results

3.1. Subjective measurements

The area under the stress curve was subjected to repeated measures ANOVA for males and females in the acute stress state and the neutral state. The results showed that the state main effect [$F(1,39) = 68.96$, $p < 0.001$, $\eta p^2 = 0.64$] was statistically significant for scores on the SSAI scale, and the area under the stress curve was larger for both genders in the acute stress state than in the neutral state. The gender main effect [$F(1,39) = 0.87$, $p > 0.05$, $\eta p^2 = 0.02$] was not statistically significant. The interaction between state and gender was statistically significant in the score [$F(1,39) = 12.04$, $p < 0.05$, $\eta p^2 = 0.24$]. The area under the stress curve for females was greater than the area under the stress state curve for males. See Table 1.

3.2. Behavior results

A 2 (state: stress, neutral) × 2 (gender: males, females) repeated measures ANOVA was conducted for reaction time and number of errors for the Oddball experiment, respectively.

Concerning response time, the state main effect [$F(1, 39) = 4.45$, $p < 0.05$, $\eta p^2 = 0.10$] was statistically significant, with longer reaction time for both genders in the neutral state than in the stress state. The gender main effect [$F(1, 39) = 4.41$, $p < 0.05$, $\eta p^2 = 0.10$] was statistically significant, with longer reaction time for females than for males in both the neutral and stress state. The interaction of state and gender [$F(1, 39) = <0.01$, $p > 0.05$, $\eta p^2 < 0.01$] was not statistically significant. See Table 2.

Concerning the number of errors, the state main effect [$F(1, 39) = 11.73$, $p < 0.05$, $\eta p^2 = 0.23$] was statistically significant, with both genders in the stress state having fewer number of errors than in the neutral state. The gender main effect [$F(1, 39) = 4.44$, $p < 0.05$, $\eta p^2 = 0.10$] was statistically significant, with females making more errors than males in both the neutral and stress state. The interaction of state and gender [$F(1, 39) = 1.93$, $p > 0.05$, $\eta p^2 = 0.05$] was not statistically significant. See Table 3.

3.3. ERP results

The EEG data from the Oddball task were subjected to a 2 (state: stress, neutral) × 2 (gender: males, females) repeated measures ANOVA, and the statistics were corrected for *p*-values using the Greenhouse–Geisser correction. A statistical significance level of <0.05 was chosen for statistics, and ηp^2 was used for statistical effect values, and Bonferroni-adjusted correlations were chosen for *post hoc* comparisons.

3.3.1. N2 (225–275ms)

The state main effect [$F(1, 39) = 7.14$, $p < 0.05$, $\eta p^2 = 0.16$] was statistically significant. The N2 wave amplitude in both males and females was smaller in the stress state than in the neutral state. The state and gender interaction [$F(1, 39) = 4.28$, $p < 0.05$, $\eta p^2 = 0.10$] was statistically significant. *Post hoc* tests comparing the two states revealed greater changes in the amplitude of the N2 wave in females compared to males. The gender main effect [$F(1, 39) = 0.90$, $p = 0.40$, $\eta p^2 = 0.02$] was not statistically significant. See Table 4 and Figure 3.

3.3.2. P3 (350–500ms)

The state main effect [$F(1, 39) = 12.84$, $p < 0.05$, $\eta p^2 = 0.25$] was statistically significant. The amplitude of the P3 wave in both males and females was smaller in the stress state than in the neutral state. The state and the gender interaction [$F(1, 39) = 0.27$, $p > 0.05$, $\eta p^2 = <0.01$] was not statistically significant. There was no statistically significant gender main effect [$F(1, 39) = 0.04$, $p > 0.05$, $\eta p^2 = <0.01$]. See Table 5 and Figures 4, 5.

4. Discussion

To verify the difference in the direction of effect of acute stress on behavioral inhibition in males and females, this study combined ERP techniques to understand the effect of evoked acute stress on behavioral inhibitory control in college students of different genders at the cognitive neural level. The results of this study found that the TSST paradigm was successful in eliciting stress state in subjects. In terms of stress results, the area under the stress state curve was larger in females than in males. From the behavioral data, the reaction time of females in both neutral and stress state was longer than that of males, and the number of errors of females in both neutral and stress state were more than that of males. These results suggest that there are differences in behavioral inhibitory control between males and females, and that females have relatively lower behavioral inhibitory control. Further analysis of ERP results showed that the N2 and P3 of both genders decreased as stress level increased, indicating that the

TABLE 1 Comparison of the area under the subjective mood score curve in males and females in acute stress and neutral state [($x \pm s$)].

	Females	Males	*F*	*P*	ηp^2
Neutral	20.66 ± 1.08	22.21 ± 1.16	0.97	0.332	0.02
Acute stress	30.59 ± 1.23	26.29 ± 1.33	5.66	0.022	0.13
F	74.78	10.89			
P	<0.001	0.002			
ηp^2	0.66	0.22			

TABLE 2 Comparison of response time between males and females in acute stress and neutral state [($x \pm s$)].

	Females	Males	*F*	*P*	ηp^2
Neutral	124.24 ± 14.31	96.25 ± 13.30	2.05	0.160	0.05
Acute stress	105.83 ± 7.47	78.89 ± 6.94	6.97	0.012	0.15
F	2.20	2.25			
P	0.146	0.141			
ηp^2	0.05	0.06			

TABLE 3 Comparison of number of errors in males and females in acute stress and neutral state [($x \pm s$)].

	Females	Males	*F*	*P*	ηp^2
Neutral	6.14 ± 0.62	5.63 ± 0.66	0.31	0.581	<0.01
Acute stress	5.00 ± 0.50	2.95 ± 0.54	7.87	0.008	0.17
F	2.24	10.79			
P	0.143	0.002			
ηp^2	0.05	0.22			

TABLE 4 Comparison of difference wave (deviant-standard) N2 amplitudes in males and females in acute stress and neutral state [($x \pm s$) μv].

	Females	Males	*F*	*P*	ηp^2
Neutral	−5.99 ± 1.21	−3.07 ± 1.13	1.69	0.201	0.04
Acute stress	−2.10 ± 1.02	−2.58 ± 0.94	0.41	0.528	0.01
F	5.26	0.78			
P	0.027	0382			
ηp^2	0.12	0.02			

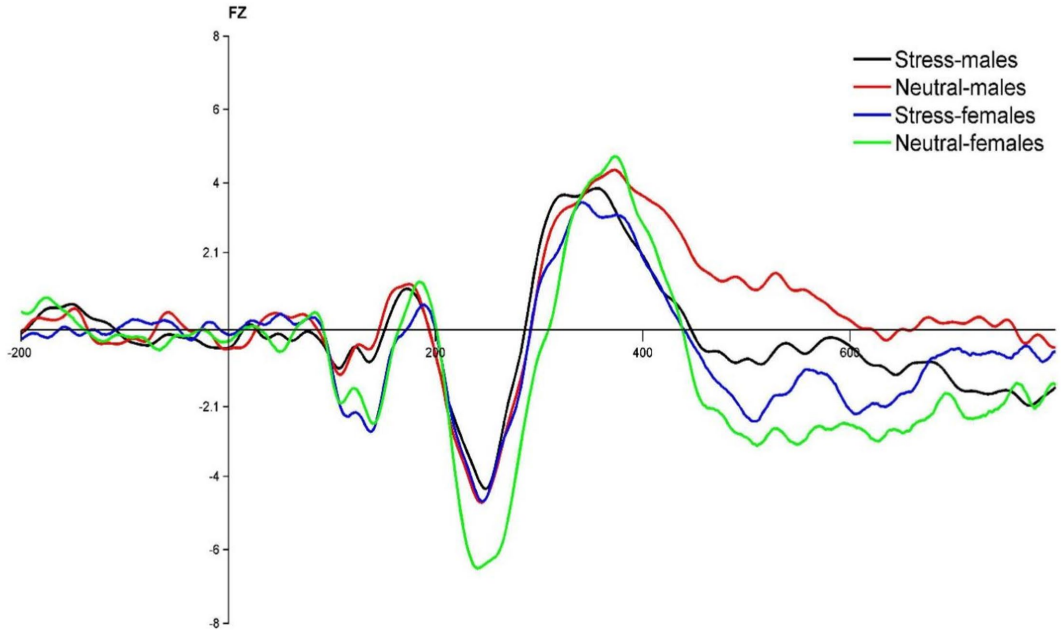

FIGURE 3
FZ point difference waveform (deviant-standard) in males and females in acute stress and neutral state.

TABLE 5 Comparison of the difference wave (deviant-standard) P3 amplitude between males and females under acute stress and neutral state [($x \pm s$) μν].

	Females	Males	*F*	*P*	ηp^2
Neutral	5.73 ± 1.02	5.26 ± 0.94	0.11	0.970	<0.01
Acute stress	4.08 ± 0.92	4.03 ± 0.85	<0.01	0.739	<0.01
F	7.85	5.06			
P	0.008	0.030			
ηp^2	0.17	0.12			

increase in stress level could enhance the behavioral inhibitory control ability of individuals.

Regarding the N2 wave amplitude, it was found that the N2 wave amplitude decreased significantly in both males and females during the process from the neutral state to the stress state, while the variation in the wave amplitude was greater in females. The smaller amplitude of N2 suggests that acute stress promotes individual behavioral inhibitory control, which is consistent with previous studies (Silton et al., 2010; Clayson and Larson, 2013). For example, Rebecca reported that central frontal N2 wave amplitude was statistically significantly smaller in the emotional condition than in the neutral condition. It has been shown that larger N2 wave amplitude implies lower behavioral inhibition. For example, studies on PTSD patients have demonstrated that their low inhibition is associated with exhibiting larger N2 wave amplitude (Shu et al., 2014; Min et al., 2020), and studies on obese patients have confirmed the negative correlation between N2 wave amplitude and behavioral inhibition (Iceta et al., 2019). It is thus clear that evoked acute stress promotes behavioral inhibitory control in individuals.

Furthermore, the results showed greater changes in N2 wave amplitude in females during the process from neutral to stress state. This suggests that females have weaker conflict monitoring and conflict control under acute stress state, whereas males have an advantage in this regard, which is in line with previous studies. For example, a Go/No-go study of EEG recordings found females have a lower rate of correct responses and electrophysiological analyses suggest that females require more time for conflict detection as well as more resources for response execution (Melynyte et al., 2017). One reason for this is that female is more susceptible to external influences, more sensitive to stress and less able to regulate stress than male. Neuroimaging studies have shown that a decrease in the hippocampal response is associated with adaptive stress responses, while an increase in the hippocampal response is associated with non-adaptive stress responses (Sinha et al., 2016). In a study on gender differences in neurological stress responses, it was found that females had significantly higher bilateral hippocampal responses with increased dynamics than male under stress state, suggesting that females have more nonadaptive stress responses and less stress regulation than males under stress condition. Another reason for this difference may also be emotional influences. Kelly et al. administered the Visual Analogue Rating Scales and the Profile of Mood States after TSST stress. The results showed that the females were more timid, irritable, and confused and that females showed more pronounced subjective negative experiences under the same stress state (Kelly et al., 2008). At the same time, the hippocampal response was found to be higher in females in negative emotion studies (Stevens and Hamann, 2012), reflecting female's deficiencies in negative emotion processing, such as stress dissipation.

Regarding P3 wave amplitude, it was found that P3 wave amplitude decreased significantly in both males and females during the process from neutral to stress state, and there was no significant

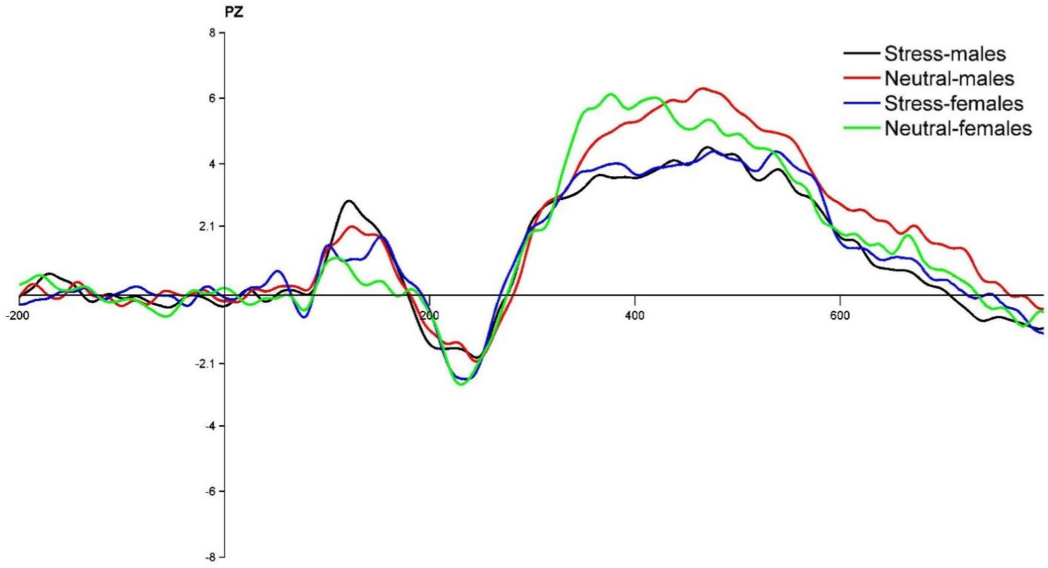

FIGURE 4
PZ point difference waveform (deviant-standard) in males and females in acute stress and neutral state.

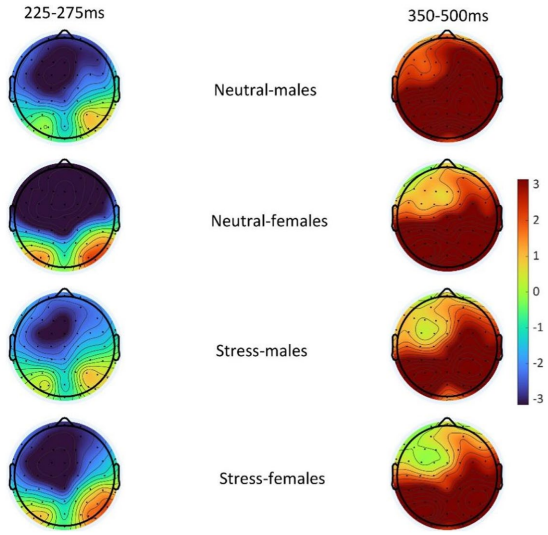

FIGURE 5
Topography of difference wave (deviant-standard) N2 (225–275ms) and difference wave (deviant-standard) P3 (350–500ms) in males and females in the acute stress state and neutral state.

difference in the variation of wave amplitude between females and males. A smaller amplitude of P3 suggests that acute stress promotes inhibitory control in individuals, which is consistent with previous research (Dierolf et al., 2017). It has been shown that the lower the P3 amplitude, the stronger the inhibitory control of the individual (Liu et al., 2020). Inhibitory control can be effectively improved and P3 amplitude reduced after training through inhibitory control (Melara et al., 2018). Typically, the P3 component reflects the process of assessing goals to achieve appropriate goal-directed responses (Kan et al., 2021). In the present study, there was no significant difference between females and males in the magnitude of variation in P3 wave amplitude during the process from the neutral to the stress state. This suggests that males and females under acute stress state invested approximately the same level of cognitive effort in the inhibition process itself. The reason for this may be that there is no significant gender difference between males and females at the time of late inhibition assessment and final decision making. This is in line with previous research. In a simple decision-making task, Weller et al. found no gender differences in making risky choices related to potential payoffs, with gender factors not playing a significant moderating role (Weller et al., 2010). Another reason for this result may also be due to the influence of educational background. This study selected college students as the subject group, and higher education factors may have contributed to the non-significant gender differences in decision making, which is consistent with previous studies. A behavioral study found no differences between males and females in the areas of risky decision making and inhibition in the experimental context (Kertzman et al., 2018).

In previous studies, the effects of acute stress on individual behavioral inhibition have diverged, speculating that the reason may be due to differences in the experimental and stress paradigms. In this study, compared to the Go/No-go paradigm and SST paradigm used in previous studies on behavioral inhibitory control, a two-choice Oddball paradigm is adopted to evoke behavioral inhibitory control function. It helps to analyze the two behavioral indicators of reaction time and correctness, and it can effectively avoid the interference of motor contamination on the results in ERP analysis, thus improving the interpretation of behavioral results and ERP results (Yuan Jiajin et al., 2017). In the selection of stressors, the TSST paradigm, which triggers psychological tension, is chosen to reduce the direct threat to the subject's somatic body compared to the electric shock paradigm, which acts directly on the somatic body. According to a related description in dual-competition theory, when individuals are in a high-threat environment, high threat has a processing priority that consumes limited cognitive resources first, which in turn compromises processing resources for behavioral inhibition (Lim et al., 2008).

When the level of environment threat is not high, a low threat environment enhances subjects' arousal, enhances sensory sensitivity, helps to inhibit dominant responses, and promotes subjects' behavioral inhibition (Pessoa, 2009).

The present findings also suggest some limitations and several directions for future research. First of all, only subjective emotion rating method was used to assess the stress state. Although the subjective assessment method is also a way to assess the stress state and is easy to operate, there are still individual subjective biases. Therefore, objective indicators, such as heart rate and cortisol, should be added in future studies. Secondly, only college students were selected as the subject group, and people of different ages could be invited to conduct the test in the future to improve the validity of the study results. Third, future plans could select fMRI techniques with higher resolution of neural activation data to further examine the effects of stress and gender on inhibitory function to validate and further develop the findings of this study. Finally, the present study did not fully consider the effects of other factors, such as personality traits and socioeconomic status, on the experimental results. Therefore, precise measurement and control of these variables are needed in future studies to avoid ambiguity in the interpretation of experimental results on the one hand, and to extend relevant research findings on the other.

5. Conclusion

In summary, evoked acute stress promoted behavioral inhibitory control in both males and females, and females were more sensitive to the stressful situation. In particular, acute stress reduced response inhibition time and response error rate, and decreased N2 and P3 wave amplitudes in college students of both genders. The change in N2 amplitude was greater in females when switching from neutral to stress state. Therefore, it is suggested that when individuals have sufficient cognitive resources, they should moderately increase tension to increase the level of physiological arousal and help improve behavioral inhibition, especially for the female group. A detailed examination of the acute stress and gender effects in behavioral inhibition processing and their interaction effects is beneficial to better understand the neural mechanisms of inhibition function. In the future, based on a deeper understanding of gender differences in inhibitory function, the development of gender-specific educational and neuropsychological intervention procedures can be explored to enhance behavioral inhibition more efficiently in both genders.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by the First Affiliated Hospital of Shihezi University, Shihezi University. The patients/participants provided their written informed consent to participate in this study.

Author contributions

SD designed the experiment, collected data, and prepared the manuscript. XW collected the data and made data analysis. CM corrected the whole language of the manuscript and made final approval. LL gave technique supports and valuable suggestions in experiment designing. All authors contributed to the article and approved the submitted version.

Funding

This research was supported by the Graduate Education Innovation Program of the Xinjiang Uygur Autonomous Region, China (XJ2022G097).

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 08 March 2023
DOI 10.3389/fpsyg.2023.1105556

OPEN ACCESS

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SPECIALTY SECTION
This article was submitted to Gender, Sex and Sexualities, a section of the journal Frontiers in Psychology

RECEIVED 22 November 2022
ACCEPTED 20 February 2023
PUBLISHED 08 March 2023

CITATION
Bonfanti RC, Garro M, Lavanco G and Ruggieri S (2023) The role of sexting in couple wellbeing for Italian women during the second wave of the COVID-19 pandemic. *Front. Psychol.* 14:1105556. doi: 10.3389/fpsyg.2023.1105556

The role of sexting in couple wellbeing for Italian women during the second wave of the COVID-19 pandemic

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The social isolation due to the COVID-19 pandemic had an impact on the sexuality and quality of life of people around the world. A particularly negative effect was detected on women's sexual health. As a consequence, many women began to use social media not only to stay in touch with their social networks, but as a way of maintaining sexual contact. The main aim of this research is to observe the positive effects of sexting in women's wellbeing as a strategy to manage the negative effects of a condition of forced isolation. We collected all our data between November 2020 and March 2021 during a period of strict restrictions in Italy due to the second wave of the COVID-19 pandemic. In Study 1, the relationship between loneliness, sexting behaviors, and sexual satisfaction was tested on 312 adult women. The results showed the mediator role of motivation for sexting in the relationship between loneliness and sexual satisfaction. In Study 2, 342 adult women were organized into two groups (women who had sexting at least once during the second wave of the pandemic = 203, and women who did not have sexting during the pandemic = 139) and were assessed on a couple's wellbeing (intimacy, passion, commitment, and couple satisfaction) and electronic surveillance. The results show that women who had sexting during isolation had higher scores on intimacy, passion, couple satisfaction, and electronic surveillance. These findings suggest the important role of sexting as an adaptive coping strategy during particular conditions of social isolation.

KEYWORDS

COVID-19, women, sexting, sexual satisfaction, couple, wellbeing

Introduction

Over the last few years, due to the coronavirus disease (COVID-19), the subjective wellbeing of many citizens around the world has been severely threatened. Actually, this condition is not strictly connected with the health problems associated with the pandemic or the fear of contracting the virus, but rather with the restrictions on individual freedom that all governments of the world adopted to minimize the spread of the virus. Many of these strategies were based on social distancing and limiting the mobility of the population.

A growing number of studies have been analyzing the negative psychological consequences of social isolation on the individual's wellbeing and the impact of separation on social life, with particular reference to community, friends and couples' relationships

(Sikali, 2020; Gan and Best, 2021; Pietromonaco and Overall, 2022). Researchers have also found that social isolation increases level of stress (Fitzpatrick et al., 2020; Sterina et al., 2022), social anxiety (Wang et al., 2020), depression (Fischer et al., 2020), loneliness (Ruggieri et al., 2021a), and causes low levels of life satisfaction and psychological wellbeing (Satici et al., 2020; Zhang et al., 2020).

The experience of isolation due COVID-19 drove people to remain more socially connected *via* information and communication technology than before (Statista, 2022). This is not surprising because social media offered a unique opportunity to keep in touch with one's own social network (Boursier et al., 2020). In this situation, many people have been driven online also in order to preserve their emotional relationships (Lindberg et al., 2020; Pietromonaco and Overall, 2022). Moving intimate relationships online has been a trend that has been going on for some time, but which has taken on much more significant tones and dimensions with the pandemic (Ruggieri et al., 2013; Burleson et al., 2022; Maes and Vandenbosch, 2022).

Existing research has found that traumatic events might lead to the deterioration of relationship quality and intimacy (Cohan and Cole, 2002; Marshall and Kuijer, 2017). For example, during the pandemic, a fear of COVID-19 infection generated distress with regard to couple intimacy, which altered sexual dynamics, especially for partners who did not live in the same home. Consequently, the intimacy and sexual life relationship of non-cohabiting couples was affected by isolation and went through a sharp change due to the pandemic. Isolation had a negative impact in terms of couple and sexual relationships, due to the difficulty of finding moments for intimacy (Lehmiller et al., 2020; de Oliveira and Carvalho, 2021). This situation has an impact on the increase in autoerotic sexuality, cybersex, cyber-pornography use, and sexting (Ibarra et al., 2020; Li et al., 2020). All these alternative sexual activities helped in managing the stress arising in a couple's daily life, during the pandemic, representing a possible strategy of relief or compensation for the sense of loneliness (Uzieblo and Prescott, 2020).

Research has shown that the pandemic has had a particularly negative effect on women's sexual health (Carvalho and Pascoal, 2020). A systematic review conducted during COVID-19 outbreak showed a deterioration of their sexual function, with a decline in sexual satisfaction (de Oliveira and Carvalho, 2021). Eleuteri et al. (2022) found that anxiety, stress and depressive symptoms due to the pandemic influenced a decrease in sexual desire for women. Previous studies also indicated that psychological distress had a negative impact, mostly on women's sexuality (Dèttore et al., 2013; Kalmbach et al., 2014). An increase in household chores, the impossibility of having family support (for example nannies or housekeepers), and the little time devoted to the sexual sphere might also explain the decrease in sexual satisfaction for women during the COVID-19 pandemic (Craig and Churchill, 2020; Collins et al., 2021; De Rose et al., 2021).

In the wake of these literature suggestions, the main aim of the present research is to understand the role of sexting in women's wellbeing and sexual satisfaction during the second wave of the COVID-19 pandemic.

Sexting and sexual satisfaction during COVID-19 pandemic

Several researchers have studied the relationship between the inhibition of sexual desire and specific negative mood states emerging from the pandemic, such as anxiety, sense of loneliness, and the decrease in personal sexual satisfaction (Pascoal et al., 2021). This is probably one of the reasons why a decrease in sexual activity was found in research into couples in the United States (Hensel et al., 2020) and the United Kingdom (Jacob et al., 2020). If on the one hand psychological implications due to COVID-19 rendered the implementation of the sexual act less desirable, on the other hand government rules also reduced the possibility of maintaining sexual relationships because of enforced isolation.

Many studies have shown the effects of the pandemic and social isolation in women's sexual satisfaction (de Oliveira and Carvalho, 2021). One of the difficulties faced by woman during confinement was that sexual wellbeing was considered non-essential, and sexual medication services were reduced, affecting women disproportionately (Hussein, 2020; Shindel and Rowen, 2020). For example, Endler et al. (2020) highlighted the fact that sexual and reproductive health care in various countries was at risk during the pandemic, placing women in a particularly vulnerable situation. Moreover, pre-existing differences in sexual pleasure (Andrejek and Fetner, 2019; Mahar et al., 2020), a higher susceptibility to affective disorders (Jalnapurkar et al., 2018) and to sexual dysfunction (Peixoto and Nobre, 2015), might have interacted with social isolation to decrease sexual health among women during this period. Most of all, changes in daily life, limitations on one's own independence, and feelings of worthlessness, may have caused in women a sense of helplessness and loss (de Oliveira and Carvalho, 2021). The downturn in sexual satisfaction could not be avoided because of these COVID-19 prevention measures, which could lead to unrequited sexual needs, whilst also having a negative impact on one's life satisfaction, especially for those who are sexually active, but not in a domestic partnership or marital relationship.

It is clear that many individuals' sex lives have undergone a change, in which many have expanded their sexual repertoires to safeguard the own sexual satisfaction. Erwinda et al. (2020), found that changes with regard to sexual activity have prompted some people to compensate the non-fulfilment of their sexual needs, by, for example, accessing pornographic sites, by using dating apps and by entering into online sexual communication in order to express and satisfy their sexual desires.

Various studies observed that women reported a greater frequency of use of novel sexual activities for increasing sexual desire, sexual satisfaction and an increasing number of sexual outlets to cope with emotionally negative events (Cyranowski et al., 2004; de Oliveira and Carvalho, 2020; Lehmiller et al., 2020; Yuksel and Ozgor, 2020). These sexual outlets included activities such as trying out new sexual positions and sharing sexual fantasies with a partner, masturbation, reacting to erotic cues, cybersex, sexting (Lehmiller et al., 2020).

Sexting can be described as the creation and sharing of images or text messages in the personal sexual sphere, through the use of mobile phones or apps (Hasinoff, 2015), including Whatsapp, Facebook, Tinder, Snapchat, and other virtual applications. This has

now become a basic element in most relationships, being helpful in beginning and maintaining a romantic connection (Albury et al., 2013; Cooper et al., 2016).

A growing number of studies have shown how sexting increased during the pandemic (Cocci et al., 2020; Lehmiller et al., 2020; Yuksel and Ozgor, 2020). About 15% of emerging adults started to engage in sexting during quarantine, as a result reporting greater satisfaction from their sex life (Lehmiller et al., 2020). The main benefit of sexting was to mitigate physical distancing (Fox and Potocki, 2014), because it allowed people to temporarily replace face-to-face interaction and satisfy their own needs in the sphere of sex. In fact, sexting represented an opportunity for maintaining intimacy and improving sexual satisfaction in a relationship (McDaniel and Drouin, 2015; Drouin et al., 2017).

The most widely reported reasons for sexting are connected with sexual and social aims (Bianchi et al., 2016, 2017). Within a relationship, people could "sext" with their own partners, by flirting, starting sexual activity or preserving a state of intimacy and passion (Temple and Choi, 2014; Van Ouytsel et al., 2017). Differently, for single people sexting could also be used as an excuse for attracting the interest of potential partners (Albury and Crawford, 2012). However, some studies found that sexting is a risk behavior. It can affect the physical and psychological health of people involved as well as trigger symptoms of psychological distress (Medrano et al., 2018). It could be associated to some risk behaviors, such as cyberpornography (Morelli et al., 2017), and online victimization which are associated to negative emotional impact (Slonje et al., 2017).

Garrido-Macías et al. (2021) examined some predictors that could be associated with sexting and they found that loneliness could lead to engagement in sexting by emerging adults. Other research demonstrates that high-stress conditions could negatively influence the functioning of a relationship (Burleson et al., 2007; Hamilton and Meston, 2013; De Witte et al., 2015; Lehmiller et al., 2020). Frequent engagement in various sexual activities has been associated with greater couple satisfaction among those in relationships; this effect may change in accordance with varying type and frequency of sexual activities, also influencing the intimacy and commitment of the couple (McNulty et al., 2016; Muise et al., 2016; Kort, 2020; Rosenberg et al., 2021). Furthermore, diverse studies indicate that couple intimacy, passion, and commitment with one's own partner could reduce psychological distress and, thus, provide some relief in particular conditions, such as the current pandemic and its associated restrictions (De Witte et al., 2015; McNulty et al., 2016; Meston et al., 2020).

The current research

As we have observed, sexual health is essential for one's wellbeing. Some researchers observed how during the pandemic, activity linked to sexting provided psychological and emotional benefits (Erwinda et al., 2020; Lehmiller et al., 2020; Pennanen-Iire et al., 2021). Considering the difficulties women experienced in the sexual sphere during the pandemic, such as feelings of worthlessness and helplessness due social isolation (de Oliveira and Carvalho, 2021) emphasized by their higher susceptibility to affective disorders (Jalnapurkar et al., 2018) and to sexual dysfunctions (Peixoto and Nobre, 2015), it is very important to understand whether sexting could be a protective factor in women's sexual and couple satisfaction. Obviously, these considerations are also important above and beyond the pandemic period.

The general aims of the present studies are: (1) to investigate the use of sexting among adult women during the isolation period of the second wave of COVID-19 pandemic, and exploring its coping function in the relationship between loneliness and sexual satisfaction, and (2) to analyze aspects of couple wellbeing of women who had engaged in sexting compared to those who had not.

Study 1

To date, the importance of sexting in sexual satisfaction in women during the COVID-19 crisis, but not only, has received little research attention, whereas it should be a research priority (de Oliveira and Carvalho, 2021). In the current investigation, we tested our hypothesized research model (**Figure 1**), in order to examine the relationship between loneliness, motivation for sexting and sexual satisfaction in women.

The relationship between loneliness and sexual satisfaction

Loneliness and isolation might potentially prompt more sexual-negative-mood states, affecting sexual satisfaction and increasing relationship conflict (Lehmiller et al., 2020). Accordingly, quarantine situations may have exacerbated the worsening of sexual issues (Pennanen-Iire et al., 2021). Findings suggested that many women experienced a decrease in sexual satisfaction during the pandemic, due to the vulnerability factors that characterize the female population, including the consequences of forced isolation: cohabitation, a greater commitment to bringing up children, lower access to sexual health services (de Oliveira and Carvalho, 2021). In accordance with these studies, we hypothesize that:

> H1: Loneliness was negatively related to sexual satisfaction for women during the second wave of the COVID-19 pandemic.

The relationship between sexting and sexual satisfaction

Sexual satisfaction is considered the affective response resulting from an individual's subjective estimation of the positive and negative dimensions in his/her own sexual sphere (Lawrance and Byers, 1995). Past research has shown that there is a relationship between sexting and sexual satisfaction, considering sexting as a way of sexual communication and also as sexual behavior (Stasko and Geller, 2015; Galovan et al., 2018). Specifically, it has been seen that sexual satisfaction increases as the frequency of sexting with one's sexual partner increases. Thus, it has been shown how sexual satisfaction can be enhanced through sexting as it can function both as a strategy

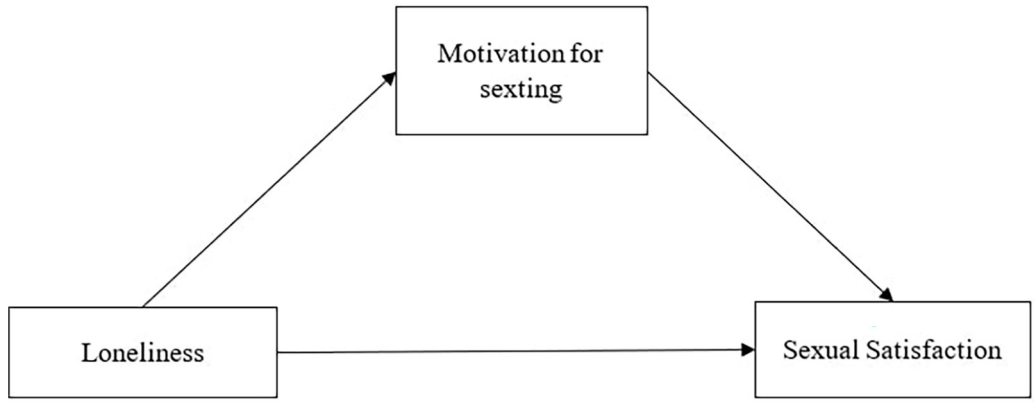

FIGURE 1
The hypothesized research model.

of communication and activity linked to the sexual sphere (Oriza and Hanipraja, 2020). Starting from this literature, we hypothesize that:

> H2: Motivation for sexting was positively related to sexual satisfaction for women during the second wave of the COVID-19 pandemic.

The mediating role of motivation for sexting

Previous studies noted a decrease in actual live communication with other people; an increase in isolation and loneliness have been linked with greater use of the Internet for sexual purposes (Kraut et al., 1998; Barak and Fisher, 2002). Specifically, prior research showed that loneliness could lead to engagement in sexting by emerging adults (Garrido-Macías et al., 2021). During confinement due to the pandemic, it was shown how loneliness and isolation could potentially prompt increased sexual adaptation in order to fulfill sexual needs or relieve negative mood states, affecting sexual satisfaction (Lehmiller et al., 2020). Engaging in sexting may therefore reflect a coping strategy to combat a sense of isolation or an intentional strategy for preventing further sexual restrictions, so we hypothesize that:

> H3: Motivation for sexting mediated the negative effects of loneliness and sexual satisfaction for women during the second wave of the COVID-19 pandemic.

Method

Participants and procedure

A convenient sample of university students took part in the study for a credit course. The only condition was: (a) that they were women; (b) that they had been involved in a romantic relationship (but not cohabiting) for at least a year; (c) that they declare that they had been sexting during the pandemic. In the end, three hundred and twelve women (mean age = 26.98, SD = 6.98; age range = 20–51) participated in the study. The administration of the questionnaire took place online between 15 November 2020 and 15 March 2021 (during the second wave of the COVID-19 pandemic in Italy). The questionnaire was anonymous and took approximately 10–15 min to be completed. The research was conducted in accordance with the ethical standards of the Italian Psychological Association (AIP), as well as the Declaration of Helsinki. All participants completed statements of informed consent to participate in the study.

Measures

The following measures were used to achieve the objective of the study.

Information about relationship status and sexting

Participants were asked to answer three questions regarding relationship status and sexting. Particularly, the questions explored the following: (1) being in a couple relationship for at least 1 year; (2) the type of relationship (homosexual or heterosexual); (3) after a brief introduction on sexting behavior, if she had practiced sexting with her partner at least once during the last 6 months of restrictions caused by the COVID-19 pandemic.

Loneliness

Measured using the UCLA Loneliness Scale–Version 3 (Russell, 1996), a global loneliness self-report measure composed of 20 items (e.g., "How often do you feel alone?", "How often do you feel that people are around you but not with you?"). The scale is evaluated on a 4-point Likert-type scale, from 1 = Never to 4 = Often with higher scores indicating greater tendencies to feel lonely ($\alpha = 0.90$).

Motivation for sexting

Assessed with the 13-item self-report Sexting Motivations Questionnaire (SMQ; Bianchi et al., 2016), which measures the frequency of three motivations for sexting: body image reinforcement (3 items; e.g., "Sometimes I send sexts to test whether I am attractive enough"), sexual purposes (5 items; e.g., "Sometimes

TABLE 1 Means, standard deviation and correlations between loneliness, motivation for sexting and sexual satisfaction.

	M	SD	Skewness	Kurtosis	1	2	3	4
1. Age	26.98	6.98	1.51	1.84	–			
2. Loneliness	2.26	0.52	0.154	−0.377	−0.107	–		
3. Motivation for sexting	2.52	0.90	0.075	−0.338	−0.105	−0.262**	–	
4. Sexual satisfaction	3.74	0.92	−0.930	0.646	0.015	−0.314**	0.384**	–

The data collection of this study was conducted between 15 December 2020 and 15 March 2021.
**$p < 0.01$.

I send sexts to increase passion in my dating relationship"), and instrumental/aggravated reasons (5 items; e.g., "Sometimes I send sexts in exchange for money or gifts"). Answers included a 5-point scale (from 1 = Never to 5 = Always) (α = 0.91). In the present study, we used an indicator of *motivation for sexting* that included only the dimensions of body image reinforcement and sexual purposes, excluding instrumental/aggravated for theoretical reasons connected with the objectives of the study that considers sexting as a coping strategy.

Sexual satisfaction

Measured using the New Sexual Satisfaction Scale short form (NSSS-S; Brouillard et al., 2019), 12 items were rated on a 5-point Likert scale, from 1 = Not at all Satisfied to 4 = Extremely Satisfied with higher scores indicating higher levels of sexual satisfaction. As an example of items there was "The way I sexually react to my partner" and "My partner's emotional opening up during sex" (α = 0.94).

Results

Preliminary analyses revealed no substantial violation of normality regarding data distribution. Means and standard deviations are listed in **Table 1**.

Analyzing correlation patterns, we can see how loneliness and sexual satisfaction are negatively correlated as we hypnotized in H1. Motivation for sexting is also positively related with sexual satisfaction: those who scored higher in motivation for sexting were also more sexually satisfied, as previously assumed (H2) (**Table 1**).

In order to test the third hypothesis, we tested the role of the mediator of motivation for sexting in the relationship between loneliness and sexual satisfaction. To test our hypothesis we used PROCESS model 4 (5,000 resampling; see **Figure 1**).

The overall equation was significant, $R^2 = 0.10$, [$F(1,310) = 33.93$, $p < 0.001$]. As we can see in **Figure 2**, loneliness significantly predicted both motivation for sexting and sexual satisfaction in a negative way. Sexual satisfaction is also predicted by motivation for sexting. It is also possible to observe how the indirect effect of the outcome of loneliness on sexual satisfaction through motivation for sexting was significant.

Discussion

Study 1 shed light on the use of sexting among adult women during the second wave of the COVID-19 pandemic and explored its coping function in the relationships between loneliness and sexual satisfaction.

As regards gender, past literature suggests that women would be less prepared to engage in sexting behavior, due to prevailing sexual mores, according to which women feared much heavier social consequences than men (Ringrose et al., 2013; Salter, 2016; Setty, 2019), but it was shown that, during the pandemic, this bias was not found in the female sample. For example, Thomas et al. (2022) found no effect of gender on willingness to engage in sexting, probably due to sexual needs that had arisen in the wake of COVID-19 restrictions. Recent studies indicated an increase in sexting activities during the first phase of the pandemic (Gabster et al., 2022), suggesting that it could have had a role in coping with pandemic difficulties, such as sexual and couple satisfaction. However, to our knowledge, this research provides the first evidence about the role of sexting in tackling pandemic-related loneliness and its influence on sexual satisfaction.

The results of this study showed that the model of the links between loneliness and sexual satisfaction (through the mediating role of motivation for sexting) has a good fit, underlining the predicting role of sexting and loneliness in sexual satisfaction. The study also emphasized the role of motivation for sexting as a mediator in the relationship between loneliness and sexual satisfaction. In detail, we observed a negative relationship between loneliness and sexual satisfaction, which is consistent with the results of research by Van Ouytsel et al. (2017) and Abedi et al. (2020). These previous results emphasize that higher levels of loneliness are predictive of lower sexual satisfaction. When we introduced motivation for sexting as a mediator we found an indirect relationship between loneliness and sexual satisfaction; specifically, loneliness negatively predicted motivation for sexting, which in turn positively predicted sexual satisfaction. Indeed, during the pandemic, it was seen how having a steady partner and, therefore, not feeling lonely was a good predictor of engagement in sexting, used as a coping strategy aimed to reduce perceived distance and increase sexual satisfaction (Caponnetto et al., 2022). It is plausible that the increase in the use of technology-based sexual activity such as sexting, during the pandemic, was a temporary coping strategy that would subsequently be replaced in favor of future in-person interaction with one's own partner at the end of the pandemic (Lehmiller et al., 2020).

Sexting has been shown to be an adaptive coping response to pandemic sexual difficulties in other recent research (Bianchi et al., 2021a), suggesting that sexual satisfaction was the result of sexting applied as an antidote to pandemic worries. Caponnetto et al. (2022) also found that during the pandemic the perceptions of sexting changed, and this modification seems to be linked to the pandemic socio-sanitary situation and related

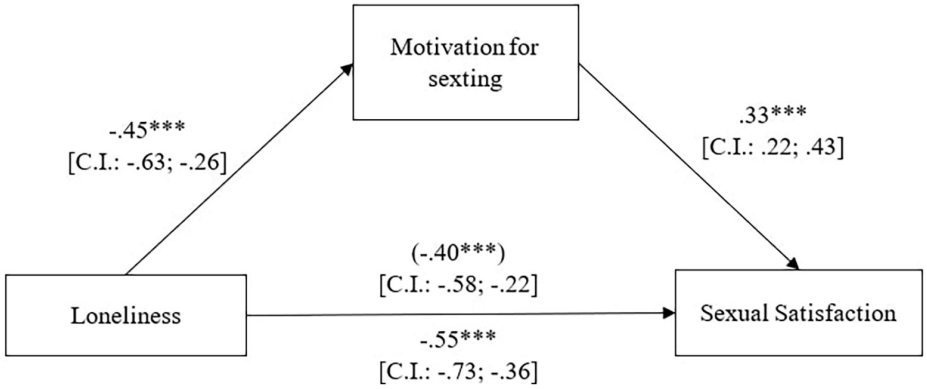

FIGURE 2
The effects of loneliness on sexual satisfaction *via* motivation for sexting.

restrictions. These results are in disagreement with some previous findings, which indicated that cybersex activities like sexting, were significantly connected with a decrease in marital sexual satisfaction and intimacy (Whitty, 2003), probably because under normal conditions people perceived online sexual activity as menacing couple fidelity (Cooper et al., 2006).

In fact, a pandemic study on adults by Lehmiller et al. (2020) showed that 20.3% of the sample reported new sexual activities in their sexual life during the pandemic, e.g., sharing nude photos, sexting, having cybersex, filming oneself masturbating, and using advanced sexual technology such as virtual reality porn. In addition, using sexting behavior as a coping strategy during COVID-19 affected the sexuality of people in different ways (Bianchi et al., 2021a), because some people found themselves reinventing their ways of experiencing their own sexuality (Eleuteri et al., 2022). For these reasons, it becomes critical to explore people's sexual lives at the time of COVID-19 by investigating changes in sexual behavior patterns since the pandemic began until its current evolution.

Study 2

Results from Study 1 showed how sexting played an important role in the mediation of the relationship between loneliness and sexual satisfaction in conditions of social isolation due to the COVID-19 pandemic. The women who engaged in sexting in conditions of isolation from their partner also showed higher levels of sexual satisfaction, confirming other research that found that sexual interest was enhanced by trying out new fantasies, modes of foreplay, sexual positions, and digital sex, leading to probable improvements in their sex lives (Lehmiller et al., 2020).

Other research showed how changes due to social isolation during COVID-19 generated many changes, all over the world, in the couple relationship, especially in terms of couple stability (Schmid et al., 2021), well-functioning intimate relationships (Luetke et al., 2020), couple wellbeing (Oriza and Hanipraja, 2020), and general satisfaction (Bolesławska et al., 2021).

Considering that sexual satisfaction is an extremely important component of a couple's life (Sánchez-Fuentes et al., 2014; Flynn et al., 2016), it is possible then that sexting might also influence other aspects of the relationship, generating levels of general satisfaction. Study 2 sought to investigate these aspects in more detail.

Following these considerations, we looked more deeply at the relationship analyzed in Study 1 and observed other aspects of couple wellbeing (intimacy, passion, commitment, and general couple satisfaction) in women who had been sexting during the pandemic compared to those who had not. Therefore, we hypothesize that:

> H1: Couple wellbeing (intimacy, passion, commitment, and couple satisfaction) is greater among women who had been sexting during the pandemic compared to those who had not.

Also, previous research observed how women are more preoccupied than men about chatting freely with another person, and as a result they feel more jealous of their own partner (Weinstein et al., 2015). These results were also confirmed during the pandemic period, in which Shafer et al. (2022) found that COVID-related health concerns predicted greater social media surveillance of a romantic partner during the COVID quarantine. Surveillance is characterized of jealousy and it is typical of people who try to safeguard themselves from potential threatening circumstances (Tokunaga, 2016). In the Internet context, surveillance is easier and it is related to supervise romantic partners' wall updates, postings, friends and followers lists, videos, photos, and even invitations, because the supervising behavior could help oneself to diminish relational uncertainty (Marshall et al., 2013). Starting from this literature, we also hypothesize that:

> H2: Electronic surveillance is greater among women who had been sexting during the pandemic compared to those who had not.

Method

Participants and procedure

Three hundred and forty-two women (M = 23.05; SD = 3.20; age range = 19–34) who had been involved in a romantic relationship for at least 1 year were recruited in order to

complete an online survey. Participants were university students and did not receive any compensation for their participation. The administration took place between 15 February 2021 and 15 March 2021 (during the final phase of the second wave of the pandemic in Italy). The data collected were anonymous and all participants provided written informed consent. Participants were informed about the aim of the research during the debriefing. All procedures performed in this study were in accordance with the ethical standards of the Italian Psychological Association (AIP) and with the Helsinki Declaration.

Participants had to answer the first item of the questionnaire by declaring whether they had ben sexing during the pandemic ("Did you practice sexting at least once during the last 4 months of restrictions caused by COVID-19 pandemic?"). Two hundred and three women declared that they had not been sexting during the pandemic (WHNS), one hundred and thirty-nine women declared that they had been sexting at least once (WHS). Eleven participants declared they were in homosexual relationships.

Measures

Information about relationship status and sexting

Participants were asked to answer three questions regarding relationship status and sexting. Particularly, the questions explored the following: (1) being in a couple relationship for at least 1 year, because when the research was conducted only the last year corresponded to the pandemic period; (2) the type of relationship (homosexual or heterosexual); (3) if she had practiced sexting with her partner at least once during the last 4 months of restrictions caused by the COVID-19 pandemic.

Intimacy, passion, and commitment

The Triangular Love Scale (Sternberg, 1988, 1997) was used to assess three components of love toward the romantic partner: intimacy (15 items; $\alpha = 0.95$; e.g., "I am willing to share myself and my possessions with. . ."), passion (15 items; $\alpha = 0.94$; e.g., "I especially like physical contact with . . ."), and commitment (15 items; $\alpha = 0.93$; e.g., "I cannot imagine ending my relationship with. . ."). Respondents were asked to think about the person they love and rate the agreement on a 9-point Likert scale, from 1 (Not at all) to 9 (Extremely).

Couple satisfaction

Measured using the ENRICH (Evaluation and Nurturing Relationship Issues, Communication and Happiness) Marital Satisfaction Scale (EMS; Fowers and Olson, 1993). For the purpose of this study 6 items have been used (e.g., "My partner and I understand each other perfectly"). The scale is evaluated on a 5-point Likert-type scale ($\alpha = 0.75$), from 1 (strongly disagree) to 5 (strongly agree) with higher scores indicating a greater positive couple agreement.

Electronic surveillance

Assessed using the Interpersonal Electronic Surveillance Scale for Social Network Sites (ISS; Tokunaga, 2011), a 12 item self-report scale which measures the interpersonal electronic surveillance over SNSs (e.g., "I explore my partner's social networking page to see if there is anything new or exciting"). The scale is evaluated on a 7-point Likert-type scale, from 1 (strongly disagree) to 7 (strongly agree) ($\alpha = 0.94$).

Results

Preliminary analyses revealed no substantial violation of normality regarding data distribution. Means and standard deviations for both groups are listed in **Table 2**.

We initially conducted a MANOVA to detect the presence of multivariate effects associated with engagement (or not) in sexting with her partner during the lockdown period. The results showed the presence of a significant effect [Wilks' $\lambda(5,336) = 20.51$, $p < 0.000$, partial $\eta^2 = 0.23$] (**Table 2**).

At the univariate level, to test our hypotheses, we ran five ANOVAs comparisons for each of the dependent variables (intimacy, passion, commitment, couple satisfaction, electronic surveillance) between women who declared that they had not been sexting during the pandemic (WHNS), and women who declared that they had been sexting at least once (WHS).

The results show that there are differences between the two groups with regard to the Triangular Love Scale (Sternberg, 1988, 1997). In particular, differences emerge regarding the levels of intimacy [$F(1,340) = 25.51$; $p < 0.001$, partial $\eta^2 = 0.07$] and passion [$F(1,340) = 37.75$; $p < 0.001$, partial $\eta^2 = 0.10$] (greater levels of intimacy and passion for WHS), but no difference emerges regarding the levels of commitment [$F(1,340) = 0.89$; p = n.s.] (**Table 2**). Also, with regard to the levels of couple satisfaction we observed a difference between WHS and WHNS [$F(1,340) = 25.51$; $p < 0.001$, partial $\eta^2 = 0.70$]. In particular, women who engaged in sexting show higher levels of couple satisfaction.

Finally, we found that WHS also activate higher levels of partner surveillance than WNHS [$F(1,340) = 24.15$; $p < 0.001$, $\eta^2 = 0.07$].

Discussion

The results of Study 2 confirmed the important role of sexting as a resource for combatting social isolation in women due to the pandemic condition. The results highlight that women WHS during the second wave of the pandemic, compared to those WHNS, had higher scores on intimacy, passion, couple satisfaction and electronic surveillance. These findings support previous evidence for sexting activities affecting couple wellbeing (McDaniel and Drouin, 2015; Oriza and Hanipraja, 2020).

More in detail, previous research has observed that intimacy is an important dimension of cybersex. Weinstein et al. (2015) found that women prefer to engage in online sexual activity to increase the couple's intimacy. The primary reason for using online sexual activities was as a part of lovemaking with one's own partner or in response to requests by their partner, since most women interpret online sexual activities as acceptable or positive when associated with a shared activity with a partner. These results are also confirmed by Caponnetto et al. (2022), who observed that, during the pandemic, the perception of sexting improved, and was used as a coping strategy and a way of reducing the perceived distance with one's partner. Other studies confirmed an increase in sexting during the pandemic (Bianchi et al., 2021a; Eleuteri et al., 2022) and investigated the relationship between COVID-related stress, coping strategies, and experimental, risky, and emotional sexting. They found that, during quarantine, for those who were in

TABLE 2 Mean and standard deviation of the dependent variables on women who declare that they had not sexting during pandemic (WHNS), and women declared that they had sexting at least once (WHS).

	WHS				WHNS			
	M	SD	Skewness	Kurtosis	M	SD	Skewness	Kurtosis
Intimacy	7.53	0.79	−0.574	0.394	7.03	0.96	−0.548	0.143
Passion	7.62	0.81	−0.405	−0.646	7.00	0.97	−0.219	−0.384
Commitment	7.15	0.86	0.163	−0.592	7.17	0.85	−0.272	−0.398
Satisfaction	4.29	0.45	−0.458	−0.416	4.02	0.49	−0.132	−0.875
Electronic surveillance	4.75	1.22	−0.226	−0.385	4.07	1.28	0.462	−0.237

a long-distance relationship as opposed to those who were in a non-distance relationship or single, as an attempt to maintain intimacy with partners, there was a high frequency of experimental sexting–a type of sexting used when sexual contents are shared with a trusted partner (Wolak et al., 2012; Eleuteri et al., 2017).

In Study 2, we also observed that women who engaged in sexting during the isolation period reported higher levels of passion and couple satisfaction. Previous research (Mollaioli et al., 2021) found that those who had had more sexual activity during the pandemic showed a decrease in psychological distress and a higher level of dyadic commitment and couple satisfaction, compared with those who did not. In this vein, sexual activity seems to perform a protective role on one's personal psychological health. In general, improvements in sexuality were associated with an improvement in the relationship with the partner, being happy and satisfied together, feeling less stressed (Arafat et al., 2020; Panzeri et al., 2021; Costantini et al., 2021). Furthermore, in a large study conducted by Balzarini et al. (2023), perceived virtual partner responsiveness helped to improve poor relationship quality associated with pandemic-related stressors. Ouytsel et al. (2019) found that engagement in sexting with one's own partner was significantly linked to a higher perception of passion within the relationship.

In our results, no difference emerges regarding the levels of commitment between women WHS during the second wave of the pandemic compared to the WHNS. Contrary to our expectations, but in line with Matotek et al. (2021), this result is probably produced by basal high rates of couples' commitment in our sample, for which sexting could simply constitute technology-mediated communication, useful for the couple's more passionate and sexual aspects.

Previous research has shown how women often report that cybersex in general is characterized by chatting freely with another person, and as a result women feel more jealous than men about this activity on the part of their partner (Weinstein et al., 2015; Ruggieri et al., 2021b). This is confirmed by the results of this study, which suggest that WHS during the second wave of the pandemic, compared to WHNS, had higher scores on electronic surveillance. A reason for greater surveillance could be interpreted as the belief that one's partner, during the period of isolation, is more inclined to also sexting with other women, being less likely to be discovered due to the forced separation caused by the pandemic. The same results were found by Shafer et al. (2022) in a cross-lagged study on adults, finding that COVID-related health concerns predicted social media surveillance of a romantic partner during COVID quarantine. Although romantic partners report developing a sense of closeness and intimacy when sexting, it is important to bear in mind how feelings of distress and uncertainty by adult couples have been shown to lead to social media surveillance of current partners (Fox and Warber, 2014) and this may have been intensified during the COVID-19 pandemic (Goodboy et al., 2021).

Conclusion

During the pandemic, women underwent a deterioration in their sexual functioning, with a decline in sexual satisfaction (de Oliveira and Carvalho, 2021). Eleuteri et al. (2022) found that anxiety, stress, and depressive symptoms due to the pandemic influenced this decrease in sexual desire for women. As a result, the frequency of sexting also increased during the pandemic (Lehmiller et al., 2020). Although previous research has shown the role of sexual activities based on technology usage and how these allowed one to remain connected during social distancing, to our knowledge there is no research on women's perceived couple wellbeing associated with sexting during the pandemic. Compared with previous studies conducted during the COVID-19 pandemic period (Bianchi et al., 2021b; Caponnetto et al., 2022; Eleuteri et al., 2022), our study focuses on the role of sexting as an adaptive coping response combatting loneliness and social isolation and promoting sexual satisfaction and couple wellbeing in women in response to pandemic-based sexual difficulties.

Our results demonstrate the role of the online dimension to surmount physical distancing and isolation under the particular restrictions, despite the negative consequences that sexting could generate in some cases that should not be underestimated. Instead, our findings contribute to better understand positive aspects of sexting; the fact that people enjoy improved sexual satisfaction through sexting, and that sexting is linked to increased couple wellbeing, suggests that this behavior could carry out a psychological function. Specifically, these results may indicate that engagement in sexting may serve as an adaptive coping mechanism during particularly difficult circumstances.

Taken together, these results suggest that during the epidemic, engagement in sexting for women may have a protective role in safeguarding couple wellbeing.

Limitations and future research

Study limitations when interpreting results should also be considered. The first limitation of this study is that our results

are based on correlational data, and great caution should be made in interpreting them causally. Also, the literature suggests that other variables belonging to the individual's personality could be implicated in sexting behavior, such as openness to new experiences, machiavellianism or narcissism (Crimmins and Seigfried-Spellar, 2017; Morelli et al., 2021). Further research should investigate the relationship between sexting and other variables and should be conducted mainly with experimental and longitudinal approaches, to clarify the direction of these relationships and understanding potential reciprocal relationships between the variables. The second limitation of the research is that it was conducted in Italy during the second wave of the COVID-19 pandemic, and the results cannot be generalized to different countries, where the experience of the second wave of the pandemic may have been very different. Further research conducted in other cultural contexts (also in the absence of the restrictions produced by the COVID-19 pandemic) should investigate the relationship between sexting and individual wellbeing in women. The third limitation is linked to the sample, because the participants are only women university students in a specific type of relationship, over 1 year and not cohabiting. Further research should investigate the relationship between sexting and individual wellbeing in different types of samples such as men and general population (instead of young students only). Another limitation is the adoption of self-report instruments, which can be influenced by the social desirability bias; they may also limit conclusions from these results. Finally, we only assessed women, and it might be interesting to understand how the relationship between these variables would work in a sample of men as well. Future research needs to focus on a longitudinal design and add objective assessments of variables.

Despite these limitations, our study may bring something fresh to research, providing the first evidence for the coping role of sexting behaviors in sexual satisfaction and couple wellbeing. Our findings should be used in post-pandemic studies to better understand the coping function of sexting behavior in other environmental conditions, beyond the pandemic. Since the view of technology-mediated sexuality is at a developmental stage, future work should investigate the sexting role in sexual satisfaction with a longitudinal design, to understand how it could increase the level of intimacy within a relational relationship. From a clinical point of view, we believe that the results of our work may be useful in better understanding the phenomenon of sexting during emergencies, of sexual interactions mediated by technology, and the impact on sexual satisfaction for women.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by the University of Palermo. The patients/participants provided their written informed consent to participate in this study.

Author contributions

RB, MG, and GL performed the material preparation and data collection. SR performed the analyses. RB and SR wrote the first draft of the manuscript. All authors contributed to the study conception and design and commented on previous versions of the manuscript, read, and approved the final manuscript.

Acknowledgments

We thank all people participated in this study.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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frontiers | Frontiers in Sociology

TYPE Brief Research Report
PUBLISHED 10 March 2023
DOI 10.3389/fsoc.2023.1108085

OPEN ACCESS

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SPECIALTY SECTION
This article was submitted to Gender, Sex and Sexualities, a section of the journal Frontiers in Sociology

RECEIVED 25 November 2022
ACCEPTED 21 February 2023
PUBLISHED 10 March 2023

CITATION
Salvati M, Sari T, Pellegrini V and De Cristofaro V (2023) Gay, Lesbian, and Bisexual (LGB) peoples' leadership self-effectiveness: The roles of internalized sexual stigma, LGB positive identity, and traditional masculinity. *Front. Sociol.* 8:1108085. doi: 10.3389/fsoc.2023.1108085

Gay, Lesbian, and Bisexual (LGB) peoples' leadership self-effectiveness: The roles of internalized sexual stigma, LGB positive identity, and traditional masculinity

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Grounded in the theoretical frameworks of the minority stress model and the model of positive identity in sexual minority people, the current research contributes to fill a gap in the previous literature, investigating the relationships among leadership self-effectiveness, internalized sexual stigma, positive identity, and adherence to traditional masculinity of gay, lesbian, and bisexual (LGB) individuals. Through a correlational study ($N = 449$), we collected data from 229 gay/bisexual men (51%) and 220 lesbian/bisexual women (49%). We hypothesized that lower internalized sexual stigma, higher LGB positive identity, and higher adherence to traditional masculinity were associated to higher self-perceived effectiveness. The interactive relationships among the variables, including participants' gender, were investigated from an exploratory perspective. The hypotheses were tested through two moderated regression models and the results confirmed that participants with lower internalized sexual stigma and higher LGB positive identity were more likely to perceive themselves as potential effective leaders. Also, the results showed a significant interaction between participants' gender and traditional masculinity score suggesting that high adherence to traditional masculinity was a significant predictor of self-perceived effectiveness only for gay/bisexual men, but not for lesbian/bisexual women. This research contributes to provide both confirmation and novel insights into the key role of relevant factors impacting on LGB people's leadership self-effectiveness, which might contribute to preserve the gay glass ceiling effect. The presence of antidiscrimination policies in organizations not only might reduce reports of discrimination but also enhance LGB employees' positive sense of self, which is a critical aspect to emerge as a leader.

KEYWORDS

leadership, gay, lesbian and bisexual people, internalized sexual stigma, positive identity, traditional masculinity and femininity

Introduction

Despite numerous institutional interventions that aim to prevent sexual orientation and gender identity stigmatization and discrimination recently, it is a well-known fact that LGBTQ+ employees still encounter an unequal workplace experience in practice (Mara et al., 2021; Ozbilgin et al., 2022). One of the leading discriminations LGBTQ+ employees face in practice is the "gay glass ceiling effect" in which they report better managerial authority and supervisory skills, but they are not able to attain top managerial positions and even get paid less when compared to heterosexual individuals. Even though LGBTQ+ individuals are more likely to have a longer formal education, they tend to only reach low payment managerial positions because of discrimination, not rather than their different skills or characteristics (Aksoy et al., 2019). Eventually, many LGBTQ+ individuals might feel discouraged when they comprehend emerging as a leader is a challenging process requiring too much effort compared to their heterosexual counterparts (Salvati et al., 2021a).

Understanding the consequences of sexual stigma in the workplace is noteworthy since sexual minority individuals are targeted to be marginalized and discriminated against. Sexual stigma pertains to the negative societal considerations against non-heterosexual behaviors, identities, relationships, or communities (Herek and McLemore, 2013). Collectively, society holds a shared knowledge that all kinds of non-heterosexual behaviors and attractions are not tenable and subject to stigmatization and discrimination. On the other hand, heterosexism is a structural phenomenon in which either every individual is assumed as heterosexual or any recognition of non-heterosexuality is assumed abnormal and justifiable for discriminatory treatment and hostility (Herek et al., 2015). Moreover, sexual stigma might manifest itself as an internalized sexual stigma. Internalized sexual stigma refers to the individual's personal acceptance of sexual stigma constituted by society regardless of gender identity and sexual orientation (Herek and McLemore, 2013; Herek et al., 2015). While heterosexual individual's internalized sexual stigma shows up as negative attitudes toward LGBTQ+ individuals (Herek et al., 2015), LGBTQ+ individual's internalized sexual stigma might be both internal and external (Herek et al., 2015; Sommantico et al., 2018). In other words, LGBTQ+ individuals with high levels of internalized sexual stigma might have negative attitudes not only toward their own gender identity and sexual orientation but also toward other LGBTQ+ individuals.

In organizations where heterosexism is dominant, LGBTQ+ employees perceive career-related barriers based on their gender identity and sexual orientation (Schmidt et al., 2012; Allan et al., 2015). Sexual stigma might have negative impacts on LGBTQ+ employees' career advancement (Fassinger et al., 2010). The scholars also emphasize that LGBTQ+ employees are concerned that their effectiveness and success will be seen as inadequate when they become leaders. Hence, it might be understandable that the more LGBTQ+ employees internalize sexual stigma against gender identity and sexual orientation, the lower self-efficacy they may have. Furthermore, several authors argued that gay and lesbian employees who have disclosed their sexual orientation might be prevented in their career path compared to their LGBTQ+ counterparts who did not (Buser et al., 2015; Dilmaghani, 2018). In their study, Salvati et al. (2021a,b) found similar results that gay employees with higher internalized sexual stigma are less likely to apply for a leadership position because of their sexual orientation. Hence, it has been hypothesized that there is a significant and negative association between internalized sexual stigma and self-perceived effectiveness as a potential leader.

While some LGBTQ+ individuals internalize sexual stigma based on gender identity and sexual orientation, some LGBTQ+ individuals tend to embrace their gender identity and sexual orientation. Minority stress theory conceptualized by Meyer (2003) states that LGBTQ+ individuals with their stigmatized social identities might experience additional stressors based on their gender identity or sexual orientation in addition to job-related stress in heterosexist environments. This internalization process of stigma is a proximal stressor in which LGBTQ+ individuals might have internalized sexual stigma, expect or fear rejection, and try to hide their gender identity and sexual orientation (Meyer, 2003). Similarly, internalized sexual stigma might not only lead to concealment at work but also provoke personal distress (Velez et al., 2013). Hence, having a positive identity might be a protective factor against discrimination and stigmatization for sexual minorities living in heteronormative contexts (Riggle and Rostosky, 2011). Positive LGBTQ+ identity refers to having positive feelings and thoughts while defining yourself as an LGBTQ+ -identified person (Rostosky et al., 2018). Scholars emphasize that having a positive LGBTQ+ identity is not simply equivalent to not having internalized sexual stigma, but a positive LGBTQ+ identity is more of a multi-dimensional process rather than a spectrum (Mohr and Kendra, 2011; Petrocchi et al., 2020). Several studies considered these dimensions that LGBTQ+ individuals hold positive perceptions about the aspects of LGBTQ+ identity including commitment to social justice, sense of belonging to a community, authenticity, self-awareness, and satisfaction in romantic relationships (Rostosky et al., 2010; Riggle et al., 2014; Sung et al., 2015). Having a positive LGBTQ+ identity has been found to be associated with individuals' psychological well-being (Riggle and Rostosky, 2011; Baiocco et al., 2018). In their study, Petrocchi et al. (2020) investigated the effect of having a positive LGBTQ+ identity on the well-being of Italian lesbian women, gay men, and bisexual people. The scholars found out that lesbian and gay participants hold higher levels of self-positive identity perception compared to bisexual people. Moreover, they stated that self-awareness, community, authenticity, and intimacy which are the dimensions of positive LGBTQ+ identity have a significant and positive contribution to the well-being of individuals. Previous research showed that a positive LGBTQ+ identity may act as a strength and resource to overcome the sexual stigma constituted by society and promote resilience for sexual minority groups within different contexts (Vaughan and Rodriguez, 2014). Therefore, we can hypothesize that employees who develop a positive LGB identity would see themselves as more effective in leadership positions, compared to employees with a negative LGB identity.

Social role theory developed by Eagly (1987) not only claims that gender stereotypes form a standard prototype for descriptive roles of men and women but also constitute normative roles that how men and women should behave in certain situations (Coffman,

2014). Hence, men and women might tend to act according to their socially assigned gender roles. The dominant stereotypical view in society is that men are described with masculine and agentic traits such as being competitive and dominant, whereas women are considered to hold more feminine and communal traits such as being warm, compassionate, empathic, and socially oriented (Salvati et al., 2019; Rosca et al., 2020; Kosakowska-Berezecka et al., 2022). According to the role congruity model (Eagly and Karau, 2002), there should be a match between the way how an individual is seen and the traits and behaviors a successful leader should have. Based on social role theory, stereotypes related to women's roles are considered less consistent with leadership positions (Eagly and Wood, 2012). Therefore, women leaders are evaluated as less effective than male leaders (Heilman et al., 2004). Gender stereotypes related to heterosexist ideology also stand upon LGBTQ+ individuals to conform to assigned gender roles. Thus, LGBTQ+ employees may try to cope with the stigmatization and discrimination by trying to fit the social norms and they put much effort to close the gap between how they act and how they are expected to act (Ozbilgin et al., 2022). Previous research found that lesbian women perceived themselves as more masculine than bisexual and straight women (Kachel et al., 2016). In addition to this, straight men also perceived themselves as more masculine than gay men, and most gay men participants perceived themselves as more masculine than feminine (Kachel et al., 2016). Moreover, perceiving oneself to have masculine traits and agentic behaviors are thought to be antecedents of being an effective LGBTQ+ leader (Koenig et al., 2011; De Cristofaro et al., 2020; Salvati et al., 2021a; Shamloo et al., 2022). On the other hand, Fasoli and Hegarty (2020) focused on the impact of sexual orientation vocal cues on heterosexual peoples' evaluations of leadership suitability and employability, founding that lesbian-sounding women were evaluated as less suitable than heterosexual-sounding women, and that the attributions of stereotypical masculinity to lesbian-sounding women were shown to be irrelevant to discrimination. Also, the study by Wang et al. (2022) showed that same-sex leaders with other marginalized identities (i.e., being women) do not suffer a double stigma penalization. Based on social role theory and the role congruity model, we might infer that LGBTQ+ individuals with masculine self-perception are more likely to see themselves as potential effective leaders (Salvati et al., 2021a; Shamloo et al., 2022), even though other studies showed inconsistent results for lesbian women (Fasoli and Hegarty, 2020; Wang et al., 2022).

The current study and hypotheses

The current study focuses on exploring the leadership self-effectiveness of gay, lesbian, and bisexual (LGB) individuals in a sample which mainly consist of individuals who are from U.S. and U.K. In Western societies, such as the U.S. and U.K., discrimination against sexual minority employees is punished by laws (Mize, 2016; Office for National Statistics, 2017; ILGA Europe, 2022). Nevertheless, several disparities still exist both in U.S. and U.K., like the one that gay men earn less that heterosexual men in the same job position, while lesbian women do not show the same pattern (Aksoy et al., 2019).

In-depth, we investigated the direct and interactive associations of internalized sexual stigma, LGB positive identity, traditional masculinity-femininity, and participants' gender with leadership self-effectiveness. Although the current literature includes studies on how LGBTQ+ individuals' leadership effectiveness is perceived by heterosexual people (Morton, 2017; Clarke and Arnold, 2018; Wang et al., 2022), there are not many studies on how LGBTQ+ individuals evaluate their effectiveness (but see Salvati et al., 2021a). Furthermore, the current literature focuses on how gay male employees are perceived for leadership positions; (Morton, 2017; Clarke and Arnold, 2018; De Cristofaro et al., 2020; Pellegrini et al., 2020; Salvati et al., 2021a), whereas studies considering lesbian women and bisexual individuals are more scarce (Fasoli and Hegarty, 2020; Shamloo et al., 2022; Wang et al., 2022). Therefore, the current study aims at filling the gap by putting emphasis on perceived self-effectiveness and including gay, lesbian, and bisexual participants.

Based on social role theory (Eagly, 1987) and the role congruity model (Eagly and Karau, 2002; Heilman et al., 2004), we expected that high levels of internalized sexual stigma would be associated with low levels of perceived self-effectiveness as a potential leader (Hypothesis 1), whereas having a high positive LGB identity would be associated with high perceived self-effectiveness as a potential leader (Hypothesis 2). Also, we expected that high adherence to traditional masculinity would be associated with high perceived self-effectiveness as a potential leader (Hypothesis 3). Considering the scarcity of literature on the topic, the interactive relationships between the variables are investigated from an exploratory perspective, as well as the interactive relationships with the participants' gender.

Methods

Power and sample size

Although our main hypotheses were not focused on interactive effects, we decided to determine the sample size based on a moderated regression research design. This would ensure us to obtain an adequate statistical power for also exploring the presence of potential interactive effects. Thus, we ran an a-priori analysis for a linear multiple regression model (*F*-test family) by setting a small f2 of 0.02, a conventional power of 0.80 and an error probability of 0.05. Given the lack of previous literature on the interested interactive associations, we opted for low expected effect size (Cohen, 1988) in our sample size estimation (Perugini et al., 2018). With one tested coefficient (i.e., the interaction) on a total of three (i.e., two main effects and interaction), the analysis revealed a minimum sample size of 391 participants. The analysis has been performed with G*power.

Participants and procedure

Participants were recruited online during the month of February 2021 through Prolific, a software that allows

10.3389/fsoc.2023.1108085

TABLE 1 LGB sample's descriptives ($N = 449$).

Variable	*N*	%
Gender		
Male	229	51%
Female	220	49%
Sexual orientation		
Bisexual	10	2.2%
Predominantly homosexual	36	8.0%
Exclusively homosexual	403	89.8%
Nationality		
U.S.	151	33.6%
U.K.	282	62.8%
Other	16	3.6%
Educational level		
Primary school diploma	1	0.2%
Middle school diploma	5	1.1%
High school diploma	140	31.2%
Bachelor's degree	212	47.2%
Master's degree	73	16.3%
PhD or higher specialization	18	4.0%
Ethnicity		
Asian	24	5.3%
Black	16	3.6%
Latino	13	2.9%
White/caucasian	381	84.9%
Other	14	3.1%

you to recruit and pay research participants by selecting inclusion criteria. The inclusion criteria were: (a) be a native speaker of English; (b) be at least 18 years old; (c) have a cisgender gender identity; d) have a homosexual or bisexual sexual orientation. Based on the inclusion criteria, 449 participants (229 gay/bisexual men, 51.0%; 220 lesbian/bisexual women, 49.0%) (M_{Age}= 34.27; SD_{Age} = 12.48) completed the online questionnaire (See Table 1 for more detailed demographics).

There was a compensation of £ 5.00 per hour. The time to complete the online questionnaire hosted on Qualtrics was ∼10 min. Before starting the questionnaire, participants were told that they were about to participate in research on leadership. Before taking part in the research, everyone read and signed informed consent online which adhered to the revised Declaration of Helsinki (World Medical Association, 2007) and was approved by the Research Ethics Committee of the Department of Social and Developmental Psychology (Removed for blind revision). At the end of the questionnaire, participants were thanked for their participation and sent back to the Prolific site for the compensation.

Measures

Socio-demographics

Participants were asked to indicate their gender (1 = *Male*; 2 = *Female*; 3 = *Other*), age, sexual orientation (1 = *Exclusively heterosexual*; 2 = *Predominantly heterosexual*; 3 = *Bisexual*; 4 = *Predominantly homosexual*; 5 = *Exclusively homosexual*), nationality, ethnicity, and educational level (1 = *Primary school diploma*; 2 = *Middle school diploma*; 3 = *High school diploma*; 4 = *Bachelor's degree*; 5 = *Master's Degree*, 6 = *PhD or higher specialization*).

Internalized sexual stigma

ISS was measured by administering the three-item subscale 'internalized homonegativity' of the Lesbian, Gay, and Bisexual Identity Scale (LGBIS, Mohr and Kendra, 2011). Participants responded on a 6-point Likert scale, ranging from 1 = *Strongly Disagree* to 6 = *Strongly agree*. The three items were: "*If it were possible, I would choose to be straight*", "*I wish I were heterosexual*", "*I believe it is unfair that I am attracted to people of the same sex*". The ISS score was calculated through the average of the three items, so that higher scores corresponded to higher levels of ISS. In the current study, Cronbach's Alpha was 0.89. (Cronbach's Alpha ranged between 0.86 and 0.93 in the original validation study by Mohr and Kendra, 2011).

LGB positive identity

The three-item subscale 'Identity Affirmation' of the LGBIS (Mohr and Kendra, 2011) was provided to measure participants' positive identity regarding their sexual identity. Participants responded on a 6-point Likert scale, ranging from 1 = *Strongly Disagree* to 6 = *Strongly agree*. The three items were: "*I am glad to be an LGB person*", "*I'm proud to be part of the LGB community*", "*I am proud to be LGB*". The total score was calculated through the average of the three items, so that higher scores corresponded to higher levels of LGB positive identity. In the current study, Cronbach's Alpha was 0.91 (Cronbach's Alpha ranged between 0.89 and 0.94 in the original validation study by Mohr and Kendra, 2011).

Traditional masculinity-femininity

Participants were administered the six-item TMF Scale (Kachel et al., 2016), which required to attribute a score from 1 = *Very Feminine*, to 7 = *Very Masculine* to six incomplete sentences such as: "*I consider myself as…*", "*Traditionally, my interests would be considered as…*", "*Traditionally, my attitudes and beliefs would be considered as…*". The total score was calculated through the average of the six items, so that high scores corresponded to higher levels of traditional masculinity, whereas low scores corresponded to higher levels of traditional femininity. In the current study, Cronbach's Alpha was 0.87. (Cronbach's Alpha was 0.94 in the original validation study by Kachel et al., 2016).

Leadership self effectiveness

Participants completed the ten-item scale of leadership effectiveness by Hais et al. (1997), which was readapted and already used in previous studies on gay (De Cristofaro et al., 2020; Pellegrini et al., 2020; Salvati et al., 2021a) and lesbian leadership (Shamloo et al., 2022). Example items were: "*I have the qualities for being a good leader*", "*I would be an effective leader*", and '*I would be willing to endorse a leader like me*". This tool detects leadership self-effectiveness, without referring to a specific leadership context. The total score was calculated through the average of the ten items, so that higher scores corresponded to higher levels of self-effectiveness as potential leader. In the current study, Cronbach's Alpha was 0.96 (Cronbach's Alpha was 0.88 in the original validation study by Hais et al., 1997).

Statistical analyses

Before proceeding to test our hypotheses, we conducted preliminary analyses investigating correlations, kurtosis and skewness statistics among the measure collected (Table 2). Such analyses allowed to explore assumptions of normality and multicollinearity in our data. Subsequently, two moderated regression models tested our research hypotheses.

Specifically, in the first moderated regression model, ISS was entered as predictor (X), EFF as dependent variable (Y), and TMF (M1) and participants' gender (M2) as moderators (Model 2 by vers. 4.0 of PROCESS of SPSS; Hayes, 2017). In the second moderated regression model, LGB PI was entered as predictor (X), EFF as dependent variable (Y), and TMF (M1) and participants' gender (M2) as moderators (Model 2 by vers. 4.0 of PROCESS macro of SPSS; Hayes, 2017).

As additional exploratory analysis, in order to explore the interactive effect between participants' TMF and gender, we have run an additional moderated regression model (Model 1 by vers. 4.0 of PROCESS macro of SPSS; Hayes, 2017) where participants' TMF and gender were the predictor (X) and moderator (M) respectively, whereas ISS and LGB PI were included as covariates.

Results

Correlation and preliminary analyses

Preliminary analyses showed that all the measures confirm normality assumptions, indeed all the absolute skewness and kurtosis values are lower than 3 and 8, respectively (Kline, 2015). Also, correlation results indicated that multicollinearity was not an issue, showing that all the correlations are below the threshold of |0.80| (Field, 2009). Descriptives by gender are shown in Table 3.

The correlation results are in line with our expectations, giving first support to our hypotheses. Indeed, EFF showed e negative association with ISS, $r = -0.15$, $p < 0.01$, with a low effect size (Cohen, 1988), indicating that LGB participants with high ISS are less likely to perceive themselves as effective leaders. On the

TABLE 3 Descriptive statistics by gender.

Variable	Gay/bisexual men $N = 229$		Lesbian/bisexual women $N = 220$	
	M	*SD*	*M*	*SD*
Age	36.34[a]	12.96	32.13[b]	11.60
Education	3.95[a]	0.06	3.85[a]	0.06
LGB PI	4.47[a]	1.30	4.93[b]	1.25
ISS	1.73[a]	1.14	1.60[a]	1.12
TMF	4.58[a]	0.93	3.73[b]	1.05
EFF	3.56[a]	1.00	3.44[a]	0.95

Statistical significant gender differences are showed through different letter in superscript to the mean values.
LGB PI, LGB Positive Identity; ISS, Internalized Sexual Stigma; TMF, Traditional Masculinity-Femininity Scale: High scores correspond to high traditional masculinity; EFF, Leadership Self-Effectiveness.

TABLE 2 Correlations and descriptives.

	Gender	Age	Education	LGB PI	ISS	TMF	EFF
Gender	1						
Age	−0.17**	1					
Education	−0.06	0.15**	1				
LGB PI	0.18**	−0.15**	−0.07	1			
ISS	−0.05	−0.03	0.06	−0.61**	1		
TMF	−0.40**	0.30**	0.05	−0.16**	0.02	1	
EFF	−0.06	0.11*	0.09	0.19**	−0.15**	0.15**	1
M	-	34.28	-	4.70	1.67	4.16	3.50
SD	-	12.48	-	1.30	1.13	1.08	0.97
Skewness	-	1.04	-	−0.95	2.01	−0.25	−0.63
Kurtosis	-	0.53	-	0.14	3.58	0.24	−0.17

*$p < 0.05$; **$p < 0.01$.
Gender: 1, Male (Gay and Bisexual Men); 2, Female (Lesbian and Bisexual Women); LGB PI, LGB Positive Identity; ISS, Internalized Sexual Stigma; TMF, Traditional Masculinity-Femininity Scale: High scores correspond to high traditional masculinity; EFF, Leadership Self-Effectiveness.

contrary, the results indicated that EFF was positively associated with LGB Positive Identity, $r = 0.19$, $p < 0.01$, with a low-medium effect size (Cohen, 1988), suggesting that LGB people with a more positive identity tend to report high levels of EFF. Also, es expected EFF showed a positive association with TMF, $r = 0.15$, $p < 0.01$ with a low effect size (Cohen, 1988), indicating that LGB persons' traditional masculinity is associated to high score of leadership self-effectiveness.

Moderated regression model with internalized sexual stigma

Overall, the model explained a significant proportion of variance, $R^2 = 5.19\%$, $F_{(5, 443)} = 4.85$, $p < 0.001$. Specifically, as expected ISS was negatively associated with EFF, $ß = -0.15$, $se = 0.05$, $t = -2.88$, $p = 0.001$ with no interaction neither with TMF, $ß = -0.01$, $se = 0.05$, $t = -0.18$, $p = 0.859$, nor with participants' gender, $ß = 0.08$, $se = 0.05$, $t = 1.52$, $p = 0.129$, indicating that high scores in internalized sexual stigma are associated to low self-perceived leadership effectiveness, independently by participants' traditional masculinity and gender, confirming our hypothesis 1. As expected TMF was positively associated with EFF, $ß = 0.14$, $se = 0.05$, $t = 2.88$, $p = 0.004$, showing that higher score in traditional masculinity is related to higher self-perceived effectiveness, supporting our hypothesis 3. The direct effect of participants' gender on EFF was not significant, $ß = -0.03$, $se = 0.05$, $t = -0.65$, $p = 0.517$, showing that gay/bisexual men and lesbian/bisexual women did not report significant statistical differences in leadership self-effectiveness.

Moderated regression model with LGB positive identity

Overall, the model explained a significant proportion of variance, $R^2 = 7.17\%$, $F_{(5, 443)} = 6.84$, $p < 0.001$. Specifically, as expected LGB PI was positively associated with EFF, $ß = 0.22$, $se = 0.05$, $t = 4.74$, $p < 0.001$, with no interaction neither with TMF, $ß = -0.02$, $se = 0.05$, $t = -0.33$, $p = 0.743$, nor with participants' gender, $ß = -0.05$, $se = 0.05$, $t = -1.03$, $p = 0.302$, indicating that high scores in LGB positive identity are associated to high self-perceived effectiveness, independently by participants' traditional masculinity and gender, confirming our hypothesis 2. As in the first model, TMF was positively associated with EFF, $ß = 0.17$, $se = 0.05$, $t = 3.42$, $p < 0.001$, showing that higher score in traditional masculinity is related to higher self-perceived effectiveness, supporting our hypothesis 3. The direct effect of participants' gender on EFF was not significant, $ß = -0.03$, $se = 0.05$, $t = -0.62$, $p = 0.537$, showing that gay/bisexual men and lesbian/bisexual women did not report significant statistical differences in leadership self-effectiveness.

Additional exploratory analysis

On the one hand, such analysis confirmed the results of the previous main analyses showing that TMF was positively associated with EFF, $ß = 0.19$, $se = 0.05$, $t = 3.90$, $p < 0.001$, and that the direct effect of participants' gender on EFF was not significant, $ß = -0.03$, $se = 0.05$, $t = -0.54$, $p = 0.592$. On the other hand, such a model allowed us to show that the direct effect of TMF on EFF was qualified by the interaction with the participants' gender, $ß = -0.20$, $se = 0.05$, $t = -4.14$, $p < 0.001$. Specifically, simple slope analyses clarified that high scores in traditional masculinity are associated to higher self-perceived leadership effectiveness only in gay/bisexual men, $ß = 0.39$, $se = 0.07$, $t = 5.35$, $p < 0.001$, but not in lesbian/bisexual women, $B = -0.01$, $se = 0.07$, $t = -0.21$, $p = 0.830$ (Figure 1).

Discussion

The present study aimed to make significant contributions to the studies on leadership effectiveness by investigating the self-perceptions of gay, lesbian, and bisexual individuals. For this purpose, we investigated the impacts of internalized sexual stigma, LGB positive identity, and adherence to traditional masculinity on leadership self-effectiveness. Additionally, whether and how participants' gender and traditional masculinity affect the relationship between internalized sexual stigma, LGB positive identity, and leadership self-effectiveness was examined.

Our first model showed that internalized sexual stigma has a significant and negative impact on leadership self-effectiveness. Thus, our first hypothesis indicating that the more individuals internalize the sexual stigma, the less they perceived themselves as a potential effective leader was supported. This result is consistent with the previous studies emphasizing that embracing the sexual stigma about your sexuality might influence the way how you perceive yourself as a potential leader (Fassinger et al., 2010; Salvati et al., 2021a). This might be partially explained by the fact that LGB people with high internalized sexual stigma tend to enact heteronormative practices through the adhenre to traditional masculinity and femininity and through the rejection of behaviors which are not considered gender role conforming in order to consider themselves worthy of leadership positions (Eagly, 1987; Eagly and Karau, 2002; Heilman et al., 2004; Salvati et al., 2018). By doing this, they can also hinder their career development.

The second hypothesis which defended that LGB positive identity has a significant and positive contribution to leadership self-effectiveness was also supported in the second model. Indeed, our findings revealed that when individuals are glad and proud to be an LGB person and about their presence in the LGB community, they are more likely to perceive themselves as potential effective leaders. Our result is in line with Riggle and Rostosky's (2011) assumptions that having a positive LGB identity perception might help individuals to boost their self-esteem in their working lives and their motivation to reach higher positions. Moreover, Riggle and Rostosky (2011) also argue that when LGB individuals achieve this goal, they might not only become efficient leaders but also role models for others by showing them the vital importance of embracing their LGB identity. Our result supports these

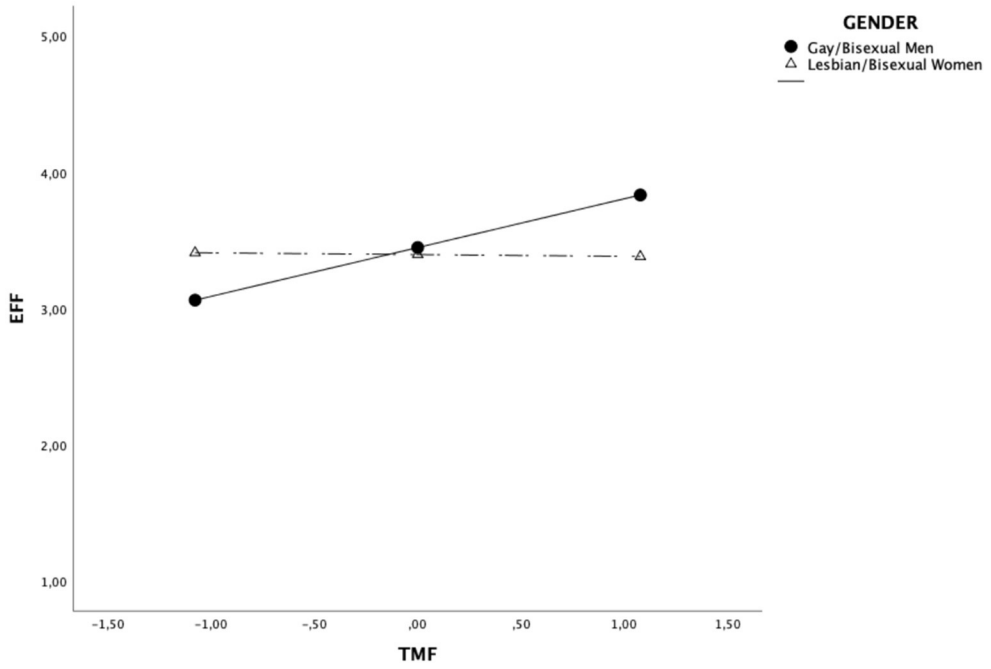

FIGURE 1
Simple slopes analyses of the interaction TMFxGender on EFF. EFF, Self-perceived leadership effectiveness; TMF, Traditional Masculinity-Femininity Scale: Higher scores correspond to higher traditional masculinity.

assumptions empirically and extends previous research findings which were focused on internalized sexual stigma exclusively (Salvati et al., 2021a).

Our third hypothesis which predicted that traditional masculinity would have a significant and positive contribution to leadership self-effectiveness was also supported. In other words, the more LGB individuals perceive and describe themselves as traditionally masculine, the more their self-perception of becoming effective leaders strengthens. Our finding is in line with previous countless studies on leadership addressing that holding masculine traits is a strong antecedent of becoming an effective leader (Liberman and Golom, 2015; De Cristofaro et al., 2020; Salvati et al., 2021a). However, our results highlighted that high traditional masculinity is a significant predictor of self-perceived effectiveness only for gay/bisexual men, but not for lesbian/bisexual women. Even though LGB individuals struggle to fit in with normative expectations at work and in life, gay/bisexual men who violate traditional gender roles are inclined to face more stigmatization and prejudices, compared to gay/bisexual men who conform to traditional gender roles (Steffens et al., 2015; Salvati et al., 2021b). It might be reasonable to underline that gay/bisexual men are more expected to adhere to traditional masculine roles to fit in and be accepted by others (Vandello and Bosson, 2013; Bosson et al., 2021). This might be one reason in our study why gay/bisexual participants' belief about holding more masculine traits led them to evaluate themselves as more effective potential leaders, compared to lesbian/bisexual women. On the other hand, another possible explanation might be those lesbian/bisexual women are expected to have both masculine and feminine traits for becoming effective leaders (Niedlich and Steffens, 2015; Shamloo et al., 2022). By doing this, they would meet the most dominant criteria of becoming a good leader which is "having masculine traits" and having feminine traits would come up as a coping strategy not to break gender roles (Fassinger et al., 2010; Niedlich and Steffens, 2015). The study by Kachel et al. (2016) could support this by showing that lesbian and bisexual women consider themselves less masculine than gay and bisexual men.

Practice implications

This research contributes to providing both confirmation and novel insights into the key role of relevant factors impacting on LGB people's leadership self-effectiveness such as internalized sexual stigma, positive LGB identity, and traditional masculinity, which might contribute to preserving the gay glass ceiling effect. Drawing on the minority stress theory developed by Meyer (2003), we might assume that LGBTQ+ individuals are at risk of experiencing stigmatization, marginalization, and discrimination in heterosexist institutional settings. They are not only exposed to job-related stressors but also to minority-specific stressors. On the other hand, this heterosexist working environment might lead LGBTQ+ individuals to internalize sexual stigma. Thus, it is very crucial to develop institutional interventions to prevent discrimination, marginalization, and stigmatization against sexual minorities. The presence of antidiscrimination policies in organizations not only reduces reports of discrimination (Barron and Hebl, 2013) but

also enhances LGBTQ+ employees' positive sense of self (Riggle et al., 2010). As we mentioned before, it is very critical having a positive sense of self for LGBTQ+ employees to emerge as a leader. Furthermore, organizations should also put forward inclusivity training and diversity management programs. LGBTQ+ employees are less likely to report interpersonal discrimination when their organization develops antidiscrimination policies and diversity training that consider sexual minorities (Button, 2001). Organizations that give importance to diversity and inclusion might prevent violence against LGBTQ+ employees by developing such practical strategies. Moreover, these organizations might even help to prevent LGBTQ+ individuals from internalizing assigned gender roles and to develop a positive LGBTQ+ identity. LGBTQ+ employees with low internalized sexual stigma and high positive identity perception might feel more confident to attain higher positions. Of course, we do not believe nor that "masculinity" should be taught to lesbian and bisexual women, nor that gay and bisexual men should train certain behaviors in line with traditional masculinity norms. In our opinion, being aware of these relationships is in itself already an element that contributes to the awareness and understanding the phenomenon of the gay ceiling effect. In our opinion, it would be better to intervene on the reduction of internalized sexual stigma and on promoting a positive LGB identity. Therefore, organizations might get benefit from these individuals and not waste these talents.

Limitations and future research directions

The current study is not without limitations. Firstly, the correlational nature of our data does not allow us to infer causal-effect relationships. Future studies might corroborate and extend our preliminary findings by conducting experimental studies (i.e., by manipulating participants' masculinity and femininity through a fictitious score on a test; Salvati et al., 2021b). On a related methodological note, we used self-reports to measure our variables, whereas future studies might focus on using objective measures of leadership effectiveness. Moreover, qualitative studies might be performed to get a deeper understanding of LGBTQ+ individuals' beliefs and experiences about their leadership experiences and self-effectiveness perception. Thirdly, we did not focus on a specific job context, but we asked our LGB participants to evaluate themselves as a potential effective leader in general. Future studies might consider specific job contexts which are stereotypically perceived as more "masculine" or "feminine". Indeed, based on gender stereotypes, some occupations could be associated with women while others with men (Heilman, 1983; Eagly, 1987). Thus, based on the lack-of-fit-model (Heilman, 1983) and the gender stereotypes affecting gay and lesbian individuals, heterosexual people and LGB individuals themselves might perceive a gay man and a lesbian woman as more suitable for a leadership position in a stereotypical female-typed or masculine-type occupation, respectively (Clarke and Arnold, 2018; Pellegrini et al., 2020).

A further limitation might be the choice to use moderated regression models, rather than path analysis models or multigroup analyses, which would allow to analyze all the direct and the interactive effects jointly, including both internalized sexual stigma and LGB positive identity as two main predictors simultaneously. The current hypotheses and sample size did not provide a reason to formulate models with more interaction terms, but future studies might deepen the relationships among the variables tested, in order to enrich the picture. Lastly, although our study extends the results of previous literature by involving lesbian/bisexual women too, however, the generalizability of our findings is still limited because they are not applicable to the whole LGBTQ+ people. Future studies might include employees with other gender identities and sexual orientations in order to avoid perpetuating their invisibility also within the LGBTQ+ community since they are one of the pioneer subjects of the glass ceiling effect (Salvati and Koc, 2022).

Conclusion

The current research has as an innovative strength the focus on the positive dimension of LGB identity which can, unlike internalized sexual stigma, positively impact on leadership effectiveness of LGB people. Such an aspect is relevant in terms of application and intervention implications, suggesting to focus not only on programs aimed at reducing internalized sexual stigma in LGBTQ+ people but also and above all aimed at developing a positive LGB identity and feelings of pride. At the same time, this research supported the previous results showing that adhering to traditional masculinity is still a key factor for gay/bisexual men (but not for lesbian/bisexual women) which affect their self-percevived leadership effectiveness. Future studies might consider the multidimensional aspects that characterize LGB positive identity in order to investigate what are the ones mainly related to the leadership self-effectiveness, and consequently having a more complete and articulated view of the various relationships.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by Department of Social and Developmental Psychology, Sapienza University of Rome. The patients/participants provided their written informed consent to participate in this study.

Author contributions

Conceptualization and methodology: MS, VP, and VD. Formal analysis: VP. Investigation and supervision and project administration: MS and VD. Resources and data curation: MS. Writing—original draft: TS and MS. Writing—review and editing:

TS, MS, and VD. All authors have read and agreed to the published version of the manuscript.

Funding

The research was funded by a Seedcorn Grant of the European Association of Social Psychology (EASP), won by Marco Salvati on December 3rd 2020.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 04 April 2023
DOI 10.3389/fpsyg.2023.1110884

OPEN ACCESS

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SPECIALTY SECTION
This article was submitted to Gender, Sex and Sexualities, a section of the journal Frontiers in Psychology

RECEIVED 29 November 2022
ACCEPTED 02 March 2023
PUBLISHED 04 April 2023

CITATION
Sedighi B, Abedini Parizi M, Haghdoost AA, Jangipour Afshar P, Shoraka HR and Jafari S (2023) How does multiple sclerosis affect sexual satisfaction in patients' spouses? *Front. Psychol.* 14:1110884. doi: 10.3389/fpsyg.2023.1110884

How does multiple sclerosis affect sexual satisfaction in patients' spouses?

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Background: Sexual dysfunction (SD) is a common complaint among multiple sclerosis (MS) patients with a significant impact on the quality of life (QoL) of afflicted couples. The purpose of this study was to determine sexual satisfaction (SS) in the spouses of MS patients and its impact on the QoL.

Methods: A total of 214 spouses of MS patients were enrolled in this cross-sectional study. They completed the Larson Sexual Satisfaction Questionnaire and SF-8 Health Survey.

Results: The mean ± SD age of the spouses was 39.8 ± 9.7 years, and the duration of MS was 5 years or less in most of their partners. The mean ± SD score of QoL was 71.0 ± 20.3 (out of 100), and the mean SS score was 89.2 ± 18.6 (out of 125), showing moderate satisfaction. The highest score was among male spouses younger than 40 years old. The SS scores were also lower among female spouses. In the final model, it was found that SD, psychiatric symptoms, cognitive impairment, and the level of disability of patients were independent explanatory factors for the SS of their spouses.

Conclusion: The findings supported the role of SS in the QoL of spouses of MS patients. Therefore, the attention of physicians to this hidden aspect of the life of MS patients is crucial.

KEYWORDS

multiple sclerosis, sexual satisfaction, spouses, quality of life, Iran

Introduction

Multiple sclerosis (MS), one of the most disabling central nervous system (CNS) diseases, is an autoimmune inflammatory demyelinating pathology, affecting about 2.3 million people worldwide. Based on the location of plaques, their symptoms vary, such as acute optic neuritis, fatigue, weakness, cognitive and psychiatric disorders, sensational symptoms, sphincter disorders, and sexual dysfunction (SD) (Qaderi and Khoei, 2014; Giesser, 2015; Ayache and Chalah, 2017).

Sexual dysfunction is one of the most common symptoms in MS patients and may arise in all phases of the sexual response cycle (libido, arousal, orgasm, and relaxation) (Foley, 2015). Several studies on SD have shown various forms of SD, including decreased perineal sensation, libido, and vaginal lubrication in women, and difficulty achieving orgasm in both genders (Schmidt et al., 2005; Marck et al., 2016; Petersen et al., 2020).

Sexual dysfunction in MS patients and their spouses is attributed to primary, secondary, and even tertiary complications including hormonal imbalance, demyelinating changes in the brain and spinal cord (specifically the S_{2-4} region that causes sexual, bladder, and bowel problems), pain, muscle weakness, fatigue, and spasticity. MS also has psychological, emotional, social, and cultural aspects that interfere with sexual feelings and experiences (Foley et al., 2001, 2013; Qaderi and Khoei, 2014; Vitkova et al., 2014).

In addition, SD is highly correlated with the general perception of the quality of life (QoL) in couples in general and specifically in couples affected by MS. For instance, intestinal and bladder dysfunctions, which are correlated with sexual disorders, reduce the QoL. A study on a large group of MS patients showed that SD affects the mental aspect of QoL (Foley, 2015). This indicates the importance of screening and treatment of sexual disorders for enhancing the QoL in couples afflicted by MS (Vitkova et al., 2014; Foley, 2015). However, limited studies have addressed sexual satisfaction (SS) and its possible effects on QoL in the spouses of MS patients, particularly in Iran with an increasing trend in the prevalence of this disease (Lublin and Miller, 2008; Riley and Tullman, 2010; Eskandarieh et al., 2017). Therefore, this study aimed to identify the scope of SS and its effect on the QoL of spouses of MS patients.

Methods

Study design and participants

This cross-sectional study aimed to evaluate the QoL and SS in the spouses of MS patients in the only referral clinic in Kerman, one of the largest cities in Iran, from May 2019 to April 2020. Based on the records of MS patients in the registry of the clinic, the final diagnosis of MS in this registry was confirmed by neurologists working at Shafa Hospital affiliated with the Kerman University of Medical Sciences, based on the revised McDonald criteria (2017) (Thompson et al., 2018). In this phase, those patients and their spouses who had chronic comorbidities (such as diabetes, congestive heart failure, psychiatric or mental disorder, and genitourinary pathologies), those who were not sexually active during the past 6 months, and those who did not agree to participate were excluded. There were 347 married cases, and 214 (0.61) people who met the eligibility were recruited for the study.

Outcomes measurement

After obtaining written informed consent forms from the patients and their spouses, data were collected using four instruments: (1) A demographic and clinical information form to assess the spouse's sex, age, education, job, income, duration of the marriage, and the patient's clinical conditions including the duration of disease, sphincter disorder, psychiatric symptoms, cognitive impairment, and SD, (2) the Expanded Disability Status Scale (EDSS), (3) Larson Sexual Satisfaction Questionnaire, and (4) SF-8 Health Survey.

The Sexual Satisfaction Questionnaire was designed by Larson et al. (1998) to measure the level of SS. The questionnaire consists of 25 items scored on a 5-point Likert scale (1 = not at all, 2 = seldom, 3 = sometimes, 4 = often, and 5 = always). The total score ranges from 25 to 125. Scores below 50 represent sexual dissatisfaction, 51–75 low satisfaction, 76–100 moderate satisfaction, and more than 101 high satisfaction (Larson et al., 1998). The reliability of the Persian version of the questionnaire was assessed and confirmed by Bahrami et al. (2016), with Cronbach's alpha of 0.70 and internal consistency of $r = 0.93$ (Bahrami et al., 2016). Furthermore, Cronbach's reliability coefficients of the SS Questionnaire in our study were 0.91.

The SF-8 Health Survey was developed by Ware in 2001 (Ware, 2001) consisting of eight domains, including general health, physical functioning, physical role, bodily pain, vitality, social functioning, mental health, and emotional roles. Four domains (general health, physical functioning, physical role, and bodily pain) measure the physical aspect of the QoL, and the other four domains (vitality, social functioning, mental health, and emotional roles) depict the mental aspect of the QoL. The total score ranges from 0 to 100. The reliability of the SF-8 Health Survey was 0.89 among the Iranian population. (Ghafari et al., 2009). In addition, Cronbach's reliability coefficients for the SF-8 Health Survey in our data were 0.89.

The Expanded Disability Status Scale (EDSS) of MS patients was designed by John Kurtzke. It assesses the functioning of systems such as pyramidal, cerebellar, brainstem, sensory, bowel, bladder, visual, and cerebellar regions (Kurtzke, 1983). The total score on this scale varies from 0 (normal neurological state) to 10 (MS-induced death).

All questionnaires were filled by the spouses in a calm and private environment under the supervision of a neurologist, and the EDSS was assessed by a neurologist. The records were kept and analyzed anonymously.

Statistical analysis

The scores of the participants in every questionnaire were computed based on their guidelines. Having described scores, all variables were modeled using a linear regression model. Multivariable linear regression analysis was conducted on the variables with a p-value of < 0.2 in univariable regression analysis (Maldonado and Greenland, 1993; Dohooet al., 2012) to evaluate the relationship between the demographic variables in the spouses of MS patients and the clinical details of the patients with the mean±SD score of SS in the spouses. The goodness of fit of the model with the score of SS (R^2 =0.67) in the spouses was acceptable. This statistic indicates that 67% of the variation in SS is explained by demographic variables in the spouses of MS patients and the clinical information of MS patients. The correlation between QOL and SS scores was evaluated by Pearson's correlation coefficient. The data were analyzed using SPSS software (version 22), and p-values of less than 0.05 were considered statistically significant.

Abbreviations: MS, multiple sclerosis; CNS, central nervous system; QoL, quality of life; PQoL, physical quality of life; MQoL, mental quality of life; EDSS, Expanded Disability Status Scale; SS, sexual satisfaction; SD, sexual dysfunction.

TABLE 1 Demographic variables of the spouses of multiple sclerosis (MS) patients and the clinical details of MS patients.

Variables			Frequency	Percent
Participants (spouses of MS patients)				
Sex	Male		162	75.7
	Female		52	24.3
Age	Less than 40		120	57.1
	40 or more		90	42.9
Education (years of formal education)	<12		40	19
	12–16		146	69.5
	>16		24	11.5
Job	Unemployed		55	25.8
	Self-employed		80	37.6
	Employed		78	36.6
Income	very low		37	17.7
	Low		92	44
	average		57	27.3
	higher than average		23	11
The duration of marriage (year)	<= 10		84	39.4
	11–20		75	35.2
	21–30		43	20.2
	> 30		11	5.2
MS patients				
The duration of MS (year)	<= 5		113	54.5
	6–10		60	29
	11–15		28	13.5
	16–20		6	3
EDSS	Mild (0–2.5)		152	71.7
	Moderate (3–5)		42	19.8
	Sever (5.5–10)		18	8.5
Main symptoms	Sphincter disorder	No	203	94.9
		Yes	11	5.1
	Psychiatric symptoms	No	120	56.1
		Yes	94	43.9
	Cognitive impairment	No	184	86.0
		Yes	30	14.0
	Sexual dysfunction	No	181	84.6
		Yes	33	15.4

Ethics statement

This study was approved by the Ethics Committee of Afzalipour Hospital, Kerman University of Medical Sciences with approval ID: IR.KMU.AH.REC.1398.072. Written informed consent was obtained from all the participants.

Results

Clinical and sociodemographic characteristics

In this study, 214 spouses with a mean ± SD age of 39.8 ± 9.7 years (range: 20–67 years) participated. The demographic

TABLE 2 Mean and standard deviation of QoL and its dimensions, as well as sexual satisfaction in spouses and EDSS in MS patients.

Variables		Mean	Standard deviation
QoL		71.0	20.3
Physical QoL		73.1	22.2
Mental QoL		68.9	21.6
QoL subscales	general health	62.2	24.3
	physical functioning	81.3	25.3
	physical role	78.4	27.3
	bodily pain	70.7	29.8
	vitality	60.3	24.9
	social functioning	77.0	28.2
	mental health	60.4	29.9
	emotional roles	78.2	23.5
Sexual Satisfaction	overall	89.2	18.6
	Male	90.7	17.6
	Female	84.6	20.9
EDSS		1.7	1.7

EDSS, Expanded Disability Status Scale; QoL, quality of life.

data of the spouses (sex, age, education, job, income, and duration of marriage) and the clinical details of the patients (duration of disease, EDSS, sphincter disorder, psychiatric symptoms, cognitive impairment, and SD) are shown in Table 1. More than 75% of the participants were men, 57.1% were younger than 40 years, and 81% had 12 or more years of formal education.

QoL and SS information

The mean ± SD QoL score was 71.0 ± 20.3 out of 100. The highest and the lowest mean QoL scores were related to the physical functioning subscale (81.3) from physical QoL and the vitality subscale (60.3) from mental QoL, respectively. The mean ± SD SS score was 89.2 ± 18.6 out of 125, showing moderate satisfaction, and the mean EDSS score was 1.7 out of 10, which was categorized as mild (Table 2).

Factors associated with SS

As shown in Table 3, the SS mean score (93.1 ± 16.1) in spouses younger than 40 was higher than those aged 40 or more (84.0 ± 20.7). The SS mean score was lower in women (84.7 ± 20.9) than in men (90.7 ± 17.6), but there was no statistically significant difference in SS ($P = 0.2$ and 0.06).

According to the regression results, a significant inverse relationship between EDSS and SS was found. It means that MS patients with moderate and severe EDSS had lower SS than those with mild EDSS (B = −6.9, $P < 0.05$ and B=-11.6, $P < 0.05$, respectively).

Patients with psychiatric symptoms, cognitive impairment, sphincter disorder, and sexual dysfunction had a low mean SS score. Furthermore, according to the results of the regression models, sexual dysfunction, psychiatric symptoms, and cognitive impairment significantly reduced the SS score ($P < 0.05$).

Correlation between QoL and SS

The Pearson correlation test was used to evaluate the correlation between the QoL and SS scores. There was a significant positive correlation between SS and QoL in the spouses of MS patients ($P < 0.05$) (Table 4).

Discussion

This study investigated SS, QoL, and their relationship in the spouses of MS patients in Kerman Province, Iran. The results showed that SS and QoL were lower than the general population. In addition, an assessment of the factors associated with SS showed that EDSS, psychiatric symptoms, cognitive impairment, and SD were significant in MS patients. Moreover, there was a significant positive correlation between QoL and SS in the spouses of MS patients.

In the current study, the participants' SS score was 89 out of 125, which was lower than the scores in the overall Iranian population reported by Rahmani et al., Amiri et al., and Bahrami et al. According to these reports, sexual satisfaction was high in men and moderate to high in women, whereas this study found SS to be moderate in both genders (Rahmani et al., 2010; Bahrami et al., 2016; Amiri et al., 2020).

Although the female partners had lower SS scores compared to the male partners in this study, it is unclear whether this was merely due to the difference in the presentation of MS in male and female patients. Studies in Iran found that SS was lower in females than in males in the general population (Bahrami et al., 2016). Therefore, the observed difference between male and female spouses cannot be attributed to the impact of MS only.

The results of this study in terms of sexual satisfaction were consistent with many chronic diseases including inflammatory bowel disease, cancer, diabetes mellitus, and hypertension (Eluri et al., 2018; Szydlarska et al., 2019; Umrigar and Mhaske, 2022). This could be due to lower QoL, depression, anxiety, the psychological impact of having a chronic illness, disease activity, and sexual disorders caused by the disease. In addition, numerous studies have shown that disability and chronic diseases can be associated with low self-esteem. Low self-esteem develops a sense of low self-confidence in oneself to have an effective and desirable sexual activity, leading to low sexual satisfaction (Delaney and Donovan, 2017; Alirezaei and Ozgoli, 2018).

In this study consistent with other studies, a significant relationship between SS in spouses and SD in MS patients was detected (Schmidt et al., 2005; Foley, 2015; Marck et al., 2016; Petersen et al., 2020). SD in MS patients is a complex and multidimensional disorder, in which decreased perineal sensation, libido, and vaginal lubrication could decrease the orgasmic response, which has a significant negative effect on sexual

10.3389/fpsyg.2023.1110884

TABLE 3 Results of linear regression models and SS of spouses were linked (as dependent variables) to demographic variables, and the clinical presentations of the MS cases.

Variables			Sexual satisfaction		
			Mean ± SD	Multiple regression	
				coefficient	P-value
Participants (spouses of MS patients)					
Sex	Male		90.7(±17.6)	Ref. group	
	Female		84.7(±20.9)	−1.7	0.06
Age	Less than 40		93.1(±16.1)	Ref. group	
	40 or more		84.1(±20.7)	−3.6	0.27
Education (years of formal education)	<12		82.6(±23.8)	Ref. group	
	12–16		89.9(±17.2)	2.6	0.41
	>16		97.3(±13.3)	3.7	0.42
Job	Unemployed		84.4(±19.5)	Ref. group	
	Self-employed		91.9(±17.9)	5.5	0.08
	Employed		89.3(±18.7)	1.4	0.68
Income	Very low		84.1(±21.8)	Ref. group	
	Low		85.7(±19.2)	−0.3	0.92
	average		93.1(±14.7)	5.8	0.12
	higher than average		100.9(±12.8)	9.0	0.06
The duration of marriage (year)	<=10		94.6(±13.1)	Ref. group	
	11–20		89.6(±19.8)	1.6	0.59
	21–30		82.2(±21.8)	−1.2	0.78
	>30		(16.9±)69.4	−8.5	0.18
MS patients					
The duration of MS (year)	<=5		92.6(±15.6)	Ref. group	
	6–10		85.8(±22.6)	−5.1	0.04*
	11–15		87.1(±19.3)	0.1	0.97
	16–20		81.8(±13.3)	0.4	0.95
EDSS	Mild (0–2.5)		93.6(±16.2)	Ref. group	
	Moderate (3–5)		79.0(±20.2)	−6.9	0.02*
	Sever (5.5–10)		73.3(±20.2)	−11.6	0.04*
Symptoms	Sexual dysfunction	No	92.1(±17.1)	Ref. group	
		Yes	73.5(±19.0)	−12.8	<0.0001*
	Sphincter disorder	No	90.1(±18.2)	Ref. group	
		Yes	73.2(±19.4)	−0.8	0.88
	Psychiatric symptoms	No	92.4(±18.3)	Ref. group	
		Yes	85.3(±18.3)	−6.0	0.008*
	Cognitive impairment	No	91.5(±17.4)	Ref. group	
		Yes	75.4(±20.3)	−7.7	0.01*

*$P < 0.05$ is significant.

TABLE 4 Correlation between sexual satisfaction and quality of life (QoL).

Variable	Sexual satisfaction	
	Correlation coefficient	P-value
QoL	0.530	<0.0001*
Physical QoL	0.499	<0.0001*
Mental QoL	0.469	<0.0001*

*Correlation is significant at $P < 0.05$.

satisfaction in both the patients and their spouses (Darija et al., 2015; Foley, 2015; Marck et al., 2016; Petersen et al., 2020).

In this study, a significant negative association was found between psychiatric symptoms in MS patients and spouses' SS, as evident in other studies (Mohammadi et al., 2013; Giesser, 2015; Petersen et al., 2020). A longitudinal study in Belgrade showed that depression, anxiety, and fatigue all have an impact on SD in MS patients (Darija et al., 2015). Due to the progressive nature of MS, physical and psycho-mental disorder increase in patients over time, leading to a decrease in SS. Psychological and social consequences of MS such as depressive mood, negative attitudes toward body image, and lower self-assurance can adversely affect sexual functioning and inhibit orgasm (Darija et al., 2015; Giesser, 2015; Petersen et al., 2020). Therefore, screening and treatment of depression and psychiatric problems and also counseling programs are recommended for couples with MS, especially in Iran.

The results also indicated a negative association between EDSS and SS, which was similar to other previous studies (Qaderi and Khoei, 2014; Vitkova et al., 2014). It shows that the aggravation of physical impairment can exacerbate sexual problems among couples with MS. Furthermore, muscle tightness, body spasms, and physical inability can affect the sexual activity and decrease sexual satisfaction in these couples (Qaderi and Khoei, 2014; Giesser, 2015).

The patients' problems in a sexual relationship, including dyspareunia, bladder and bowel problems, muscle weakness, fatigue, and spasticity, as well as psychological, emotional, social, and cultural factors (body image concern and sexual performance anxiety in the patient and reduced self-esteem because of sexual disability and inhibition) (Qaderi and Khoei, 2014; Foley, 2015; Giesser, 2015; Marck et al., 2016; Petersen et al., 2020) may result in reduced sexual relationships and SS. Overall, SS in the spouses of MS patients seems to be lower than in the normal population.

This study also found a significant positive correlation between QoL and SS in spouses of MS patients, as indicated in other studies (Nortvedt et al., 2007; Tompkins et al., 2013). Norvedt et al. found that SS has a vigorous relationship with QoL in MS patients (Nortvedt et al., 2007). Tompkins et al. found that a relationship enrichment program for both MS patients and their spouses could change their attitudes and psychiatric disorders caused by MS and, as a result, improve their QoL and SS (Tompkins et al., 2013). Chronicity of the disease and the mentioned parameters lead to the change in the spouse's role as a caregiver over time. In addition, in the Iranian culture, a sexual relationship is a monogamous relationship that starts just after marriage, so if one of the couples has a sexual disorder, it will cause sexual dissatisfaction on both sides and even can influence the continuation of marital life.

Furthermore, Iranian people and even physicians often feel ashamed of talking about sexual problems. Thus, people with such problems often have difficulty consulting with health professionals and seeking treatment or support (Rezaei et al., 2021).

In addition, as the sexual problems of MS patients and their spouses are usually missed in the treatment procedure and, thus, they do not receive suitable treatment for their sexual issues, and active screening for the diagnosis of sexual dissatisfaction in MS couples is recommended.

Similarly, fatigue, anxiety, and depression of MS patients affect their spouses' SS. Hence, these patients should resolve these symptoms to improve their sexual relationships. Furthermore, non-pharmacological strategies, including appropriate sexual positions and sexual intercourse at times of feeling more energized, should be considered in the process of consulting MS couples (Foley, 2015; Zamani et al., 2017).

These results show that the MS of partners might change the SS score not substantially. However, for more reliable results, a more comprehensive study is recommended to recruit normal and MS couples simultaneously.

Conclusion

Sexual satisfaction and its impact on the quality of life of MS patients and their partners are crucial issues in Iran. Cultural barriers and shame around speaking about sexual experiences limit the effective communication between patients and spouses with their physicians. Therefore, special attention should be paid to this issue.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by the Ethics Committee of Afzalipour Hospital, Kerman University of Medical Sciences, approval ID; IR.KMU.AH.REC.1398.072. Written informed consent has been obtained from all the participants. The patients/participants provided their written informed consent to participate in this study.

Author contributions

BS wrote the proposal and the manuscript. MAP wrote the proposal, analyzed data, and wrote the manuscript. AAH, PJA, and HRSH analyzed data and wrote the manuscript. SJ wrote the proposal, collected data, analyzed data, and wrote the manuscript, and corresponding author. All authors read and approved the manuscript.

Acknowledgments

The researchers are grateful to all of multiple sclerosis patients and their spouses who took part in this study. We would also like to thank Nozar Nakhaee and Sharare Eskandarie for their sincere participation in this study. This study was approved by the Neurology Research Center of Kerman University of Medical Sciences.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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frontiers | Frontiers in Sociology

TYPE Original Research
PUBLISHED 14 June 2023
DOI 10.3389/fsoc.2023.1172471

OPEN ACCESS

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RECEIVED 23 February 2023
ACCEPTED 18 May 2023
PUBLISHED 14 June 2023

CITATION
Rodrigues L, Pinho AR, Carneiro NS and Nogueira C (2023) Trans(gender) journeys: rights and the (non-)recognition of "human". *Front. Sociol.* 8:1172471. doi: 10.3389/fsoc.2023.1172471

Trans(gender) journeys: rights and the (non-)recognition of "human"

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A human right paradigm has been challenging the biomedical perspectives that tend to be normalized in the Western context concerning the lives of trans people. The aim of this study is to understand how trans people in Portugal and Brazil perceive the (non-)recognition of their socio-cultural, economic and political rights. Specifically, the study intends to know in what extent these perceptions influence the processes of identity (de)construction. For this purpose, 35 semi-structured interviews were conducted with people self-identified as trans, transsexuals and transvestites in Brazil and Portugal. The narratives of the participants were analyzed according to the thematic analysis method and the following six main themes emerged: (i) Who are the rights for; (ii) Types of rights; (iii) Paradigm of distribution of rights; (iv) Local or global rights; (v) Non-recognition of the "human"; and, (vi) Transphobias (and cissexism). The results allowed the knowledge of rights and the non-recognition of the "human" which is the central organizer of the analysis. Among the main conclusions of this study, we emphasize the circumscription of rights to certain international, regional and/or national contexts; the existence of local instead of global rights, since they are influenced by regional and international law, but they depend on the legislation in force in each country; and the way human rights can also be understood as a platform of invisibility and exclusion of other people. Based on a commitment to social transformation, this article also contributes to rethinking the violence that is exercised on trans people as a continuum, whether through 'normalizing devices' by medical contexts, family contexts, public space, or even through internalized transphobia. Social structures produce and sustain transphobias and, simultaneously, are responsible for fighting them by changing the paradigm about the conception of transsexualities.

KEYWORDS

critical psychology, human rights, (de)pathologization, trans, gender, biomedical model, transfeminism, intersectionality

Introduction

In Portugal, on February 22, 2006, in the city of Oporto, Gisberta Salce Junior, a Brazilian trans woman, was murdered. Gisberta was not only a trans woman; Gisberta was also a Brazilian immigrant, HIV-positive, drug addict, sex worker, and homeless. Her belonging to these social groups placed Gisberta in a situation of extreme vulnerability. Gisberta was tortured by a group of youths and later thrown into a well. The sentence mentions that the

torture was "nothing more than a bad joke that ended badly", neglecting the real motives of the aggressions: transphobia[1] (Panteras Rosa, 2006; Oliveira, 2015).

In Portugal, on September 9, 2019, in the city of Almada, Lara Crespo, a Portuguese trans woman, committed suicide. Like Gisberta Salce Junior, Lara was not only a trans woman; Lara was also a 48-year-old woman in a precarious situation. She lived on the margins of society and she was constantly exposed to hate, therefore, she lived a life of extreme vulnerability (Rodrigues et al., 2021b).

Gisberta was murdered; Lara committed suicide (Panteras Rosa, 2006; Oliveira, 2015; Rodrigues et al., 2021b). Both were targets of the same violence: transphobia.[2]

In the 21st century, a new paradigm about trans people is emerging: a human rights project. So far, the dominant focus was the medical-psychological perspective, which defines trans people as "deviant" from the sex/gender binary norm. This biomedical perspective tends to be naturalized in the Western context through different ideological agents, but it has been challenged by the new approach that focuses its attention on the legal and social situation of trans people, highlighting the human rights violations to which they are subjected (UN, 2008; Hammarberg, 2010; Pillay, 2013; Platero, 2014; Romboli, 2021; Hidalgo, 2022). The emergence of the new paradigm arises from the evidences of a systematic violence and discrimination directed at people on the basis of their gender non-conforming identity, which ranges from discrimination in employment, access to health, education, family, public space, to physical and sexual assaults, torture and homicide (UN, 2008; Hammarberg, 2010; Sennott, 2011; Pillay, 2013; TGEU, 2015a,b, 2021; Rodrigues et al., 2021a).

The new approach perceive the pathologization of transsexualities as a way of stigmatization with harmful consequences for trans people that stem from stigmatization processes (Sennott, 2011; Missé, 2014). In this context, fundamental human rights are not recognized and trans people cannot exercised them. Several rights are not assured. The international human rights regime afirms that protection right is for all people. But the right to life, personal security and privacy; the right to be free from torture, arbitrary arrest and detention; the right to be free from discrimination; the right to freedom of expression, assembly and peaceful association (UN, 2008; Pillay, 2013; Rodrigues et al., 2021a); and the right to autonomy of their identities and management of their bodies (Suess, 2010, 2011; Missé, 2014; Platero, 2014) are not a reality for trans people yet. It is, therefore, with the aim of guaranteeing trans people the full exercise of these rights that this perspective emerges.

The legislation of most member states of the Council of Europe does not explicitly recognize transphobia as a possible motive for hate crimes: the Scottish law was the first to include transphobia in the typologies of hate crimes. As a result, in most European countries, trans people have been excluded from specific legal protection, despite the high risk of becoming victims of hate crimes (Whittle, 2006; Costa et al., 2010; Hammarberg, 2010; Jesus, 2012). For example, transphobia was not considered as an aggravating factor in hate crimes against trans people in the sentencing of perpetrators of hate-motivated homicides in Portugal and Turkey (Turner et al., 2009; Hammarberg, 2010).

Besides the protection from transphobia, the recognition of legal identity of trans people also depends on the country and the region of the world to which that country belongs (Pearce, 2018; Hidalgo, 2022). Following the same conceptual line defended by Butler (1999, 2004), Coll-Planas (2010), and Pearce (2018) understands the pathologization of trans identities as a form of gender violence, as well as a form of transphobia that is exercised by the state and by medical institutions that intend to "cure" trans people. It is framed in this scenario that some states have not legitimized trans identities, contributing to the violation of their fundamental human rights.

In Portugal, Law No. 7/2011[3] of 15th March allowed the name and sex change in the civil register - a procedure in which was charged a fee of 200€ under the terms of Article 18°6.12 of the Regulation of Emoluments of Registries and Notaries, Decree-Law No. 322-A/2001 of 14th December, then revoked and an approval of exemption fees for the sex and respective change in the civil registry in Portugal was adopted in 1st April of 2020[4] - Law No. 19/2013 of 21st February made an amendment to the Criminal Code, including transphobia as an aggravating factor in hate crimes,[5] and Law No. 28/2015 of 14th April establish the right

1 Transphobia has been defined as a form of discrimination, violence, hatred and rejection against trans people or those who break with socially imposed gender norms (Jesus, 2012; Platero, 2014). In addition, it has also been conceptualized as a form of oppression for all people due to gender impositions, which results in: oppression of trans people by society; oppression of trans people by other trans people; and/or oppression of oneself for being trans, which is commonly referred to as "internalized transphobia" (Lewis and Arnold, 1998; Platero, 2014). Internalized transphobia can also be defined as the impact of discrimination on the way trans subjectivities are constructed (Missé, 2014). In the case of Gisberta, despite the different ongoing marginalization the crime practice was highly discussed and the court disregarded the transphobic hate component. It was only due to the action of LGBT activism movement that Europe pressured the Portuguese State to recognize the crime as based in aggravating factor of transphobia.

2 Regarding suicide, when historically oppressed people commit suicide due to their nonconforming gender identity, what is at stake is the transphobic society that does not recognize diversity and adds vulnerability to people's lives. Here, Lara's experiences put her in a situation of self-hatred, also known as internalized transphobia. However, that self-hatred was not Lara's responsibility, but the responsibility of a society that is transphobic.

3 Law No. 7/2011 de 15 de março (2011). *Cria o procedimento de mudança de sexo e de nome próprio no registo civil e procede à décima sétima alteração ao Código do Registo Civil*. Lisboa: Diário da República, 1ª série – N° 52, 1450–1451. Available online at: http://dre.pt/pdf1sdip/2011/03/05200/0145001451.pdf.

4 Law No. 322-A/2001 de 14 de dezembro. Aprova o Regulamento Emolumentar dos Registos e Notariado. Lisboa: Diário da República n.° 288/2001, 1° suplemento, série I-A de 2001-12-14, 2-12. Available online at: https://dre.pt/dre/detalhe/decreto-lei/322-a-2001-330632.

5 Law No. 19/2013 de 21 de fevereiro (2013). *procede à 29.ª alteração ao Código Penal, aprovado pelo Decreto-Lei n.° 400/82, de 23 de setembro, e primeira alteração à Lei n.° 112/2009, de 16 de setembro, que estabelece o regime jurídico aplicável à prevenção da violência doméstica, à proteção*

to equality in access to employment. All these laws contributed to the recognition and legal protection of transsexualities. In 2018 is approved the Law No. 38/2018 of 7th August that allowed the right to self-determination of gender identity and gender expression as well the protection of the sexual characteristics of each person,[6] removing the mandatory diagnosis for trans people. In 2019, it was also approved the Order No. 7247/2019[7] of the Presidency of the Council of Ministers and Education—Offices of the Secretary of State for Citizenship and Equality and the Secretary of State for Education—which establishes the administrative measures for implementing the provisions in Article 12 No. 1 of Law No. 38/2018 of 7th August.

In Brazil, in 2013, Ordinance No. 2,803 dated on November 19, 2013,[8] redefines and expands the "transsexualizing process" in SUS (Unified Health System). The diploma mentions the integration of care for transsexuals and transvestites, preventing the restriction or the centralization of therapeutic goal to sexual reassignment surgeries; the interdisciplinary work; the humanized reception without discrimination; and the respect for differences and human dignity at all levels. Also, through the Ordinance No. 73 dated on June 28, 2018,[9] which allows transgender people to change prename and gender in birth and marriage records in the Civil Registry of Natural Persons, it was possible to remove the diagnosis requirement for trans people to have their identities recognized in Brazil.

In the light of the above and considering that some countries have made a commitment in the international domain to combat discrimination based on gender identity, there are still many legal and political gaps. Therefore, it is essential to adopt an intercultural dialogue and to discuss the rights of transgender people—both at national/regional and international level—involving international organizations, national human rights institutions, non-governmental organizations, academia, media professionals, etc. Moreover, it is important to embrace socio-political stances committed to a critical human rights perspective, to enhance the living conditions of trans people (Piñeroba, 2008; Rodrigues et al., 2021a) and to affirm the free expression of gender identity, without discrimination, as an inalienable human right (Arán and Murta, 2009; Suess, 2010). Only in this way, it will be possible to build alternatives of resistance and humanizing recognition of these people and for them (Santos, 2009).

It is important to reread human rights from alternative locations, from the zones of exclusion or from the perspectives of the excluded subjects. Focusing on excluded people and their stories can bring the human rights project back to a "new" space of meanings, revitalizing the political and ethical action of human rights construction (Kapur, 2006; Mullally, 2009; Hidalgo, 2022).

In several places around the world, many activists and non-governmental organizations have fought for human rights of these oppressed groups, developing anti-hegemonic human rights discourses and practices, proposing non-universal conceptions of rights and intercultural dialogues (Santos, 1997). Some groups have used the human rights platform as a tool to recognize their rights, assuming the importance of perceiving trans people from a human rights perspective. Nonetheless, it is important to critically consider the non-historical and universalizing character of the more traditional perspective of human rights because human rights can also be a platform of exclusion (Madson, 2022).

The adoption of a critical reflection (Kapur, 2006) on the mainstream conception of human rights it will allow us to recognize, even in if temporarily, that it can be maintained through knowledge shared with other cultures and societies (Santos, 1997; Schritzmeyer, 2008).

These critical proposals favor the construction of a society in which the differences and singularities of people are discussed and contemplated, and in which the different axes of social identity (e.g., gender, sexuality, age, class, nationality, etc.) are articulated. This implies new challenges for the effective application of principles such as equality, social justice, and societal democracy (Santos, 2009), as well as the transformation of the conception and practice of human rights into a cosmopolitan project that transcends globalized localism (Santos, 1997; Hidalgo, 2022).

Methods

Participants

In this study 35 people self-identified as transsexuals, transvestites[10] and trans were interviewed. The designations used were mentioned by the people themselves and the participants'

e à assistência das suas vítimas. Diário da República, 1.ª série, N.° 37. Available online at: https://dre.pt/application/dir/pdf1sdip/2013/02/03700/0109601098.pdf.

6 Law No. 38/2018 de 7 de agosto (2018). *Direito à autodeterminação da identidade de género e expressão de género e à proteção das características sexuais de cada pessoa*. Lisboa: Diário da República, 1ª série – N° 151, 3922–3924. Available online at: https://dre.pt/dre/detalhe/lei/38-2018-115933863.

7 Order No. 7247/2019 de 16 de agosto (2019). *Estabelece as medidas administrativas para implementação do previsto no n.° 1 do artigo 12.° da Lei n.° 38/2018, de 7 de agosto*. Presidência do Conselho de Ministros e Educação - Gabinetes da Secretária de Estado para a Cidadania e a Igualdade e do Secretário de Estado da Educação. Lisboa: Diário da República, 2ª Série – N° 156, 21–23. Available online at: https://dre.pt/dre/detalhe/despacho/7247-2019-123962165.

8 Ordinance No. 2,803, de 19 de novembro (2013). *Redefine e amplia o Processo Transexualizador no Sistema Único de Saúde (SUS)*. Ministério da Saúde, Gabinete do Ministro. Available online at: http://bvsms.saude.gov.br/bvs/saudelegis/gm/2013/prt2803_19_11_2013.html.

9 Ordinance No. 73 de 28/06/2018 (2018). *Dispõe sobre a averbação da alteração do prenome e do gênero nos assentos de nascimento e casamento de pessoa transgênero no Registro Civil das Pessoas Naturais (RCPN)*. Available online at: https://atos.cnj.jus.br/atos/detalhar/2623.

10 Transvestites is a designation used in the Brazilian context. This is an opposite designation to those called "transvestite," "transvestism," or "cross-dresser" in the European context and, specifically, in Portugal. In Portugal, "transvestite" refers to people who sporadically dress and express an opposite gender to the one assigned at birth, but who tend to identify with the sex they were assigned at birth (Missé, 2014; Platero, 2014). In Brazil we can understand transvestites as people who self-identify as women and often change characteristics in their body to conform to their gender but do not alter their genitals.

biographical data resulted from an analytical process, which was shaped by the research paradigms: constructionist, feminist and intersectional. The constructionist paradigm defends that critical psychology is opposed to the position that science is impartial, non-political and value-free. Its assumption settles in the deconstruction of social categories, with the goal of promoting social justice, the wellbeing of communities in general and oppressed groups in particular (Prilleltensky and Fox, 1997; Parker, 1998). The feminist and intersectional paradigm is a political movement that has contributed to the deconstruction of gender binarism and essentialist perspectives by reinforcing the intersectional character of oppressions. It values the political struggles and personal experiences of trans people and it is not restricted to those who wants to participate in it, thus enabling it to actively involve both people who identify as trans and people who identify as cis (Jesus and Alves, 2010; Rodrigues, 2016).

All participants presented discourses of a non-conformity between the sex designated in the birth register and the gender to which they feel they belong. Twenty-one persons self-identified as female and fourteen as male, with ages ranging from 16 to 55 ($M = 30.17$ and $SD = 8, 75$). Twenty-four people were Brazilian and eleven were Portuguese. At the time of the interviews thirty people were single, three were married, and two were divorced. Twenty-one people self-identified as heterosexual, five people as bisexual, one person as gay, two people as lesbian, one person said he/she was not physically, psychologically or emotionally attracted to anyone, four people said they were attracted to people, and one person said he/she did not know. As for educational qualification, twenty-one people had completed high school, twelve had completed higher education, and two people had completed elementary school. Finally, regarding professional status, eleven people were employed, four people were unemployed, and twenty people were in other professional situations (e.g., precarious jobs, no employment contracts, research fellowship, and sex work).

To protect the identification of the participants of the study, a code was created to identify the characteristics of these subjects. The identification code for a subject begins with the interview number, followed by the initial of the name, the gender and finally the initials of the country. Here, are two examples of coding for each country: the code "17-B.M.BR" corresponds to the interview 17, the initial of the name is B, the gender is male and the person is from Brazil. The code "1-A.F.PT" corresponds to the interview 1, the initial of the name is A, the gender is female and the person is from Portugal. For further guarantee of confidentiality and anonymity of participants, the letters chosen for the initials of the names are random and, therefore, do not coincide with the names with whom people identify themselves.

Instrument of data collection

To data collection, a semi-structured interview script was used. Due the different historical, sociocultural, economic and political contexts in Portugal and Brazil, the same interview script had two versions (the version applied to people in Portugal and the version applied to people in Brazil). The two versions of the interview script were built after an in deep literature review on trans issues.

This script was divided into three parts: the first referred to the informed consent, where the participant read the conditions of participation in the study; the second was related to the interview itself, which included semi-structured questions that allowed answering the purpose of this research; and, finally, the third corresponded to the collection of the participant's biographical data.

Throughout the interview process, the script served as general guidelines for the interviews only and a flexible posture was adopted, according to the interviewee and the countries (i.e., Brazil and Portugal).

Data collection procedure

There was a prior contact with some participants before the beginning of the study, therefore, the data collection process was intentional. The invitation for the interviews and subsequent data collection had two phases: it started in Brazil from October 2013 to January 2014, and it ended in Portugal from March 2014 to October 2014.

The interviews were conducted in public places defined by the interviewees with the guarantee of adequate conditions to collect audio records. The interviews had an average duration of 60 min. After the full transcription of each interview, data analysis followed. The NVivo 8.0 software was used to organize the interview material, mainly due to the volume of material collected.

Data analysis procedure

Thematic analysis is a method widely used in qualitative data analysis and it aims to identify, analyze, and report patterns (themes) in the data, enhancing the understanding of explicit and implicit meanings associated with textual data (Braun and Clarke, 2006).

In this study, a constructionist, feminist, and intersectional paradigm was adopted in the thematic analysis of the data. One of the strengths of this type of research, assuming a constructionist paradigm, is that the researcher, rather than being responsible, is implicated in the entire research process (Prilleltensky and Fox, 1997; Parker, 1998; Rodrigues, 2016).

The data analysis followed the recommendations proposed by Braun and Clarke (2006, 2013), which includes six steps: (i) familiarization with the data; (ii) codes generation; (iii) themes searching; (iv) themes revision; (v) themes definition and naming; and, (vi) report production. This analysis was mainly deductive (theoretical) because the literature review on the topic informed the practice. However, some topics emerged from the data, thus, bringing an inductive character that strengthened the analysis. Therefore, in a first phase the themes were semantic and in a second phase of analysis were more latent. It was possible to identify more latent themes from the participants' narratives due to the activism involvement of the first author that allowed a better understanding of the historical, sociocultural, economic and political contexts in Portugal and Brazil. Also, the detailed readings on the theme in both countries prior to the application of the interviews and the

researchers' privileged contact with diverse contexts that allowed a proximity to the concrete lives of these people made it possible for a deeper knowledge of participants' speeches in the context in which they were produced.

Data analysis

In this section it will be presented the analysis that emerged from the data and that was shaped by the constructionist, feminist and intersectional paradigm. From the analysis the following six themes, which are interrelated, were identified: (i) Who are the rights for; (ii) Types of rights; (iii) Paradigm of distribution of rights; (iv) Local or global rights; (v) Non-recognition of the "human"; and, (vi) Transphobias (and cissexism).

The central organizer of the analysis was designated "rights and (non-)recognition of the 'human'".

Although with a critical perspective to the human rights platform, data showed that some trans people use it as a way to access and have their rights recognized. Also, it was possible to observe the contexts, types of transphobias (and cissexism), and other "isms" as some of the ways in which the "human" is not recognized.

Due to the extensive volume of collected material, the schemas of each theme are presented; it is also presented the themes, the codes and the most illustrative extracts. The purpose of this analysis is not only to describe the data, but to problematize it in relation to the research questions/goals of the present study. This interpretation and discussion take place in a dialogical process with the literature on the subject.

The themes that emerged from the data will be analyzed and discussed in more detail below.

Who are the rights for

Here, three codes emerged from data: "rights for all"; "rights for people/individuals"; and "rights for groups/collectives", which allowed the identification of the theme "who are the rights for".

Most people mentioned that rights should be for everyone, however, they do not cover all groups/collectives, nor all people. The following examples illustrate the code "rights for all":

> *"It's hard… I had never thought about that* [who is protected by the human rights platform]. *I think it must be both* [people/individuals and groups/collectives]. *I think it should be both. At the same time, it is individualized when we are thinking about a human subject, we are also thinking about groups that are excluded in some way, that have their humanity denied, and then resort to human rights. I think it is both"* (21-L.M.BR).
>
> *"Well, I think that if it does not work for everybody it should. From the perspective of what is understood by human rights (…)"* (11-E.M.PT).

Fewer people mentioned that rights are for people/individuals and other participants referred that they are for collectives. Here are some examples, respectively:

> *"For people, I do not think it makes so much sense to give rights to a collective, an association or whatever. In principle, these collectives and associations work or have people behind them, so in my opinion it is always rights for the people. For the collectives and associations, it does not matter because associations and collectives always have ideas behind them and it is not the ideas that deserve rights but the people that deserve rights regardless of the ideas they have"* (7-I.M.PT).
>
> *"It works for collectives; in my personal case it does not serve me much. It does not suit me very specifically"* (9-J.M.PT).

Despite the recognition that rights should be for everyone, there is a conception that they are limited to some people or groups (collectives) (Santos, 1997, 2009; Romboli, 2021). Moreover, this analysis allowed us to question the place of oppressed people and groups in the human rights platform and how much some people and groups do not feel recognized in this construction of the "human" (Santos, 1997, 2009). This construction of human, and consequently of subjects with rights, is based on an abstract (and universal) perspective, which focus on the image of white, heterosexual man and neglect other (oppressed) groups (Rodrigues et al., 2021a), as it was observed, for example, in the historical women's suffrage movement (Waite, 1887). On one hand, this construction of an abstract subject, contributed to the non-recognition of the "human" to women, and on the other hand, also, contributed to erase other groups, such as lesbians, gays, bisexuals, and especially transgender people.

Types of rights

Two other codes—"right to self-determination of bodies and identities" and "right to health"—were made to emerged from data, which lead to the identification of the theme "types of rights" that are (or should be) recognized for trans people. From the data it was possible to identify two fundamental rights for trans people, which are not specific to this population, but they add substantial vulnerabilities and obstacles when they are not guaranteed to them. Both rights are related to each other.

Most of the participants mention the right to self-determination of their bodies and identities (but that it is not always guaranteed). The non-recognition of this right adds vulnerability to their condition. They mention that this right is central to people and should not be controlled by doctors and/or judges, who are sometimes involved in the life contexts of trans people. In the collected data emerged specifically the right of trans men to become pregnant as a right to self-determination of bodies and identities. Trans men are recognized as having the right to alter their bodies while maintaining the legitimacy of their identity. According to participants, the recognition of the right to identity cannot be limited to requirements. In opposition, there are some countries that require a person to be single or divorced, in order to change his or her name and gender in the civil register.

In addition to recognizing their right to self-determination of bodies and identities, the people interviewed also report progresses concerning this right, although with advances and setbacks. Here are some examples:

> *"Psychiatrists and psychologists do not know, nor there is any way they can judge a person's gender identity. (...) There are no tests, there is nothing we can do to know. Then, how are we going to do this? (...) For example, I do not do a surgery to be a woman, but I do a surgery because I am a woman"* (2-C.F.PT).
>
> *"Transgender men getting pregnant have always existed since transgender men exist, and they will continue to exist if these men wish. We are not going to stop having a pregnant man just because we force him to say he is a woman on a civil registration (...)"* (3-T.F.PT).

Data shows some social misconceptions regarding pregnant men, as in some literature on the area. If a trans man, for example, decides to use his reproductive organs to become pregnant he is just taking advantage and valuing the characteristics of his body as other people do (Zinkunegi, 2013; Platero, 2014). At no time this behavior should delegitimize any identity. A trans man who wants to become pregnant is not being less of a man because of that, he is just reflecting human diversity.

Another type of rights that emerged from the data was the "right to health." This code is strictly linked to the right to self-determination of bodies and identities, because some trans people, who wish to alter their bodies to conform with their identity, need to access health care. Here are some examples:

> *"(...) but in the case of transsexuality all those that are inherent to transsexuality, hormone therapy, surgeries whatever they are… it is a principle that we have in the Brazilian State, health is a right of the population and duty of the State. Based on this, any person has the right to demand anything. Of course it is not that easy, you need a legal fight, but you end up winning, because it is the principle of the Brazilian State that health is a right of the population and a duty of the State"* (23-L.F.BR).
>
> *"Everyone has the right to health, without needing any mechanism to validate obligation. The right to health cannot be conditioned to anything"* (3-F.F.BR).

Paradigm of distribution of rights

Two more codes emerged from data: "equal rights for all" and "social justice", which allowed the identification of the theme "paradigm of distribution of rights". From these codes it is possible to understand how trans people recognized the distribution of rights: based on an egalitarian positioning, without attending to the specificities of the groups; or, on a fair positioning, attending to the particularities of the groups.

When the paradigm of distribution of rights was based on social justice, people mentioned that it should be possible to give "more" rights to people who belong to historically oppressed groups, enabling them to access things that otherwise would be more difficult. Participants provided some examples of actions based on the principles of social justice, also coined affirmative actions, as is the case of quotas in Brazilian public higher education for black (non-white) people. The present study will not focus on this matter, however, it is important to note that these affirmative action measures are not an end in themselves, but a means to an end. It is about restoring social justice for historically oppressed black or non-white people (Kymlicka, 1995, 2001).

Fifteen participants mentioned that the distribution of rights should be equal for all people, in the sense of enforcing the rights of the person, for example, to access civil marriage (if they so desire); to adoption; to the right to health care; to the right to housing, among others. According to these participants, rights should be for all people, regardless of their sexual orientation, gender identity, economic or social status. Here are some examples:

> *"I believe, it is as I said, if it is to live in a society the same right that I have you also have to have, because you live in the same society as me"* (4-D.F.BR).
>
> *"Rights should be…, should be in the first place for everyone. Everybody should have the same rights, whatever they are: education, health, food, work, everything. Do you understand? So, rights on a general level should work for everything. (...) I think they should be equal for all people. Human rights should be equal for all people. As it is in our constitution, regardless of creed, religion, race, sexual orientation, and gender identity which is not mentioned there but it should be"* (1-A.F.PT).

Another fifteen participants mentioned that the paradigm of distribution of rights should be based on social justice. In other words, it should exist rights for all people considering their specificities, in order to eradicate the historical oppression of oppressed groups. Here are some examples:

> *"So, I believe that yes… there should be equal rights and there should be no exceptions… the black person should not be treated differently; the transvestite should not be treated differently, you know? But since we do not have this, then, we have to make sure that some receive a specific benefit, so that they can... People talk like this: slavery has already been abolished, but when the blacks were inserted into society, they were not inserted in a fair way (...)"* (15-E.F.BR).
>
> *"It is not enough for us to say that rights have to be equal for everyone if society does not treat everyone as equals (...) That idea of false symmetry, that we are all equal before the law, is fallacious. If we are not equal, if some people need other rights they have to be granted (...)"* (3-F.F.BR).

Local or global rights

Here, two codes emerged from data: "human rights as a platform to fight and to protect rights", and "recognition of rights circumscribed to states". These made it possible to identify the theme "local or global rights", which allows us to problematize the construction of human rights as universal (global) or limited to certain contexts, regions and/or countries where they are applied.

Twenty-seven people mentioned that they recognize the human rights platform as a tool to fight for and protect their rights. Although trans rights recognition has not always occurred, the human rights platform is seen, by the participants of the study, as one of the possibilities to achieve that. The possibility of a paradigm

shift to recognize trans people as human, rejecting the notion of pathology, was also considered. The following are some examples:

> *"For me human rights are… are completely related to the right to exist and to be respected within your living, whatever it is. To be respected and to have access to all guarantees and to fully exercise citizenship. And to be respected in the sense of physical, emotional integrity and everything else"* (20-C.M.BR).
>
> *"It does because it is the way you fight. It is the way society has arranged itself, how society is organized is the way it fights. I talked about the human rights issue… the way by which you get some kind of humanity is through human rights. That's the game we play today. I don't know if it is good or bad, but it is what we have today (laughs). It is what is there, so it makes sense because that is how it is organized (...)"* (3-F.F.BR).

Another code that emerged from the data was "recognition of rights limited to the states". Some participants mentioned that the recognition of rights has been limited to certain international, regional and/or national contexts. Thus, they stated that rights are local and not global and that they are dependent on the legislation in force in each country and influenced by regional and international law. Narratives of participants enlightened that, depending on the countries, this recognition is different. In Portugal, there is still pressure from the European Commission on Human Rights, the UN (United Nations) High Commission on Human Rights, to recognize the rights of people in each member state. In Brazil this pressure continues to be made at the regional level by the OAS (Organization of American States) and in international terms also by the UN High Commissioner for Human Rights. These different types of influences can explain the different impacts on national legislation in each of the countries. In Brazil there is legislation in federal terms and State resolutions. Here are some examples:

> *"(...) human rights are very fragmented. For example: what I have here is different from what the girl in the North has* [region of Brazil]. *Do you understand? For example, I run less risk of being murdered for being a transvestite and transsexual in this case, a trans woman* [for living in the South of Brazil] *than another girl in my same condition there in the Northeast* [region of Brazil]*"* (15-E.F.BR).
>
> *"There are countries, for example talking specifically about transsexuality… is not accepted in all countries. There are countries where you get arrested for being homosexual. There are countries where you cannot commit adultery, because otherwise you are also arrested and so on"* (10-B.M.PT).

Non-recognition of the "human"

From the data, the following codes also emerged: "questioning the social structure for the recognition of rights"; "human rights as a platform of invisibility and exclusion of other people"; and "no access to health and its implications", which allowed the identification of the theme "non-recognition of the human".

In the code "questioning the social structure for the recognition of rights" some participants problematized the social structure for the recognition of rights as not being able to attend to the effective recognition of people's rights. Some participants referred that this recognition is limited to the States. Despite the acknowledgment that the Universal Declaration of Human Rights (with the construction of its economic and social covenants) has enabled the guarantee of rights for some people, they also mentioned that this guarantee is not effective for everyone.

On the one hand, if conceiving the idea of universality of rights may be useful to problematize that all people should be considered human and, therefore, have access to basic rights, on the other hand, thinking about rights in a universal way, without problematizing the Western construction of the human rights discourse, may generate a limited discussion (Santos, 1997). Here are some examples:

> *"Law for me is very glued to State, to Federation, to the idea of disciplining the other and of punishing. This pun does not stick, it does not stick with people. It does not create respect, I do not know if it is a problem of Brazil, I think it is a problem of the world, relationships are made this way"* (1-P.F.BR).
>
> *"Human rights are beautiful to see, difficult to achieve. It is a category that I think… it is beautiful to talk about human rights, but I think it is kind of a mechanism created even in a capitalist logic so we can think there is a light at the end of the tunnel to end inequalities, but in reality, in practice, we see that human rights are pierced by corporativist logics and by many other issues… if these other issues are not in conformity, human rights do not work"* (3-F.F.BR).

Another code that emerged from the data was what we called "human rights as a platform for invisibility and exclusion of other people." This code is prevalent throughout the analysis and can be read in the narratives of different people. Most participants, while recognizing that the human rights platform still serves as a tool to fight for and protect rights, also report that it continues to neglect and exclude groups that have not been named, that have not been recognized concretely as having rights. Here are some examples:

> *"(...) we get into these political and demagogic issues of the right to life, right to come and go, survival and such, but we know that this is violated. My own right is violated. My own right to be a woman is violated. So, this is more or less what I understand by human rights (...). When we talk about this issue, for example, the right to life, we never think about, for example, black women from the slums. Because the black woman from the slums in Brazil is not reached. In other words, the same right to life for one is not the same right to life for another. The number of deaths of young black men that die every month in Brazil is like a plane crash but it is not the same right to life "* (15-E.F.BR).

Another code that emerged from the data was "no access to health and its implications". Several participants mentioned they do not have effective access to health care when it is under the control of health professionals. They also referred the two main implications of not having access to health care services for their

lives: one of them is self-medication and another is access to clandestine services. Here are some examples:

> *"I use to block the male hormone. And I use a very low level of estradiol to not let the testosterone levels increase. Self-medication, without monitoring, because my parents do not accept it, but I also do not want to become masculine, do you understand? If I did not interrupt puberty, if I had not interrupted it, I wouldn't be where I am today. It would be much harder for me. I started at 16 without anyone knowing"* (19-R.F.BR).
>
> *"(...) the vast majority* [of people] *start irregularly, let's say, because it is very difficult to get professionals that know how to deal with the cause"* (17-B.M.BR).

Transphobias (and cissexism)

Finally, the codes "transphobia for the 'other'", "internalized transphobia", "transphobias in context", "other 'isms'", "impacts of transphobias", "transphobias as stigma" and "strategies to eradicate transphobias" emerged from the data, which allowed us to identify the theme "transphobias (cissexism)".

Transphobias were transversal in the narratives of the participants of this study, as another form of non-recognition of the human. There are several dimensions of transphobias to be considered: who carries them out—whether the "other" or the person him/herself; in which contexts; what are their impacts on the lives of trans people; and, how to eradicate them.

The code "transphobia by the 'other'" focus on how people feel and experience situations of transphobic violence perpetrated by other people. These situations of violence are motivated by hatred of trans people. This hatred is anchored in the oppressive system that devalues trans people and overvalues cis people.

Many of the participants reported transphobia experiences, perpetrated by other people, which reproduce the cissexist system of (Western) societies. The action of not recognizing the person's name is also a form of transphobia. Here are some examples:

> *"Because I'm trans, let me see... I think so… when I went to get married, on my wedding day, I was with J. at the registry office and then the guy raped me several times by calling me by my civil name. He saw that I was not dressed as him. So, I take this as violence… a violence that he did to me"* (15-E.F.BR).
>
> *"So trans people suffer a lot from that and I do not escape the rule. And I think if you ask 'What is more important to you right now? To do the surgery or to change the name and gender? all trans people will be unanimous in their answer. They will all say it is the change of the name and gender because the surgery is something that is for you, but name and gender is something that is public, something that can make you vulnerable to some kind of prejudice (...)"* (23-L.F.BR).

Another type of transphobia that emerged from the data was "internalized transphobia." The term "internalized transphobia" was used as a parallel to internalized homophobia. This term does not intend to blame trans individual and take out the responsibilities from society, but the opposite. It intends to dismantle the system that oppresses trans people, cissexism, also known as transphobia. The devaluation and prejudice about trans people embodied by the trans people themselves is therefore entitled internalized transphobia (Creighton and Kivel, 1992; Lewis and Arnold, 1998; Missé, 2014; Platero, 2014).

Some of participants developed discourses of internalized transphobia based on a latent analysis, by incorporating the devaluation of being trans or the overvaluation of being cis (Cabezas et al., 2013; Platero, 2014). Some trans people have demonstrated some situations of satisfaction by not being perceived as trans/simulating cisgender in some contexts. Despite recognizing the legitimacy of this contentment, since in some situations not being read as trans reduces the possibility of violence and stigmatization, it becomes crucial to problematize the oppressive system that sustains these discourses (Sennott, 2011; Missé, 2014). The following are some examples:

> *"Until I was 23 I discriminated myself, I thought I was the biggest freak in the world. I thought I had no more solutions. I really was like a dead person (...). I think all my life I did not accept myself. Even today I do not accept myself completely. This acceptance is very difficult, because nothing corresponds to your mind. Your body does not correspond to what you would like it to be (...)"* (5-V.M.BR).
>
> *"I go to a store, people treat me well and they tell me: oh, if you did not tell me you were transsexual I wouldn't even noticed. Because now I also do laser hair removal on my face and I went to talk to this girl and she said if I had not told her I was transgender, she wouldn't notice it. And I have had good experiences"* (5-G.F.PT).

Several contexts of transphobia were present in the data, such as: transphobia in health; transphobia at work; transphobia in education; transphobia in the family; transphobia generalized to various contexts; transphobia in love relationships; transphobia in the LGB(T) movement; transphobia in religion; and transphobia in public space (streets, bars, bathrooms). From this data the most frequent contexts of occurrence of transphobia were transphobia in health; transphobia at work; transphobia in education; and, transphobia in public space, especially in the use of bathrooms. Here are some examples:

> *"(...) the only time I went to a health service to ask for care I was classified… the guard… the security person, at the time of distributing the tickets, he said 'people get in line here and transvestites here'. In a public place"* (13-D.F.BR).
>
> *"For me it was difficult, because when I was in that period of transition, I worked in a company and I was starting my process of taking hormones and they came and talked to me. They said it would be interesting if I did not change abruptly; that I should change little by little, not to shock people and so they would not have to intervene. That is what happened. I went slowly"* (2-M.F.BR).
>
> *"(...) from 10 to 12 I suffered bullying at school, I was in the fifth grade, the big boys (...) wanted to beat me. Then I had to run to the school office until the bell rang to enter the classroom. Then*

> *I changed schools, I suffered bullying, but it was only behind my back"* (19-R.F.BR).
>
> *"(...) the old daily issue of bathrooms. I practice sport, I practice karate for years (...) and until very recently my training partners knew me as a girl, about a month ago, (...) I finally assumed myself to my training partners as a man and the question arose 'ok, you are now a man, but which shower room do you go to? Where do you go to change your clothes at the beginning and at the end of the training sessions?' I was like, 'yeah, I don't know how to answer that', so what happened? Now, when I have training, there is the men's locker room, there is the women's locker room, and there is a separate bathroom that I go to, and I don't really know. Is that discrimination? I feel that it is, but at the time I was the one who proposed this solution, because I do not feel comfortable yet, in a men's locker room, but I do not feel comfortable at all in a women's locker room either. So, it's like: either I stop going to the trainings, or I come with my clothes on from home, or I find another solution that puts me a little further apart, but I have to, so I ended up going that way (...). But, in that sense I feel that it is a bit of discrimination, but it is a discrimination that I cannot get around. I do not see a solution"* (7-I.M.PT).

As some studies report (e.g., Zucker and Bradley, 1995; Cohen-Kettenis et al., 2003; Roberts et al., 2012; Platero, 2014), gender variant or transgender children and youth are more vulnerable to rejection and oppression in societies where the cissexist and transphobic system operates, especially in school and family contexts, which control non-normative behaviors. This control does not occur only by teachers, fathers and mothers. Also, children and young people in school contexts surveille the gendered behaviors of their peers (Pereira, 2012) and when this behavior breaks with gender norms, the person is discriminated and abused.

Indeed, as Platero (2014) states, by focusing on the relationships between trans people and their contexts, we must problematize and transform the social structures that try to "discipline" people's identities. This work involves recognizing the responsibility of these structures to combat discrimination and to erase the view of transsexualities or gender variants as problems. The commitment to eradicating transphobia from social structures, such as schools, work and health contexts, along with other contexts in people's lives, such as family contexts, implies a set of strategies to fight oppression and protect people.

Some participants mentioned other discriminations they have experienced besides transphobia, such as racism, heterosexism and sexism. This code has been defined as "other isms". Here are some examples:

> *"(...) nowadays you have color prejudice, religion prejudice, gay as well, so if you had equal rights... but it's not like that. You have discrimination even in a store (...)"* (11-G.F.BR).
>
> *"(...) some guys cornered me, saying that they were going to teach me what it was to be a real woman. What was it to be a real woman. I wore men's clothes and my neighbors believed that I was a lesbian, and then my father was afraid. And that is why my father was afraid: either you decide one thing or you decide another, but you cannot stay in the middle. And so, in my head, I had already decided that I would be male (...)"* (15-E.F.BR).

Another code that emerged from the data was: "impacts of transphobias". Some participants mentioned, in addition to the discomfort that stems from these experiences of discrimination, lower average life expectancy, lower job opportunities, health problems, invisibility of their lives, difficulties for being trans, suicide attempts, prostitution, social denial and "normative integration" of the body. Here are some examples:

> *"You know that our life is shorter than others in society. We face many risks, don't we? Illness, assault, or murder, so we try to make the most of it"* (12-F.F.BR).
>
> *"With 15 I had a suicide attempt. Then it seems that my head got crazy, that person that was quiet, calm and used to stay in the corner, went crazy. I didn't sleep properly anymore. I started sleeping 2 to 3 hours a day and spent most of the time outdoors. When I felt like going to the beach, I would go to the beach. When I felt like doing something, I would go do something. I did not have any more... and I was growing up, this psychological question was here, it was always a question that I put off. I do not know what it is, I do not know what I feel. And from there I only went to see this psychological issue when I was 24, because I attempted a second suicide when I was 24"* (14-J.F.BR).

Several are the impacts of transphobia on trans people, or on those who break with gender norms. These impacts are marked, from an early age, when gender non-conforming children and young people incorporate the discourse of society, which are present in educational and family contexts. They reproduce discourses that make them believe what they do is bad, and, therefore, they are bad people or have a mental illness. This kind of discourse generates suffering in these young people (Platero, 2014).

In addition, they live less. Most of them do not grow old. These data corroborate the latest research on transphobic crimes in the world, with Brazil being considered the country in the world where there are more murders of trans people (TGEU, 2015a, 2021). As they age, they are faced an increasing vulnerability in their lives, especially because in addition of being trans and precarious people they are also elderly (Witten, 2004; Fernández-Rouco et al., 2012; Lopes, 2015).

As noted from the data, one of the impacts of transphobia was prostitution, however the data shows that not all trans people are prostitutes or are sex workers. However, there is still the stigma of prostitution associated with trans people, as well as the stigma of being HIV AIDS carriers. Here are some examples:

> *"It's not a question of undervaluing prostitution in any way, but it was because I saw that I could not do it anymore, much because of the question of age. It is already 30 years old and even because of the question of vulnerability, of you being on the street and any person passing by, anything can happen and you are subject to everything there. So I chose not to have this for me anymore (...) everyone automatically put everything in boxes, transvestite or transsexual equals to prostitute, equals to money,*

> *equals to sex symbol, and less of a person,* [less of a] *citizen,* [less of a] *human being"* (4-D.F.BR).
>
> *"(...) my life has been a succession of wrong facts, wrong paths that I chose by not knowing where to go and what to do. I ended up getting HIV last year (...). It could have been easier, much easier, you know* (crying and prolonged pause), *like my HIV, I did not need to have that, you know. My HIV is a result of inconsequential relationships that I had, you know, emotionally, with men for not understanding what my position was in affective, sexual relationships, you know? So, I see it as a consequence of that, but it was necessary, because I think that only after everything I went through, I am ready to be the man I should have always been"* (17-B.M.BR).

Another code that also emerged was "strategies to eradicate transphobias". Some participants pointed out some of these strategies, such as: transfeminism activism; contact with trans people; building conceptions of desirable trans bodies; and, (in)formation. Some examples are:

> *"Ah the transfeminism. A lot of activisms in the vein is one thing that made me empower myself… Empower my body and feel more comfortable. I realize that I am a woman regardless of the genital that I have, I like my genital, I like to use my genital, I have no problem with it because I do not feel less of a woman. And that it will not be a surgery that will guarantee me womanhood"* (3-F.F.BR).
>
> *"In our country and the rest of the world, this will not change without education. The only way to end homophobia, transphobia, prejudice and discrimination is with school education"* (2-C.F.PT).

To better illustrate the central organizer "rights and (non-) recognition of the 'human"' as well as the 6 themes of the analysis, Figure 1: thematic map of the analysis is presented.

Conclusion

The discourses of participants show the way people (de)construct their identities is related to the way they think about transsexualities and their experiences. This occurs in an intersectional dimension with their historical, sociocultural, economic and political contexts creating matrices to understand gender. Thus, matrices permeate the (always diverse) expressions of their identities.

The analysis of the narratives allowed us to problematize that the legitimation of (dis)identity(s) should focus on people's self-definition and self-determination, in opposition to the attempt to legitimize any hetero-elected identity, specially the one that has been determined by the biomedical model.

Through the study, we can reinforce that trans people are heterogeneous and, as such, have differences at the economic, ideological, geographic, and social levels. These differences shape the various ways trans people conceptualize their own identities and transsexualities. This heterogeneity is also present in how different people position themselves in relation to the medical model.

This study shows that some trans people perform body modifications in order to combat the transphobia/cissexism they have experienced throughout their life paths. In addition, they believe that by making their bodies conforming they will be more desirable and they will be able to desire. The cisnormativity process occurs through the idea, present in the narratives of some people, that their bodies conformity will result in less discrimination and, therefore, will allow them more satisfactory experiences of their personal and social identities.

Based on the narratives of participants, the right to health is also problematized and it is concluded that should be no requirement related to the existence of any suffering or maladjustment. This access should only be based on the right to access health, broadening the very concept of health of the World Health Organization (2010) and, therefore, promoting the persons' wellbeing.

In this study, it is also recognized that rights have been circumscribed to certain international, regional and/or national contexts. The participants of the study pointed out that rights are local, not global, and that they are dependent on the legislation in force in each country, which is influenced by regional and international law.

Furthermore, they mentioned that human rights can also be understood as a platform for invisibility and exclusion of others. Although the participants recognize that the human rights platform still serves as a tool to fight and to protect rights, they also emphasize that it continues to erase and exclude groups that, by not being referred, have not been recognized as rights holders.

The study also allows us to rethink the violence that is exercised on trans people as a continuum, whether through "normalization devices" by medical, family, public space contexts, or even through internalized transphobia. While social structures produce and sustain transphobias, the same structures are responsible for combating them by changing the paradigm about the conception of transsexualities.

Transversally, the epistemologies adopted in this work, as well as the discourses that shaped it, justify the need to recognize the plurality of identity subjectivation processes. Therefore, it is a matter of conceiving and affirming transsexuality(ies) as non-pathological processes; of highlighting the importance of adopting human rights as a platform for the recognition of rights, considering that if the same platform does not attend to the specificities of groups, it will continue to reproduce processes of exclusion; of reinforcing the intersection of the various oppressions; of highlighting the importance of recognizing the self-determination of identities and adopting the proposals of depathologizing transsexualities; and of keeping in mind that the contexts of support/alliance are crucial for the wellbeing of people who do not conform to gender norms.

It is important to problematize, within the critique of the current medical model, that sexual reassignment surgery may not be an intended goal for some trans people (for reasons of, for example, health, implications of a surgical intervention, fear of loss of pleasure, among others). In some cases, trans people undergo the surgeries so that they can match their sex to their gender.

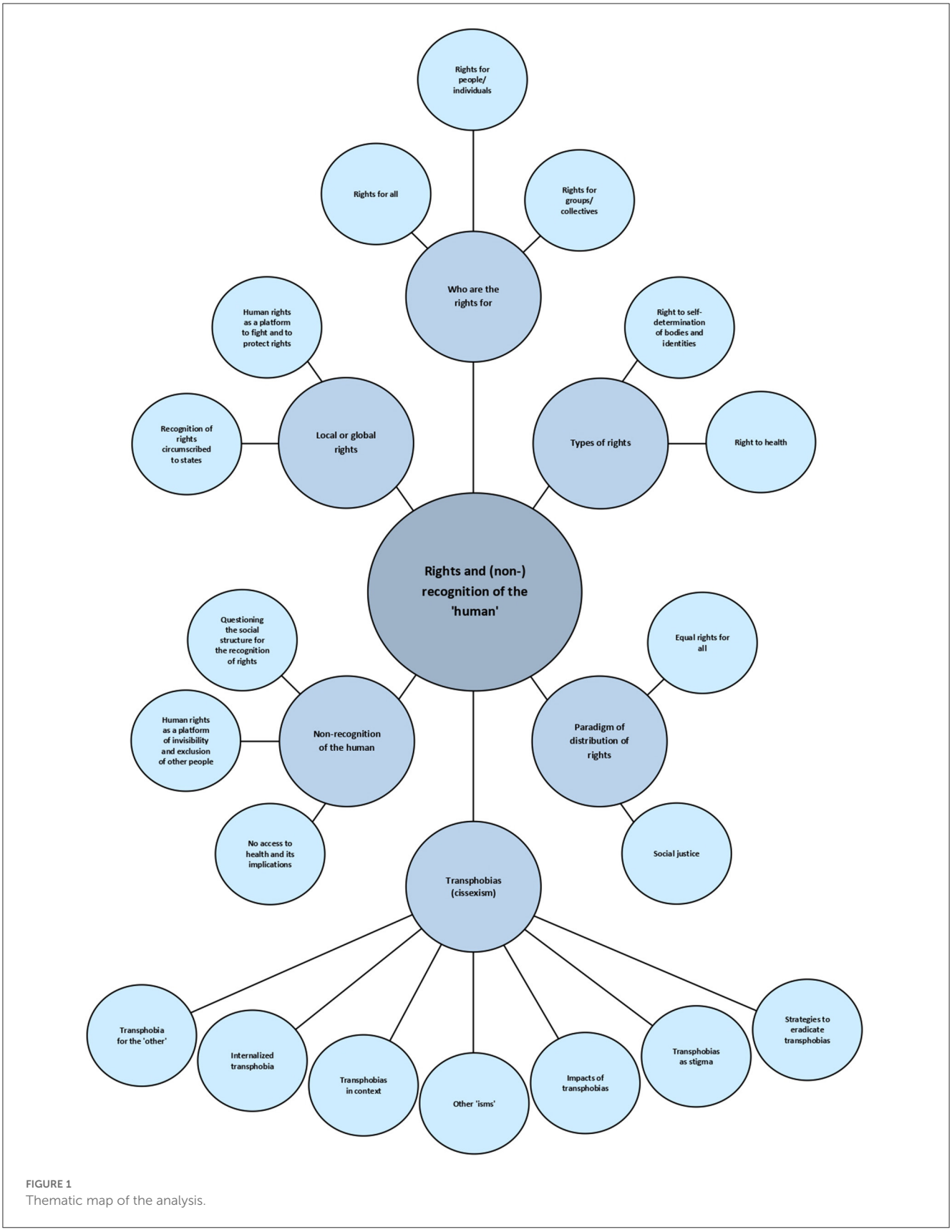

FIGURE 1
Thematic map of the analysis.

However, this desire has another underlying: that the surgeries serve as a reparative tool for the recognition of their belonging to humanity. Instead of sexual reassignment surgery, for these trans people, the legal recognition of their sex and identity would be the most appropriate for their physical and psychological wellbeing (Garaizabal, 2010; Schramm et al., 2011).

From a human rights perspective, the pathologization of transsexuality is contrary to the right to free expression of gender identity and the right to free access to health care, rights recognized as inalienable (e.g., Corrêa and Muntarbhorn, 2007; Hammarberg, 2010; Suess, 2010; Ramos, 2011; UN, 2011; Hidalgo, 2022).

Critical human rights perspectives include the rights of all people, recognizing their identity belonging to specific axes of oppression. This inclusion of people considering their belonging is a characteristic of a real pluralization project of democratic societies (Schritzmeyer, 2008; Schramm et al., 2011).

Based on our work, we can say that for a liberating and emancipatory human rights project, it is important to train professionals who interact and/or work with this population concerning the diversity of trans life trajectories (Moita, 2001, 2006; Bailey et al., 2022), raising awareness about the full respect for trans identities. These professionals play a key role and should help these people to fully live an identity and a body culturally understood as corresponding to a particular gender, if they so wish (Miguel et al., 2008; Pinto and Moleiro, 2012).

Non-governmental organizations—working with the LGBTQI+ population, with trans people only and/or with issues related to sexual and gender oppression—should also contribute to social change and stimulate the development of a critical human rights perspective related to identities, genders and sexualities (Garaizabal, 2010; Alves, 2012).

In addition to the depathologization of trans identities and legislative changes at various levels of law (international, regional and national), it is important that these changes to combat transphobia/cissexism are carried out with an ethical sense of positive value about gender diversity (Stryker, 2013).

To conclude it is essential that the fight against transphobia and other forms of discrimination occurs in a dynamic and systemic relationship at three levels: at the macro-political level, through the approval of laws by the State and international bodies; through mesopolitics, from the policies of institutions that recognize and value diversity; and, through micropolitics, in the concrete actions of people's lives.

The collected and analyzed data reinforce heterogeneity, so it becomes essential to assume respect for this plurality if we intend to re/know the dignity of these people.

Data availability statement

The datasets presented in this article are not available for ethical reasons of anonymity and confidentiality of the people interviewed.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The participants interviewed were all adults (over 18 years old) and provided their written informed consent to participate in this study.

Author contributions

LR: conceptualization, data curation, formal analysis, funding acquisition, investigation, methodology, project administration, resources, software, and roles/writing—original draft. NSC and CN: supervision. LR and ARP: writing—review, translation, and editing. All authors contributed to the article and approved the submitted version.

Funding

This work was supported by national funding from the Portuguese Foundation for Science and Technology (SFRH/BD/79764/2011 and UIDB/00050/2020).

Acknowledgments

The authors would like to thank all the people who provided their time to participated in this study and who kindly shared their lives and experiences.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

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frontiers | Frontiers in Sociology

TYPE Perspective
PUBLISHED 20 June 2023
DOI 10.3389/fsoc.2023.1177766

OPEN ACCESS

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RECEIVED 02 March 2023
ACCEPTED 05 June 2023
PUBLISHED 20 June 2023

CITATION
Salinas-Quiroz F and Sweder N (2023) Authentic gender development in non-binary children. *Front. Sociol.* 8:1177766. doi: 10.3389/fsoc.2023.1177766

Authentic gender development in non-binary children

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At present, the conceptualization of gender as a spectrum as well as non-binary identities have become increasingly visible and embraced. We are using non-binary as an umbrella term that refers to individuals who self-identify as a gender outside the gender binary, and/or who do not identify as always and completely being just a man or a woman. Our goal is to begin to create a framework for understanding gender development in non-binary children ages 0 to 8, since previous models have operated on cissupremacist assumptions, not applicable to non-binary people. As there is virtually no empirical data on the subject, we conducted a thorough literature review of current gender development theories and used our positionality as non-binary researchers to postulate two minimum criteria for non-binary gender identification: that a child learns about the existence of non-binary identities, and that they do not identify with the definitions they have been taught of what a boy or girl is. Children can learn about non-binary identities through media and knowledgeable community members and can develop "gender traits" authentically and come to identify as non-binary through biological predispositions, parental support, modeling, and being in peer groups that are supportive of identity exploration. Yet, children are not simply a product of their nature and nurture, as evidence has shown that humans are active agents in their gender development from a young age.

KEYWORDS

gender development, gender identity, non-binary children, early childhood, socialization, child development, child studies

1. Introduction

The modern gender binary is not a natural human tendency, as it is made out to be. According to Bederman (1995), in the early 20th century, eugenic scientists and policy makers used the rhetoric of "civilization" to naturalize white supremacy and patriarchy. They argued that the United States (US) was destined to become the pinnacle of racial evolution. Policing sex became seen as necessary to advance the white race and stave off the threat of racial decay, i.e., "primitive" gender non-conformity. American masculinity became redefined as a form of racial genius that was only achievable by white people and inaccessible by "savages" who were not seen as advanced enough to display sex differences between men and women. It is undeniable that racism is foundational to gender norms and gender norms are essential to racism (Bederman, 1995). Owing to Black and Brown trans resistance and activism, many people in contemporary societies have re-opened to the idea that gender is a spectrum. Nevertheless, research about gender development has almost exclusively focused on cisgender boys and girls. While in the past couple of years

some research has been published about gender development in trans youth (e.g., Gülgöz et al., 2019; Olson et al., 2022), it has focused on trans boys and girls, and not on non-binary children. Moreover, the authors have continued to use concepts of gender development theories that were conceived by and for cisgender individuals that cannot be automatically extended to non-binary people. While trans is an umbrella term for people who do not identify with the gender they were assigned at birth, we will be exclusively focusing on gender development in non-binary people. As there are countless identities that do not fit into the binary, for the purposes of this paper we are using non-binary as an umbrella term for someone who self-identifies as a gender outside the gender binary, and/or does not identify as always and completely being just a boy/man or a girl/woman. Some examples of non-binary identities include: being both a boy and a girl, genderfluid and fluctuating in gender identity, demigender (relating more as one gender than another, but not as completely that gender), bigender (having two gender identities), trigender (having three gender identities), two-spirit, another third gender according to a cultural heritage, xenogender (identifying with a thing or concept seemingly unrelated to gender), agender (having no gender identity), genderqueer, or any other combination and self-label which indicates the individual has a gender identity that is not exclusively a man or a woman (Salinas-Quiroz and Demos-Utrera, personal communication, June 27, 2022).

Our goal is to begin to create a framework for understanding gender development in non-binary children ages 0 to 8. As there is virtually no empirical data on the subject, our research involved a thorough literature review of gender development theories, as well as knowledge gained from our own lived experiences as non-binary individuals. Using these methods and data, we postulate that there are two minimum criteria for non-binary gender identification: that a child learns about the existence of non-binary identities, and that they do not identify with the definitions they have been taught of what a boy or girl is.

To meet the first criterion for non-binary gender identification, parents, and other people with influence in a child's life must have the resources and desire to teach them gender as a spectrum.[1] As discussed, activism by trans people of color has made huge strides in promoting awareness and understanding of non-binary identities. A 2015 Fusion Millennial poll showed that the majority of adults ages 18–34 in the US see gender as a spectrum (Wong, 2016). We will discuss how parents, peers and media may teach this to children.

Clearly not every young person who learns about non-binary identities will identify as such: the individual has to be taught the definitions of girl, boy and non-binary, and claim non-binary as their own. Definitions of gender contain a set of characteristics assigned to a label (i.e., boy, girl, non-binary). These characteristics include, but are not limited to, attitudes, behaviors, interests and physical presentation (Morgenroth and Ryan, 2018; Lindqvist et al., 2021), and for the purposes of this paper will be referred to as "gender traits." Importantly, the definitions of gender labels that children learn are not always the same, and are largely contingent on the environments they grow up in. While they vary widely, there are two extremes within the continuum: environments with more liberal gender norms, and environments with more conservative gender norms. Liberal gender norms refer to broader and more expansive concepts of the gender traits associated with gender labels. Conservative gender norms refer to narrower and more rigid concepts of the gender traits associated with gender labels.

Both nature and nurture contribute to the development of gender traits. Biological factors influence predispositions toward or against certain characteristics. Parents and other adults encourage children toward or against certain activities, model gender traits and can destigmatize non-conformity. Lastly, the gender makeup of peer groups impacts the ability to explore gender traits freely. Environments conducive to gender trait exploration, allow children to realize their authentic selves, and for some, to identify as non-binary.

In 1960, the English pediatrician and psychoanalyst, Donald Winnicott, identified the true self as the authentic core of one's personality, from which spontaneous action and a sense of realness come (Ehrensaft, 2012). From in-depth interviews conducted with non-binary adults, non-binary professor, Waagen (2022), underlines the importance of living authentically to one's transgender identity, as it improves self-image and self-love. We borrowed the term *authentic* since it symbolizes the intersection of child and trans studies. Furthermore, contemporary authors in both fields conceive children as active players with agency in their development and not passive recipients and mere products of their nature and nurture (e.g., Amar, 2016; Gill-Peterson, 2018; Belsky et al., 2020). All in all, some aspects of who we are precede socialization and supersede biological sex (Serano, 2007). Both intrinsic and extrinsic factors help shape the way we come to experience and subsequently be cognizant of our authentic gender.

It is important to understand and create a framework for gender development of non-binary children instead of trying to fit them into theories designed for cisgender children; theories based on dated and narrow concepts of gender as well as science-disproven ideas of the sexually dimorphic brain in which non-binary identities represent an oxymoron. In this article we will discuss factors conducive to authentic gender identity development in non-binary children.

For didactic purposes our journey will be chronological, starting with prenatal biological development associated with "femaleness-maleness," followed by socialization conducive to learning about non-binary identities and authentic gender development, first in young children ages zero to three, then ages

1 For example, research has shown that teachers and other adults offer differential treatment (i.e., attention, type of response, instruction, and feedback) to people assigned male at birth (AMAB) and people assigned female at birth (AFAB). However, they are usually unaware of their biases and if recognized often believe that they are operating on fair assumptions based on the children's behavior (e.g., Sadker et al., 1994; Blakemore et al., 2009). We deliberately decided not to include information related to secondary adults in depth as the dominant literature suggest they generally reinforce cissupremacy and conformity to their assigned gender at birth and as a result it seems trivial for the postulated minimum criteria for nonbinary gender identification. Nonetheless, they are able to encourage authentic gender development in many of the same ways parents do.

four to eight. When it comes to understanding development, we believe that there is no nature without nurture (and vice versa). It is long past time to abandon this duality since we are dealing with systemically integrated human beings, not peoples with separate parts that follow entirely different rules (Belsky et al., 2020).

2. Biological contributors to gender trait development

The long-reigning theory on biological contributors to gender development states that prenatal exposure to testosterone causes "male-typical development" (i.e., masculinization), in as much as "female-typical development" (i.e., feminization) occurs in the relative absence of this hormone. Specifically, testes develop from the embryonic gonad under the influence of multiple genes that begins with the expression of the SRY on the Y chromosome. On the other hand, ovaries develop under the influence of a cascade of genes that are influenced by the expression of DAX1 on the X chromosome and act antagonistically to SRY (Wilhelm et al., 2007). Accordingly, it has been indicated that genitals' sexual differentiation takes place during the first trimester, while the sexual differentiation of the brain occurs in the second trimester. One possible explanation of the timeline has to do with the influence of sex hormones on the developing brain cells (Swaab, 2007; Roselli, 2018).

"…[W]hile animal studies provided plenty of evidence that testosterone affects multiple aspects of the brain structure, brain structure is also influenced, in both, males and females, by other sex-related hormones and by sex-related genes…This is expected to lead to higher variability in the "femaleness-maleness" of different features within a single brain that the one expected in the case of a single factor. Moreover, sex-related hormones, including testosterone, act on different brain features via multiple independent mechanisms, so that even features affected by the same hormone, may vary considerably in their location along their female-male continuum…" (Joel, 2021; p. 166).

In a nutshell, these views have proven to be overly simplistic, and based on the science-disproven idea of the sexually dimorphic brain (Joel et al., 2015), as well as overgeneralizations by researchers and misrepresentations stemming from complex language and confirmation bias (Joel and Fausto-Sterling, 2016). A slew of research in the last fifteen years has challenged these long-prevailing notions, citing technique flaws and inconsistencies, and providing evidence supporting an alternative theory: the mosaic brain [e.g., (Jordan-Young, 2010, 2012; Rippon et al., 2014, 2021)]. Although it is undeniable that there are sex/gender differences in brain and behaviors, humans and human brains are comprised of unique overlapping *mosaics* of male-typical and female-typical features, where internal consistency across characteristics within individuals is rare (e.g., Joel et al., 2015; Hyde et al., 2019).

Biological aspects of an individual absolutely have an impact on their gender development, however, it is much more complex than it has historically been made out to be. We laud the researchers disproving the harmful and inaccurate theories of binary sex, and currently do not believe the field is at a place to make general assertions of causation between biological structures and gender development with any conviction.

3. Gender socialization from ages 0 to 3

3.1. Learning about non-binary identities (between ages 0–3)

While many parents who hold more liberal gender norms acknowledge the importance of teaching gender as a spectrum, the majority have little understanding of what it is to be non-binary, or how to explain it. As a result, the primary source from which young children may learn about non-binary identities and the spectrum in gender is through books and other media [e.g., *They, She, He, Me* by Gonzalez and Smith-Gonzalez (2017), Terrace (2020-2023)]. Another way children learn about non-binary identities is through education by and contact with friends and family members that are part of the 2SPLGBTQIA+ community. These are some ways the first criterion for non-binary gender identification (learning about non-binary identities) can be met.

3.2. Authentic trait development (between ages 0–3)

The first 3 years of life are fundamental for gender socialization. During this critical period, most children are almost exclusively socialized by their parents. According to Quinn et al. (2002), children learn to differentiate between women and men at around 6 to 10 months, likely done on the basis of characteristics culturally linked to gender (Leinbach and Fagot, 1993). This is evidenced by their ability to differentiate between pictures and voices of men and women (Miller, 1983; Leinbach and Fagot, 1993). By the time babies turn one year old they start learning gender stereotypes (Levy and Haaf, 1994). This initial period influences to a great extent the filters children will have when presented with gender related material in the future. By their second birthday their behavior is not only influenced by the stereotypes, but they distort new gender-related input to fit them (Trautner et al., 2003; Martin and Ruble, 2004). It is reasonable to extrapolate that the more rigid the gender norms and definitions one has been taught, the more children will have to distort gender related information to fit them. However, when parents specifically undertake an effort to reduce the rigidity of gender socialization, it increases children's beliefs of the expansiveness of gender norms and definitions (Istar Lev, 2010). More expansive ideas about gender allow for greater freedom exploring different activities, forms of presentation and other gender traits, which support authentic gender development (Fiani and Han, 2018; Dowers et al., 2020; Waagen, 2022).

Parents also play a key role in the salience of certain interests in their children. Despite the commonly held assumption that biological factors play a unilateral role in certain gender traits, modeled enjoyment and parental prompting has shown to work in congruence with biology (Jacobs and Eccles, 1992; Jodl et al., 2001). For example, parents wanting their kid to play sports has shown to be a factor in boys' interest in the activity (something generally presumed to be "natural"), as well as influential in increasing girls' interest in sports. Encouraging children to explore their interests, particularly when in opposition of traditional gender

norms, has shown to be comparably influential to biological predispositions, and important to children feeling supported in their authentic selves.

4. Gender socialization from ages 4–8

4.1. Learning about non-binary identities (between ages 4–8)

While some children will have already learned about non-binary identities before starting school, it becomes increasingly likely that children will be taught about gender as a spectrum beginning in pre-k and elementary school. Some parents may not learn about non-binary identities until they start interacting with teachers and other parents. Other caregivers may choose to introduce the topic now that their child is older in many of the same ways previously mentioned. Further, if parents had chosen not to teach their child about non-binary identities, once children spend much of their time out of the house, it is more likely they will learn from another adult, community member or form of media.

4.2. Authentic trait development (between ages 4–8)

Imitating models is an influential factor in the development of gender traits, not only through receiving representation, but reinforcement and punishment as well. Children imitate behaviors in people with characteristics they identify with and place importance on (Blakemore et al., 2009), categorizing others but also themselves to recognize the shared traits. While there is a strong preference for the imitation of same-gender models in boys, there is significantly less of a same-gender bias in girls (Bussey and Bandura, 1984; Blakemore et al., 2009). This raises the question, who do non-binary kids imitate, and what models are important for them to have? While having some non-binary models would be ideal, non-binary children, just like girls, will find shared traits in people of different genders. This being said, it is incredibly important that non-binary children see their most stigmatized traits, characteristics of gender non-conformity, modeled. As non-binary author and social worker Koonce (2019) states from their personal and professional experience, given the lack of a non-binary gender definition "...it's in the mirroring of others that [non-binary identities] truly take form" (location 3,021), and research has demonstrated the importance of exposure to models with different gender presentations in encouraging ongoing exploration of gender traits (Kuper et al., 2018).

As children begin routinely spending extended time with same-age peers around the ages 3 to 5, they come into contact with many new activities, expressions, playstyles, and other gender traits. Further, Waagen (2022), discovered these ages to be a common time for non-binary people to recognize discomfort with the gender norms of their sex assigned at birth, prompting questioning of their gender identity. This exposure to new possibilities in conjunction with recognized cognitive dissonance is conducive to experimentation, however, the experience can be highly influenced by gender norms. Living in environments with rigid and conservative gender norms, for example a peer group that punishes gender-atypical behaviors (as previously discussed), act as a barrier to exploration (Fiani and Han, 2018; Kuper et al., 2018). On the other hand, individuals that perceive unconditional support from family and friends feel safer to explore new gender traits (Waagen, 2022). Environments with liberal gender norms are more conducive to authentic gender development in children (Fiani and Han, 2018; Dowers et al., 2020).

Peer groups contribute significantly to the confidence children feel to explore their interests and behaviors, and there are two main categories: single-gender groups, and mixed-gender groups. Throughout elementary school, single-gender groups are more common, exaggerate shared traits, and punish individuals who transgress gender norms (Fabes et al., 2003; Hanish and Fabes, 2014). This peer pressure may "greatly impede development or prevent authenticity to one's gender expression" (Waagen, 2022; p. 11). Experts affirm that peer groups form out of shared interests more than a preference for peers of a certain gender (Priess and Hyde, 2011). As non-binary children will likely have some preferences for gender traits atypical of their sex assigned at birth, they will spend much of their time in mixed-gender groups. The aforementioned involves "relatively non stereotyped activity choices" (Fabes et al., 2003; p. 930), as non-binary kids will find more support for their exploration and authenticity in these peer group settings.

5. Discussion

In order for a child to come to identify as non-binary, children need to learn about the existence of non-binary identities, and not identify with the definitions they have been taught of a boy or a girl. Children can learn about non-binary identities and gender as a spectrum through parents, media, and knowledgeable community members, and can develop gender traits authentically through biological predispositions, parental support, observational learning, as well as being in peer groups supportive of gender trait exploration.

It is imperative to dismantle adultcentric ideas that perpetuate the notion of children as passive recipients and mere products of their nature and nurture. It has been proven that children are active players with agency in their development (e.g., Amar, 2016; Gill-Peterson, 2018; Belsky et al., 2020). Being exposed to liberal gender norms will not "make them non-binary." What seems plausible, however, is that those who do not see themselves represented, or do not feel respected in their social groups will actively seek models and friends who will validate their identity. All in all, "[non-binary folks] represent one idea and one idea only: how to be you" (Marsh, 2019, location 1,923).

Together with Jocelyn Demos-Utrera and Lucinda Garcia, fellow members of the "Abby and Anna" Sexual Orientation, Gender Identity and Expression (SOGIE) Lab, Eliot-Pearson Department of Child Study and Human Development at Tufts University, we have an ongoing project where we interview 3- to 8-year-old non-binary children and their parents.[2] This

2 "How Do Children Identifying Beyond the Gender Binary and Their Parents Understand Gender?". IRB ID: MOD-06-STUDY00002649. Tufts Social, Behavioral, and Educational Research Institutional Review Board.

study aims to investigate how these children understand their gender and gender-related experiences. Nine child-parent dyads generously agreed to participate and preliminary findings support the aforementioned criteria for authentic gender development: our children' participants have learned about non-binary identities, do not identify completely or exclusively as a boy or girl, and claim a non-binary identity, mainly through self-labeling and the use of "they/them" pronouns. All their parents hold liberal gender norms, self-educate on the gender spectrum, and show their children unconditional love and support for exploration. This article represents the first of a series where we seek to contribute to the deepening our understanding of non-binary identities to support these kids and honor the Brown and Black non-binary ancestors.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

FS-Q and NS contributed to the conception and design of the study, organized the literature review, and wrote the first draft of the manuscript. Both authors contributed to manuscript revision, read, and approved the submitted version.

Funding

We are most thankful for the Summer Scholars Program 2022, Office of the Provost, Tufts University, and FS-Q start-up research funds (Faculty Research Funds), School of Arts and Sciences, Tufts University, since both have provided financial support for the larger project from which this paper grew.

Acknowledgments

We would like to thank Heather Barber for her help in writing the manuscript and for comments that greatly improved it.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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frontiers | Frontiers in Public Health

TYPE Review
PUBLISHED 18 July 2023
DOI 10.3389/fpubh.2023.1183284

OPEN ACCESS

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RECEIVED 09 March 2023
ACCEPTED 03 July 2023
PUBLISHED 18 July 2023

CITATION
Comeau D, Johnson C and Bouhamdani N (2023) Review of current 2SLGBTQIA+ inequities in the Canadian health care system.
Front. Public Health 11:1183284.
doi: 10.3389/fpubh.2023.1183284

Review of current 2SLGBTQIA+ inequities in the Canadian health care system

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Gender identity and sexual orientation are determinants of health that can contribute to health inequities. In the 2SLGBTQIA+ community, belonging to a sexual and/or gender minority group leads to a higher risk of negative health outcomes such as depression, anxiety, and cancer, as well as maladaptive behaviors leading to poorer health outcomes such as substance abuse and risky sexual behavior. Empirical evidence suggests that inequities in terms of accessibility to health care, quality of care, inclusivity, and satisfaction of care, are pervasive and entrenched in the health care system. A better understanding of the current Canadian health care context for individuals of the 2SLGBTQIA+ community is imperative to inform public policy and develop sensitive public health interventions to make meaningful headway in reducing inequity. Our search strategy was Canadian-centric and aimed at highlighting the current state of 2SLGBTQIA+ health inequities in Canada. Discrimination, patient care and access to care, education and training of health care professionals, and crucial changes at the systemic and infrastructure levels have been identified as main themes in the literature. Furthermore, we describe health care-related disparities in the 2SLGBTQIA+ community, and present available resources and guidelines that can guide healthcare providers in narrowing the gap in inequities. Herein, the lack of training for both clinical and non-clinical staff has been identified as the most critical issue influencing health care systems. Researchers, educators, and practitioners should invest in health care professional training and future research should evaluate the effectiveness of interventions on staff attitudinal changes toward the 2SLGBTQIA+ community and the impact on patient outcomes.

KEYWORDS

2SLGBTQIA+, health care, Canada, health inequities, determinants of health, gender, sexual minority

1. Introduction

The determinants of health encompass personal, social, economic, and environmental factors that determine health, such as income and social status, employment and working conditions, education and literacy, childhood experiences, access to health services, racism, culture, biology and genetic endowment, age, sexual orientation, and gender identity (1, 2). Certain health determinants can contribute to health inequities by inciting discriminatory and/or intolerant behaviors. The acronym 2SLGBTQIA+ (Two-Spirit, Lesbian, Gay, Bisexual,

Transgender/Trans, Queer/Questioning, Intersexual, Asexual/Aromantic/Agender and all others) is used to describe sexual and gender minorities (3). Individuals of sexual and/or gender minority are often faced with higher rates of adverse health outcomes when compared to the general population; this includes suicide, anxiety, cancer, obesity, and arthritis (4). They are also more likely to engage in harmful health behaviors, such as substance use and risky sexual conduct (4).

2SLGBTQIA+ health disparities can be explained by minority stress theory (5) which postulates that high levels of chronic stress brought on by enacted and/or anticipated stigmatization and discrimination, as well as internalized cis-hetero-normativity (i.e., the presumption that all individuals are inherently cis-gendered and heterosexual) are detrimental to health (6–9). This chronic stress directly impacts physical and psychosocial health and drives avoidance behaviors that impact health. The health of 2SLGBTQIA+ individuals has often been compromised by stigmatization, discrimination, a lack of visibility, and a lack of cultural competency in the health care system (10–21). In addition, the notion of intersectionality explains how 2SLGBTQIA+ individuals may be confronted with multiple interlinked forms of discrimination like cis-hetero-normativity, agism, ableism and racism, that when combined, increase vulnerability to health inequities and lead to inferior clinical outcomes (22–25). In other words, the health equity gap widens increasingly.

Importantly, these risk factors are modifiable when proper action is taken to address them. This involves adequate education for health care professionals (HCP) in matters of 2SLGBTQIA+ specific health needs, cultural competency, and implicit bias training, as well as resolving systemic discrimination and lack of inclusivity within the health care system. The main goal of this review is to present succinct and up-to-date information on the current state of 2SLGBTQIA+ health inequities in Canada. Specific objectives were to (i) present known factors associated with health disparities in the 2SLGBTQIA+ community and (ii) identify existing resources that can be used by Canadian health care institutions to address inequities and therefore, ameliorate the health outcomes of the 2SLGBTQIA+ community. Discrimination, patient care, and access to care, education and training of HCP, and crucial changes at the systemic and infrastructure levels have been identified as main themes in the literature. They will be discussed throughout this review.

2. Discrimination

Access to quality health care is a fundamental right that is not always extended to the 2SLGBTQIA+ community because of individual and systemic discrimination. Discriminatory attitudes from HCP are a major problem in the health care system (26–29). Notably, refusal to administer treatment and medication and delaying treatments for 2SLGBTQIA+ individuals are striking examples of individual discrimination by HCP (15, 17, 30–36). Contrastingly to these reports of misconduct, studies have demonstrated an increase in explicitly positive attitudes toward the 2SLGBTQIA+ community from nursing staff and physicians over time (12–14, 37–39). However, despite this rise in explicit positive attitudes, patients remain victims of stigma, discrimination and are denied their civil and human rights (11, 40). It is thus important to distinguish between implicit and explicit biases; even when HCP are committed to providing equal care, this can be undermined by implicit biases operating unconsciously (41–46). These psychological biases are described as the nonconscious or implicit prejudice and stereotypes health care providers hold without knowing it. Even when HCP are committed to providing equitable care, some evidence supports that implicit biases can impact health care providers' judgment and behavior when interacting with patients from the 2SLGBTQIA+ community (40).

Discrimination is also found at the systemic level, in forms, processes, language used, medical records, and the physical environment, exacerbating the discriminatory experience within the health care system (4, 47, 48). This leads to delayed treatment, which inevitably has a damaging impact on health (13, 14, 30–33, 36, 49–53). Furthermore, general apprehension and being cognizant of the negative impact that divulgation may have on health leads to non-disclosure of sexual orientation and/or gender identity. Although non-disclosure protects patients from prejudice short term, it has a detrimental impact on health long term, more specifically, on patient care, health, and satisfaction of care (10, 15, 36, 50, 52, 54, 55). Hence, patients are put in a lose-lose situation created by an inequitable health care system that ultimately contributes to health disparities. Stigma and discrimination also lead to unfair access to social and material resources auxiliary to good health like employment, income, housing, education and health care (56). For example, the Trans PULSE Project (a community-based research project that investigated the impact of social exclusion and discrimination on the health of 2SLGBTQIA+ people in Ontario, Canada) found that 40 and 45% of the transgender population surveyed had low-income and un-met health needs, respectively, and bisexual folks experienced food insecurities at double the rate of their heterosexual counterparts (57). These disparities are further exacerbated by race, socio-economic status, gender, and sexual orientation through an intersectional lens (24). These findings can be explained by the intersectionality theory, where the intersection of social health determinants have a compounding impact on health (25). As shown in Figure 1, this theory is often used to correct for health determinants that would otherwise be analyzed separately to

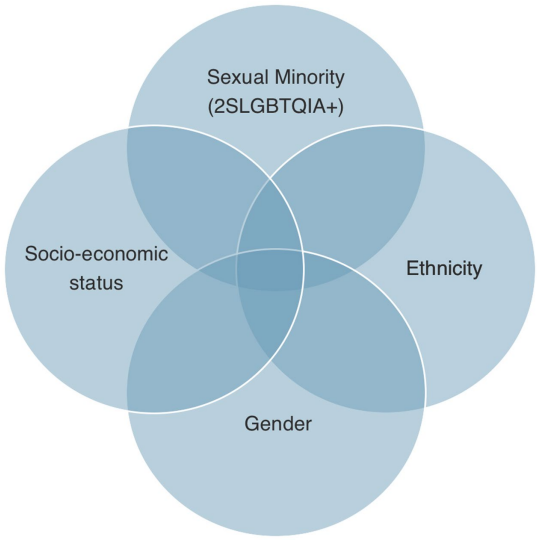

FIGURE 1
The intersectionality of social determinants of health to illustrate the compounding impact on health disparities.

assess their direct impact on health instead of looking at how they interact together. In reality, various determinants interact together and compound the impact on an individual's health. Many studies in this review have illustrated this phenomenon in the 2SLGBTQIA+ community in Canada, where sexual or gender minority status will have an influence on other health determinants directly or indirectly and ultimately impact health.

3. Patient care and access to care

The minority stress framework posits that 2SLGBTQIA+ individuals are subject to stressors that have a pernicious effect on physical and psychosocial health (58, 59). Notably, the 2SLGBTQIA+ community disproportionately experiences stigmatization and discrimination which can lead to mental illness (e.g., increased risk of depression, suicidal ideation, anxiety), as well as maladaptive behaviors such as substance abuse and risky sexual behavior that may lead to higher rates of HIV and sexually transmitted infections (54, 60–66). Often, these risk factors are overlooked by clinicians, making it difficult to properly treat patients (67, 68).

In the United States, half of the people diagnosed with HIV are gay and bisexual men (60, 69); these figures are roughly the same in Canada (4). In addition, men who have sex with men are at higher risk of developing anal and genital cancers (70, 71). Lesbian and bisexual women tend to have more binge eating behaviors to deal with social isolation and other pressures related to minority stress (72). This partly explains why lesbian and bisexual women are more likely to be overweight and suffer from obesity, which increases their risk of cardiovascular disease and arthritis compared to the general population (4, 48, 54, 69, 73, 74). Once again illustrating how these increased health risks could be mitigated by reducing the harm associated with minority stress (72). In addition, they also tend to avoid screening for breast cancer, cervical cancer, and sexually transmitted infections due to feelings of distress associated with medical visits (11, 54, 60, 69). Lower screening rates could potentially lead to an increased risk of cancer diagnoses in this population (75, 76) and the development of advanced metastatic disease. Studies suggest that screening tests performed in a comfortable and safe environment make for a positive experience and could potentially remedy the lack of screening (77–80). Positive feelings resulted from sensitive health care providers acknowledging patients' vulnerability and considering the physical discomfort they may feel while simultaneously affirming their identities. Avoiding the use of gendered or binary language in screening, especially for many cancers is of note, for example, employing the use of "chest" or "upper body" instead of "breast" (48, 81). Simply naming the organ involved instead of referring to female/male reproductive cancer or other body parts is also consequential. Furthermore, health care providers may need to provide education about the need for cervical cancer screening for lesbian women, trans and non-binary people (48). Historically, there has been a misconception that lesbians did not need cervical cancer screening, and some health care providers and community members may still erroneously believe this to be true (48). Therefore, grassroots education for HCP is needed and many Canadian resources and guidelines are available online to this end, these promote preventive care, early diagnosis, and effective management (48). Specialized 2SLGBTQIA+ clinical groups focused specifically on the management of health conditions or the prevention and/or management of behavioral risk factors for chronic diseases have also been shown to be effective in improving care (82–90). A summary of evidence on the prevalence of health conditions can be found in Table 1.

3.1. The transgender population

The transgender (trans) community is among the most neglected and underserved populations in the 2SLGBTQIA+ community. Marginalization, discrimination, lack of HCP experience and knowledge, inadequate services, and structural barriers are causal factors (91–96). Canadian studies have shown that more than half of trans participants have had negative experiences within the health care system, one-third have not been helped, and long wait times have been observed (97–101). In addition, trans women are more likely than trans men to go without medical treatment (102). Transgender individuals have seen their treatments delayed and have been subject to physical and verbal violence at a more alarming rate (32, 49, 103).

Trans people may decide to transition socially, transition medically, or not transition. Social transition refers to the cosmetic, social, and legal changes of transition, such as changing one's appearance and name. A medical transition may involve hormone therapy and/or surgical procedures. Primary care needs are largely related to medically supervised transition and access to and control of hormone administration and dosing (104). Importantly, transition in many cases is essential, non-elective, and mitigates the risks of suicide and psychological distress prevalent in this population (99, 105–112). As an example, a cross-sectional study of a large Australian cohort found that 57% of transgender individuals were diagnosed with depression and 39% with anxiety (113). In addition to discrimination, the lack of trans-specific medical training has been identified as a major barrier to providing health care to this population (92–94, 114–118). In fact, only one-third of medical schools in Canada and the United States provide education on hormone therapy and surgical transition (119). In a national survey, only 10% of medical students felt they were prepared to care for trans patients (118). In Canada, primary care HCP serve the transgender population; however, the number of clinicians with the necessary skill set to support this population adequately remains low. As a result, patients are placed on waiting lists or are required to travel great distances, and incur costs related to travel and medical procedures to receive adequate health care (100). In addition, general practitioners often refer patients to specialists, such as endocrinologists, often by lack of experience and because they presume the patients will be in better hands. This approach can be interpreted as an unwillingness on the part of the HCP to provide care to the patient and can also increase wait time (93). Incidentally, the great majority (80%) of endocrinologists have not received trans-specific training (120). Another financial barrier is the consultation with a private HCP (psychologists, psychotherapists, or social workers). This step is mandatory for the patient to obtain a letter recommending gender affirmation surgery and is not always straightforward (4). Instead, the Canadian Professional Association for Transgender Health now recommends that informed consent be promoted for a more effective and timely service (121). Prompt access to treatment could greatly reduce the distress felt by this at-risk population (4).

TABLE 1 A summary of evidence on the prevalence of health conditions, outcomes, and behaviors among individuals from the LGBQ community and transgender individuals in comparison to the general adult population in Canada or the United-States of America (USA).

	LGQ or homosexual?	Bisexual	Transgender	General or heterosexual population	Reference
	% and/or OR	% or OR	% or OR	% or OR	
Health conditions					
Cardiovascular disease (USA) women men	5.0% 6.8%	7.0% 14.5%	ND	5.8% 7.5%	Blosnich et al. (239)
Cancer (USA) prostate cancer breast colon	3.4% 17.8% 3.6%	7.8% 13.3% 1.7%	ND	4.3% 20.6% 3.6%	Tamargo et al. (240)
Overweight or obesity (USA) women men	60.7% 52.6%	61% 57.3%	ND	54.3% 70%	Blosnich et al. (239)
Arthritis (USA) women men	50.3% **1.57** 28.9% **0.84**		ND	44.7% 34.2%	Fredriksen-Goldsen et al. (241)
Mood or anxiety disorder	17.4%	23.9%	ND	11.4%	Gilmour (242)
Depression	**2.09**	**3.73**	60%	**1**	Scott et al. (243) House of commons (4)
Diagnosed with a Sexually Transmitted Disease	**1.19**	**3.34**	ND	ND	Steele et al. (244)
Health outcomes					
Suicide ideation	5.4%	12.9%	36%	2.3%	Gilmour (242)
Perception of health (poor or fair)	**1.05**	**2.15**	ND	**1**	Steele et al. (244)
Health behaviors					
Substance use	**2.67**	**2.00**	ND	**1**	Steele et al. (244)
Smoking	**1.77**	**2.04**	ND	**1**	Steele et al. (244)

OR, odds ratio; ND, no data. Values in bold are Odds Ratio.

Current curricula do not provide the knowledge required to care for trans people adequately. To fill the knowledge gap in Canada, organizations such as TransCare BC, Rainbow Health Ontario and the Canadian Professional Association for Transgender Health have put together conferences and workshops specifically tailored to providing primary care to trans people (122). Indeed, Canadian primary care guidelines from Ontario and British Columbia are available online for clinicians (98, 123–125). Another example of online continuing education is the Ontario Ministry of Health and Long-Term Care funded program, Trans Health Connection, which provides HCP with training on cultural competency and clinical care for the trans population (98). Finally, excellent guidelines are also freely available from the Registered Nurses' Association of Ontario (48). Of note, much of the Canadian health care literature comes from the Ontario Trans PULSE study and may not be generalizable to the broader Canadian context due to provincial differences in health care services, such as health care coverage and access to surgeries (122). In Canada, the health system is publicly financed; most health expenditures are financed through the general tax revenues of the federal, provincial, and territorial governments. While the federal government has a role in setting national standards for funding, streamlining data collection and research as well as regulating prescription drugs, Canadian provinces and territories are responsible for financing as well as administrating their own tax-funded and universal hospital and medical care plans (126). This could explain inter-province variability in service delivery and accessibility for the 2SLGBTQIA+ community. Notably, Ontario has the highest number of health programs that target the 2SLGBTQIA+ community (29.5%). That proportion is higher than the programs available across the country, and especially in comparison to the Atlantic provinces. That means, in addition to the variations in logistics between provinces, there are also important variations in programs available to provide health care to individuals

from the 2SLGBTQIA+ community. In 2019, an environmental scan of programs in Canada revealed these substantial variations as illustrated in Table 2 (57).

3.2. Two-Spirit peoples

We use the designation 'Indigenous' in the present document to describe individuals and groups who identify as descendants of civilizations that predate colonization in Canada. Although there is no universal definition that has been accepted to describe this extremely diverse group of peoples, we employ this terminology because it is understood that individuals and communities will be supported in self-defining what it means to them (127).

Colonization and racism are intertwined and have resulted in deep-rooted and continuing stigma against Indigenous peoples, which have a demonstrably negative impact on health and well-being (128, 129). Racist ideologies have pervaded education, housing, food securities and employment, societal systems and institutions including child welfare, the criminal justice system and, notably, health care (127). The most egregious barrier to health care for Indigenous peoples remains attitudinal and systemic racism (130). Indeed, research shows that racism is so prevalent that Indigenous peoples strategize around anticipated racism before visiting health care facilities or avoid them altogether (131–133). Past horrific assimilationist practices, namely residential schools, the Sixties Scoop, and contemporary child welfare, have also resulted in deep-rooted intergenerational trauma negatively affecting well-being and health (134, 135).

Two-Spirit is a contemporary umbrella term to describe Indigenous peoples with both masculine and feminine spirits outside of the Western colonialist framework (136, 137). Although a unifying term, many Indigenous tribes have their own words, definitions, and cultural understanding of what this means to them; western categories do not accurately reflect the ontologies of gender and sexuality for Indigenous peoples. Oral histories show that Two-Spirit peoples held important roles within Indigenous spirituality and were honored and respected. They were indeed vital to the collective well-being and survival of their tribes, contributing to the maintenance of Indigenous legal, cultural, and spiritual systems (135). Indigenous peoples belonging to the 2SLGBTQIA+ are particularly vulnerable to health inequities due to intersectional forms of discrimination and invisibility within the health care system (138, 139). Consequently, the experiences of Two-Spirit peoples are unique. There is however a scarcity of literature that look exclusively at the health and health inequities of Canadian Two-Spirit peoples (138). And so, the Canadian House of Common's Standing Committee on Health has called for increased research and programing for the community. It is particularly important for HCP and health care institutions to work toward reconciliation and decolonization to ameliorate existing inequities (140) and acknowledge the Calls to Action and Calls for Justice. Notably, the resiliency of Indigenous peoples has allowed them to survive and flourish in the face of horrendous colonial oppression, demonstrating collective strength and fortitude. There is much to learn here for the betterment of health and health care, not only for Two-Spirit peoples but for the broader LGBTQIA+ community. Understanding the historical, contemporary, and emergent issues faced by Indigenous and Two-Spirit peoples must be a Canadian priority (135).

TABLE 2 Environmental scan of programs targeting sexual and gender minority populations in Canada (2019).

Geographical region	*n*	%
Alberta	29	13.2
British Columbia	27	12.3
Manitoba	15	6.8
New Brunswick	3	1.4
Newfoundland and Labrador	3	1.4
Northwest Territories	2	0.9
Nova Scotia	9	4.1
Nunavut	0	0
Ontario	65	29.5
Prince Edward Island	2	0.9
Quebec	45	20.5
Saskatchewan	3	1.4
Yukon	1	0.5
Canada	16	7.3
Total	220	100

n represent the number of specialized programs in each geographical region.
% represents the proportion of specialized programs by geographical region to illustrate the uneven distribution throughout Canada.

4. Education and training of health care professionals

HCP have reported a lack of curricula geared toward the 2SLGBTQIA+ community (119, 141–145), and HCP who have not been trained appropriately feel that their lack of training negatively affect their ability to care for patients (19, 146, 147). Notably, a survey conducted at the University of Ottawa found that 41% of medical students witnessed anti-2SLGBTQIA+ attitudes within the education system (148). Given the lack of ingrained 2SLGBTQIA+ cultural competency and sensitivity, when in an uncomfortable situation with a member of the community, HCP tend to disconnect from patients which could be perceived as heterosexism by consulting patients (10, 146). This real or perceived disconnect between patients and HCP negatively impacts the consultation and treatments (41, 42). However, when education and training are available, these positively influence comfort levels and diminish anxiety in students and health care providers (149–152). It would thus be imperative to normalise and require HCP to be trained in matters of cultural competency, and the specific health care needs of 2SLGBTQIA+ individuals (19, 141, 145–147, 153–155). Nevertheless, despite overt efforts to deliver equity of care and with no remaining explicit prejudices, discrimination is still common and can be explained by the resilience of unconscious, implicit biases (41, 42, 149, 156–170). Implicit biases are not as easily modifiable as explicit biases because they are firmly entrenched beliefs; thus, for significant change to occur, dedication on the part of the learner is required as well as a strong educational support. Because measures of implicit biases are more strongly associated with real-world behaviors than explicit biases (171, 172), the former should

be the focus of educational practices. Furthermore, with less time and limited information processing capacity, providers' decisions are increasingly governed by implicit stereotypes and biases (173, 174). Moving beyond cultural competency and including training on implicit biases is thus undeniably important (41, 42, 158, 159).

Educating HCP on implicit bias as well as culturally competent care such as 2SLGBTQIA+ social issues and health should be integrated into curricula, in continuing education and in all learning and teaching opportunities when health assessment, health promotion and disease prevention are addressed (43, 44, 175). These themes should not only be promoted but integrated into multimodal learning strategies, experiential learning (e.g., case studies, role-playing, simulation) as well as reflective practice to better prepare HCP to meet the health care needs of 2SLGBTQIA+ patients (60, 147, 176). Moreover, because HCP have generally not had proper training, health care authorities should include and require training for all new employees and offer opportunities for continued education (142, 165, 177). Interventions geared toward training programs have been highlighted, show good promise, and are briefly summarized in four points:

(i) A good first step could be to evaluate the inclusivity of programs/institutions using tools such as the Health care Equality Index (HEI) benchmark (178). Although certification is only available in the United States, they offer numerous learning resources and a scoring system methodology online that could be reproduced for use in Canada (179).

(ii) Include implicit bias training in teaching programs, such as case scenarios used by the Gay and Lesbian medical Association and Fenway Institute (180). Practicing self-reflection and awareness through journaling, self-assessment, deconstructing existing beliefs and analyzing social issues affecting the lives of the 2SLGBTQIA+ community have been shown to be effective tools (181, 182). Programs incorporating bias training should also evaluate their efficacy with tests such as the Implicit Association Test (IAT) (183).

(iii) A training program focused on cultural competency, the inclusion of 2SLGBTQIA+ perspectives and patient-centered care has been shown to be efficacious (46). The trainings found in the literature use a range of effective learning strategies to increase cultural competence, such as lectures, readings, videos, interviews, or presentations by people from the community (intergroup contact), and group discussions. Of these strategies, intergroup contact, i.e., the inclusion of 2SLGBTQIA+ perspectives in training institutions, is most effective in promoting more tolerant attitudes toward this population (46). In these training programs, a variety of topics were covered, including sexual orientation, gender identity, sexual history, 2SLGBTQIA+ terminology, disclosure of orientation and gender identity, discrimination and bias, the impact of discrimination on health, factors affecting patient access and medical care, myths and stereotypes, medical care for transgender people, and legal concerns. Even more importantly, repetition of relevant trainings was a strategy that increased the long-term comfort level of HCP (46).

(iv) The inclusion of cultural safety in teaching programs has been proposed (47, 48). Cultural safety moves away from a focus on cultural differences (cultural competence) to a view of the health system environment as a site of change (184), that involves understanding the history, safety needs, power imbalances (oppression), and the influence of staff values and beliefs on service delivery (185, 186). Research has identified several key components in cultural safety interventions (47), these include provider self-reflection, addressing bias and discrimination, and patient-centered care such as building authentic relationships with patients, power sharing, validation of patient autonomy/intuition, and meaningful training for HCP (127, 184, 187, 188).

There is presently no national standard for health care education in Canada (189). Although several focus points and potential solutions have been highlighted here, no Canadian guidelines or resources exist to transform the current lack of 2SLBGTQIA+ curricula. Data-backed interventions and evaluation of their efficacy are urgently needed for nation-wide implementation.

5. System and infrastructure

Cis normativity, the concept of two distinct and opposing genders (women and men), and heteronormativity are profoundly embedded in our society and are reflected in our physical environment. Western Euro-Christian cultural beliefs about gender are being challenged and we must address the inadequacies of our environment to meet the needs of all people, regardless of their gender and sexual orientation. To create a supportive environment, HCP must first assess their own belief systems, cultural norms, and biases to increase their cultural sensitivity, and develop better relationships with 2SLGBTQIA+ patients and gain their trust (Supplementary Table S1) (190).

Creating an open and safe space in all levels of the health care system is essential. In addition, waiting rooms, bathrooms, common areas, and patient care spaces should promote inclusion and support of 2SLGBTQIA+ patients and families through the display of a non-discrimination policy, pro-2SLGBTQIA+ symbols, magazines, posters, information, decorations, or images depicting 2SLGBTQIA+ families (77, 191–198). For instance, bathrooms are an integral and necessary part of our daily lives (199). Gender-neutral bathrooms should be available, and people should also be able to use bathrooms that conform to their gender identity (48, 200). It is therefore recommended to provide gender-neutral and gender-specific toilets and most importantly, to have educated staff who can defend the rights of their users in case of discrimination (Supplementary Table S1) (48). Of note, experts have warned against signage in unsafe spaces, for instance, where employees have not been properly trained to deal with 2SLGBTQIA+ patients or instances of discrimination (48). Visibility can only happen in safe spaces; hence, it is important to have adequate training, and anti-discrimination policies that address instances of discrimination and promote accountability (201, 202).

To open the lines of communication between patients and HCP, electronic medical forms and records should be inclusive and allow for disclosure of sexual orientation and gender and contain neutral language that allows the patient to openly self-identify without presumption (54, 93, 200). At a minimum, all medical forms, processes, language/terminology, and records should include the

individual's chosen name, pronouns, gender identity, sex assigned at birth and sexual orientation (Supplementary Table S1). Assuming a patient's pronouns based on appearance is harmful because a stereotype regarding gender expression is implicitly reinforced. In fact, this disclosure of the information is of great importance and will have a positive impact on the patient's health and will make the patient feel comfortable and safe, if done properly (10, 15, 36, 54, 192, 193, 195, 203–205). It is also good practice for HCP to declare their own pronouns before asking the patient to share theirs (206), all the while maintaining privacy when information is shared (194, 207–209). It is important to be non-judgmental and comfortable when asking questions about gender, sex, sexuality, and sexual activity (77, 194, 208).

Moreover, the broader political environment can influence the success of institutional initiatives for change (210), such as bathroom inclusivity and gender neutrality in medical forms and in communication. Organizational cultures influence the acceptability of discriminatory and stigmatizing practices and how HCP interact with patients (Supplementary Table S1). Injurious practices can become embedded in the culture of health care organizations and be reinforced by clinical and non-clinical staff. This can manifest itself in stigmatizing language, assumptions, lack of confidentiality, and denying care or access to treatment. Thus, structural change needs to be accompanied with proper training of staff, accountability, and well cemented inclusive organizational culture.

6. Discussion

The drivers of discrimination and stigma impacting 2SLGBTQIA+ health must be addressed at the organizational level on an evidentiary basis (47, 184, 211–215). Interventions should target multiple levels simultaneously, such as creating inclusive physical environments, enhancing workforce diversity, policy changes, practice changes, with education of both clinical and nonclinical staff being the bedrock of change (202, 212, 216–218). A better understanding of health disparities unique to each individual group within the community, notably the trans and bisexual community, and considering intersectionality will be crucial to better tailor service delivery. This will require national data collection and funding large scale research projects geared toward understanding the 2SLGBTQIA+ health care experience. The latter could include descriptive studies of patient journey as well as the development and validation of educational programs tackling implicit bias. Lack of data, lack of national educational programs and guidelines, and the scarce investment in change are presently hindering or impeding forward movement. The lack of national guidelines and best practices are reflected in inter-province variability in terms of programs offered for the health and well-being of sex and gender minorities, with a particularly deplorable amount offered in the Maritime provinces as compared to Ontario. Realistically, overall change will take some time. It is thus important to aim at firstly armoring the 2SLGBTQIA+ community with tools to navigate the health care system. Reducing the impact of stigma on well-being can be achieved through psychoeducation programs at the individual level (219–221); which could help members of the community better navigate and cope with an imperfect health care system. These interventions can also take place in a group setting and include cognitive and behavioral components, such as cognitive-behavioral therapy, and aim to change internalized discriminatory and stigmatizing beliefs, improve coping skills, promote autonomy, and enhance social support (219–225).

To address gender related health inequalities in the past, the World Health Organization and the United Nations stressed the importance of transforming all areas of the health sector to integrate the gender perspective (226–228). This integral change was to encompass actions on policy, research, including interventions at the individual level (training/education). However, more than 20 years of research reveals that gender inequities remain embedded in health systems, and unconscious gender bias and sexism still have a pernicious impact on patient care (229–231). Over the years, institutions have seldom invested in education/training, data collection, changes in workplace culture, and human resource management to make sex and gender equality goals and standards an integral part of their governance (232). Sex and gender inclusivity had become an idea that has engrossed many institutions and governments at the expense of substantial actions to remedy health inequities (232–234). Lack of awareness and capacity in policy making, underfunding, bureaucratization, lack of evidence, and lack of patient participation in decision making are noted as pitfalls (235). A close parallel can be drawn between the struggle for gender inclusion in medicine and the inclusion of the 2SLGBTQIA+ community. Indeed, this could present an opportunity to learn from the mistakes of the past, move forward and avoid making the same missteps in addressing the health inequality of the 2SLGBTQIA+ community. Investing in diligent and exhaustive research-backed interventions at the organizational level could avoid such a misuse of resources and precious time (233, 235).

It is also important to highlight that gender inequities do not only have an impact on the 2SLGBTQIA+ community but is also endemic to the cis-gender and heterosexual population. Restrictive gender norms maintain a hierarchical system in which dominant forms of masculinity are favored. A gender system is created that not only undermines the health and human rights of girls and women, but also promotes the marginalization and discrimination of all those who transgress restrictive gender norms, including boys and men (230, 236–238). Ultimately, both face the same misogynistic and gendered barriers, therefore, the inclusion of the 2SLGBTQIA+ community in health care stretches its reach beyond this to all who are subjugated.

7. Conclusion

2SLGBTQIA+ inequities in the Canadian Health care system need to be corrected. Systemic discrimination, patient care and access to care need to be addressed through large scale national education and training programs with research and data collection being the linchpin of all forward movement and progress, all of which will require significant investment.

8. Search methodology

A literature review was performed using PubMed, Embase, and CINAHL. A broad subset of keywords relating to Canadian health care for sexual and gender minorities were used and Canadian articles were prioritized. Canadian grey literature such as federal

and provincial government reports, health care authorities and other community-based communications were included in our search.

Author contributions

DC reviewed the literature and wrote the manuscript under the supervision of NB. CJ contributed to the writing and editing of the manuscript. NB wrote sections, edited, and corrected the manuscript. All authors reviewed, provided feedback, and approved the final version of the manuscript.

Acknowledgments

We would like to thank Isabelle Wallace, a registered nurse from the Madawaska Maliseet First Nation in New Brunswick, who kindly reviewed the section on Two-Spirit peoples. Her input has been crucial in accurately and respectfully describing Two-Spirit peoples' culture.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpubh.2023.1183284/full#supplementary-material

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frontiers | Frontiers in Psychology

TYPE Original Research
PUBLISHED 07 September 2023
DOI 10.3389/fpsyg.2023.1236439

OPEN ACCESS

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RECEIVED 07 June 2023
ACCEPTED 25 August 2023
PUBLISHED 07 September 2023

CITATION
Wicker P and Cunningham GB (2023) Gender stereotypes and their correlates: the moderating role of voluntary sports club membership.
Front. Psychol. 14:1236439.
doi: 10.3389/fpsyg.2023.1236439

Gender stereotypes and their correlates: the moderating role of voluntary sports club membership

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Introduction: This study examined the correlates of gender stereotypes and the moderating role of membership in a voluntary sports club. Drawing on the contact hypothesis, this study argues that gender stereotypes are lower when individuals regularly have the opportunity to meet and play sport with such people, for example in a voluntary sports club.

Methods: Survey data from the European Values Study are used for the analysis (n = 36,185; 30 countries). Gender stereotypes are measured with statements on gender role attributes.

Results: Regression results show that membership in a voluntary sports club, being a student, income, and living in a more gender equal country significantly reduce gender stereotypes. On the contrary, male gender, living in a partnership, having children, lower and medium education, part-time employment, self-employment, unemployment, being a home maker, and living in a small town are correlates of higher gender stereotypes. Interacting the latter correlates with sports club membership support its moderating effect in the sense that most correlates turn insignificant or have smaller coefficients. The only variables retaining their coefficient size are self-employment and living in a small town.

Discussion: The findings support the contact hypothesis and suggest that sports clubs are places that lessen gender stereotypes.

KEYWORDS

gender, role attributes, Europe, voluntary sports club, women

1. Introduction

Stereotypes reflect the set of characteristics and behaviors people consider representative of a social group, or even people presumed to be members of that group (Stangor, 2016). Stereotypes are the pictures that come to mind when thinking about a group of people (Lippman, 1922). Though they can help when needing to make estimates quickly, in other cases, gender stereotypes have the potential to cause harm by reinforcing boundaries and limiting opportunities (Ellemers, 2018). Understanding the factors that shape the perception of gender stereotypes is important because gender stereotypes can be formed early. For example, children as young as 6 endorse gender stereotypes about intellect, as girls are less willing than boys to consider members of their gender as "really, really smart" (Bian et al., 2017, p. 389). These beliefs correspond to the activities in which girls and boys engage (Bian et al., 2017). In adolescence, girls and boys continue to endorse stereotypical gender attitudes, with their family, peers, and (to a lesser extent) media and schools all serving to shape these beliefs (Kågesten et al., 2016). Finally, gender stereotypes permeate virtually all aspects of society, including advertisements (Åkestam et al., 2021), educational training and professional development (Myers et al., 2020),

customer service interactions (Otterbring et al., 2021), work opportunities (Chang and Milkman, 2020), and salary negotiations (Pardal et al., 2020). These examples show how manifest gender stereotypes are within society and how early they are developed.

Importantly, stereotypes are socially constructed and therefore malleable. A Spanish study offers an illustration (Garcia-Retamero et al., 2011): The authors examined perceptions of women and men in the past, present, and future, and found that study participants considered women and men more similar now than in the past, and they anticipated further similarities in the future. Other researchers have focused on factors that might change people's stereotypes, such as interventions, with a meta-analysis of these studies showing that stereotypes can be changed (Lenton et al., 2009). Strategies focusing on examples of people who did not fit the stereotypical mold (i.e., a heterogeneity approach) were particularly effective. In other cases, researchers have examined societal factors and their role in shaping stereotypes. For example, in a study of 66 countries, a negative association between the share of women pursuing a degree in science and both implicit and explicit gender-science stereotypes was found (Miller et al., 2015). In another examining gender stereotypes among Germans and Nigerians, differences in how people thought of women as communal and men as agentic were evident (Obioma et al., 2022).

This research suggests that gender stereotypes are pervasive and can influence opportunities and experiences for women and men; yet, stereotypes can change, whether through intentional interventions or variations in societal factors. Therefore, it is important to understand the correlates that shape gender stereotypical perceptions in the population and get insights on factors that have the potential to alleviate such perceptions. Existing research has typically focused on a few select factors, such as individuals' social status (e.g., Rowley et al., 2007), age (e.g., Barreto and Doyle, 2023), employment situation (e.g., Kucinskas and van der Does, 2017), marital status (Cunningham et al., 2005), or living area (e.g., Deole and Zeydanli, 2021). While existing research has provided valuable insights on select factors, the body of knowledge would benefit from including multiple factors within one study. Given that multiple factors are at work in shaping gender stereotypes, such research would enhance our understanding of the myriad of correlates.

Seeking to extend this understanding, the purpose of this study was to examine the correlates of gender stereotypes and the moderating role of voluntary sports club membership. Previous research examining gender stereotypes in sports contexts has focused on gender differences in the type of sports selected by women and men, the perceived gender appropriateness of sports, socialization and gender identities in sports (Chalabaev et al., 2013), expectations of sporting success and the value placed on success, and the role of parents shaping sporting ambitions of girls and boys (Boiché et al., 2013). The context where sports takes place and the role of different sports institutions in shaping gender stereotypes has not yet been examined.

The study advances the following two research questions: (1) what factors are correlated with the perception of gender stereotypes by European residents and (2) which of these relationships are moderated by membership in a voluntary sports club? In the theoretical part, ten hypotheses will be developed about individual and societal correlates of gender stereotypes. These factors speak to the first research question. Moreover, drawing on the contact hypothesis, we suggest that voluntary sports clubs serve as places where members can meet, play, and socialize with members of other sociodemographic groups, especially women, hence reducing gender stereotypes. This theoretical discussion results in the last hypothesis proposing a moderating role for sports club membership and speaking to the second research question. The research questions are answered using survey data from a multi-country European study.

The rationale of the study is to identify individual and societal antecedents of gender stereotypical perceptions of European residents and if sports club membership represents a moderating factor in the sense that it alleviates the perceptions of gender stereotypes. The results of regression analyzes revealed several correlates of gender stereotypes and a moderating effect of voluntary sports club membership in the sense that it reduces the level of stereotypes for several correlates. The findings contribute to the literature on gender stereotypes by explicitly measuring gender role attributes and identifying characteristics of individuals with higher and lower perceptions of gender stereotypes. The present approach is innovative because existing studies on gender stereotypes have only looked at selected correlates, neglecting the whole portfolio of individual and societal factors. Another contribution relates to the identification of a moderating factor which reduces the impact of several stereotype-raising factors. This contribution is innovative as existing studies have focused on gender stereotypes associated with specific sports (Chalabaev et al., 2013), neglecting the role of the institutional context where sports is offered and played. Examining the role of non-profit sports clubs which represent an important sports provider in Europe is critical for understanding for understanding their societal relevance.

2. Conceptual framework and hypotheses

2.1. Antecedents of gender stereotypes

We conceptualize multilevel factors as potential antecedents of people's gender stereotypes. This position is consistent with the perspective that people's personal characteristics and experiences, and societal factors all shape their attitudes and beliefs (Cunningham, 2019). Importantly, the review focuses on research examining gender stereotypes and the perceived roles of women in society. It excludes studies on sexuality in sport (Anderson et al., 2016) and sexual prejudices (Baiocco et al., 2020).

2.1.1. Background and experiences

Previous researchers have shown that people's background and experiences are related to the gender stereotypes they maintain. Social status helps explain some of these differences, as people will generally express bias in favor of their own group (Crocker and Major, 1989). Furthermore, high status people might be more likely to endorse traditional stereotypes about people not like them, relative to those beliefs that promote their own groups (Rowley et al., 2007). From this perspective, as men frequently have higher social status than do women, they might also be more likely to endorse gender stereotypes. For example, in a large-scale study out of New Zealand, men expressed more sexist attitudes than did women, and these differences at least partially manifested from men also endorsing more gender-specific systems justification than women (Sibley and Becker, 2012). Relatedly, in multiple studies out of the US, Grubbs et al. (2014) found that men's expression of sexist beliefs were predicted by their psychological

entitlement, or the ensuring attitudes of deservingness and demandingness. Given these patterns, we predicted:

> *Hypothesis 1*: men will express stronger gender stereotypes than will women.

We also explored the influence of age. Across a host of social issues, younger generations adopt more progressive and welcoming perspectives than do their older counterparts. These patterns hold for gender stereotypes, too. Illustrative of such, Bhatia and Bhatia (2021) used machine learning to examine gender stereotypes over the course of the 20th century. They found that the strength of the biases had diminished. These changes were due to changes in how people thought about stereotypically feminine traits. These findings are consistent with Barreto and Doyle's review of the literature, where they observed that older people generally express more biased attitudes toward women, relative to their younger counterparts (Barreto and Doyle, 2023). Thus, we predicted:

> *Hypothesis 2*: age will be positively associated with gender stereotypes.

Marital status and the presence of children might link with individuals' gender role attitudes. Relative to their peers, people who hold traditional gender attitudes might be more likely to enter into marriage or a registered partnership, and further, they are potentially more inclined to have children (Goldscheider and Goldscheider, 1992). Both activities align with traditional views of women, men, and their relationships with one another. Consistent with this view and drawing on a 31-year panel data study, people who expressed more egalitarian gender attitudes were more likely to live independently and less likely to have children in marriage. The patterns held for women and for men (Cunningham et al., 2005). Other researchers have found that entering into marriage or having children might shape people's gender stereotypes: Endendijk and colleagues followed parents for 4 years after their youngest child turned age 1 and found that parents' implicit gender stereotyping and behaviors became more conservative over time. The only exceptions were among men who already held such views and among older, highly educated women (Endendijk et al., 2018). Based on this collective research, we predicted:

> *Hypothesis 3*: people who are married or in registered relationships will be more likely to express gender stereotypes than their peers.

> *Hypothesis 4*: people with children will be more likely to express gender stereotypes than their peers.

Socioeconomic status, including people's education, employment, and income, might also play a role. First, education commonly promotes ideas of equal opportunities and egalitarian norms. A study of attitudes toward foreigners among Europeans from 1988 to 2008 (Gang et al., 2013) showed that educational attainment was predictive of positive attitudes toward foreigners, leading the authors to describe education as a "strong antidote" (p. 177) for more exclusionary sentiment. Second, most educational institutions are co-educational, and as such, women and men have a chance to interact regularly with one another and observe how each other excel in the classroom and other educational endeavors. In line with these possibilities, a panel study from the UK and Switzerland examined gender attitudes in Europe following World War II, a timeframe that coincided with compulsory schooling implemented in many countries. Results showed that increases in educational attainment were related to more positive gender attitudes (Deole and Zeydanli, 2021). Based on this evidence, we predicted:

> *Hypothesis 5*: educational attainment will be negatively associated with gender stereotypes.

The second component of socioeconomic status, employment, might also impact gender stereotypes. Researchers have shown that, particularly among women, homemakers have more traditional gender attitudes than do people who work outside the home (Leupp, 2019). In this case, people might endorse the societal expectations that women carry more of the childrearing duties than men and therefore, through their homemaking duties, further develop their traditional gender attitudes. On the other hand, people who work outside the home are likely to observe women working and excelling in the organization, dynamics that might prompt more egalitarian gender attitudes. Likewise, unemployment status might relate to more traditional gender attitudes. Unemployment can elicit feelings of uncertainty and stress, and as a way of compensating, some people turn to traditional perspectives and values. To illustrate, Shoss developed a conceptual model to demonstrate the impact of job insecurity (Shoss, 2017). She showed how insecurity represented a breach in the social contracts employees had with their employers, unions, and politicians. As a result, they were likely to cope by adopting more protective attitudes and approaches. These dynamics help explain the observed relationship between unemployment and traditional social and political attitudes (Diaz et al., 2011), including gender attitudes (Kucinskas and van der Does, 2017). Accordingly, we hypothesized:

> *Hypothesis 6*: employment outside the home will be negatively associated with gender stereotypes.

We also predicted that the third element of socioeconomic status, income, would influence gender stereotypes. As education and the prestige of one's job increase, so too does their income. Thus, given that we expected educational attainment (H5) and employment outside the home (H6) to relate negatively to gender stereotypes, income is likely to follow a similar pattern. Indeed, in a large-scale study of Australians, Perales and Bouma observed that high income earners were less likely than their peers to endorse patriarchal gender beliefs (Perales and Bouma, 2019). Thus, we predicted:

> *Hypothesis 7*: income will have a negative association with gender stereotypes.

2.1.2. Societal factors

Societal factors might also influence people's gender stereotypes. This perspective is consistent with social ecological and multilevel views, whereby people's beliefs are shaped by their personal factors (as previously outlined) as well as their social context. Several researchers have demonstrated these patterns. Rogers et al., for example, focused

on boys' gender beliefs during adolescence (Rogers et al., 2021). Drawing from developmental-context principles, they showed how boys' relationships with peers, their behaviors, and the broader sociocultural context all served to shape the boys' ideas about masculinity. Similarly, in her review, Ellemers noted that interactions among parents and children, the media, the language people use, body postures, and emotional expressions can all shape how people interpret gender stereotypes (Ellemers, 2018).

Community size is one factor that could relate to people's gender stereotypes. From one perspective, in densely populated areas, people encounter a variety of people, observing them in different roles and engaging in different behaviors. This variability and the frequency with which it is observed might break down preconceived ideas about the acceptable roles for women and men. Relatedly, urban areas might be more likely than rural settings to preserve egalitarian values and norms. A study of gender stereotypes in Spain showed that people living in sparsely populated areas maintained gender stereotypes more strongly compared to their peers in more urban areas (Garcia-Retamero et al., 2011). Similarly, in an ethnographic study, Charles and Johns reflected on how growing up in rural Australia contributed to stereotypical ideas about gender and unintended sexist attitudes (Charles and Johns, 2022). Finally, a study of Europeans' gender stereotypes indicated that highly educated women living in urban areas expressed more egalitarian attitudes than their peers living in more rural settings (Deole and Zeydanli, 2021). Based on this work, we predicted:

> *Hypothesis 8*: community size will hold a negative association with gender stereotypes.

In the current study, we focused on a country's record of gender equality. In more gender equal countries, it is expected that residents are more used to women being equally represented in all sectors of society and leadership positions. This representation leads to increased visibility of women and increased knowledge about women, ultimately reducing gender stereotypes. Though empirical examination of these possibilities is limited, there is some scholarship to support the notion that gender dynamics at the national level influence people's beliefs and behaviors. For example, Nosek and colleagues analyzed data from 34 countries, assessing the implicit gender stereotypes at the country level. They found that stereotypes about women and men in science fields were predictive of gender differences in math and science achievement among adolescents (Nosek et al., 2009); thus, the national context influenced people's individual outcomes. In research tangentially related to ours, Henry and Wetherell showed how countries with strong gender equality also had residents who expressed positive attitudes toward lesbian and gay people (Henry and Wetherell, 2017). Based on this collective evidence, we predicted:

> *Hypothesis 9*: country-level gender equality will be negatively associated with gender stereotypes.

2.1.3. The moderating role of voluntary sports clubs

Thus far, we have predicted that personal characteristics and societal-level factors might impact the gender stereotypes people endorse. We also suspect that membership in a voluntary sports club might influence these relationships. Sports clubs serve as spaces where community members can remain active and participate in sport throughout their lifetime, but they also serve broader societal functions, too. For example, they are considered schools of democracy given their non-profit status and the associated democratic processes how decisions are made (Breuer and Feiler, 2022). Many European countries are characterized by a dense network of voluntary sports clubs, meaning that residents across the country can be a member of such a club [for an overview see Breuer et al., 2015]. Sports clubs provide a variety of sport programs that cater for many different population groups, including older people, immigrants, people with health issues, and women (Lamprecht et al., 2017; Breuer and Feiler, 2022). Glancing at membership statistics indicates that across all sports, women represent about 30–40% of club members (Nichols and Taylor, 2015; Seippel and Skille, 2015; Breuer and Feiler, 2022). Collectively, voluntary sports clubs are places where members meet to play sport together, compete, gather at social events, engage in democratic processes, and contribute to club operations by engaging in voluntary work (Breuer and Feiler, 2022). Hence, members have many opportunities to regularly meet people from other social groups, including women.

From a contact hypothesis perspective, the positive interactions with people who are different can serve to reduce anxiety and improve intergroup relations (Allport et al., 1954; Pettigrew and Tropp, 2006). These benefits are likely to manifest when people cooperate with one another, have equal status, share common goals, and have institutional support for positive interactions (Allport et al., 1954). These conditions of contact are common in sport and among people on sport teams (Lee and Cunningham, 2014); thus, participation in voluntary sports clubs has the potential to offer those benefits. Although exceptions might occur, engagement in voluntary sports clubs can help people meet dissimilar others and develop unique forms of social capital (Auld, 2008). In further support of this position, Mousa examined the outcomes among Christians and Muslims who participated in soccer clubs in post-war Iraq (Mousa, 2020). The Christians had all been displaced by ISIS. One of the teams consisted of all Christians and the other had players from both religious traditions. Christians who played on religiously mixed teams expressed more inclusive and positive attitudes and behaviors than did their counterparts. They voted for Muslims for team awards, enlisted to play on mixed teams the following season, and continued in their athletic training with Muslims. These findings point to the potential for sport to help alleviate biases. Thus, we expected:

> *Hypothesis 10*: participation in voluntary sports clubs will be negatively associated with gender stereotypes.

Beyond the direct effects, it is possible that participation in voluntary sports clubs might impact the effects of the personal and societal-level factors. In this case, membership in such entities would moderate the relationships between those factors and gender stereotypes (Cunningham and Ahn, 2019). For example, though we expect that people living in countries with high gender inequality to also express gender stereotypes, this relationship might be negated among people who are members of voluntary sports clubs. And though we present the possibility for the country-level factor, the same possibilities exist for the personal and background characteristics, too. Given this potential, we developed the following hypothesis:

> *Hypothesis 11*: membership in a voluntary sports club will moderate the relationship between personal and background (H11a) and societal-level (H11b) factors and people's gender stereotypes in the sense that it alleviates stereotype levels.

3. Methods

3.1. Sampling and data

The empirical analysis uses data from the 5th wave of the European Values Study (EVS). Data were collected between 2017 and 2020 in 34 European countries using face-to-face and computer-assisted web interviews. The questionnaire was provided in all languages that were spoken by at least 5% of the country's population. Countries with more than 2 million inhabitants had a target sample of 1,200 respondents, while smaller countries aimed at 1,000 respondents. The target group were adult residents (i.e., 18 years and older) living in private households. The country-specific samples cover this target population. The combination of the above sampling methods (i.e., face-to-face and web interviews) was used to reach all population groups and ensure that the subsamples are representative of the adult resident population of the respective country. Previous research has provided evidence of the digital gap in the population: The extent of internet use and the types of internet activities differ depending on individuals' socio-demographic characteristics, such as gender, age, education, and income (Drabowicz, 2014; van Deursen et al., 2015). Therefore, it is important to also employ non-web-based sampling methods like face-to-face interviews as these ensure that all population groups have the possibility to be included in the survey. The underlying questionnaire is the same in both sampling methods. Persons were randomly selected for the interviews and repeatedly contacted (EVS, 2023). Altogether, $n = 56{,}491$ individuals took part in the survey.

During the data cleaning, observations with missing values on relevant variables for this study were removed. Missing values were highest for the income question (~8,500), gender role attitudes (~6,300), voluntary sports club membership (~1,000), and number of children (~1,000). Overall, about 20,000 observations were removed because of non-response to some questions. Collectively, $n = 36{,}185$ respondents from 30 countries can be used for the empirical analysis. Table 1 provides an overview of the share and number of respondents by country and gender.

3.2. Questionnaire and variables

Table 2 shows the variables of this study. The outcome of interest is respondents' gender role attitudes (Lomazzi, 2022) which are indicative of gender stereotypes and were assessed with seven questions. Respondents were asked to state their agreement on a four-point scale from 1 (disagree strongly) to 4 (agree strongly). Table 3 summarizes the items and their descriptive statistics. With a value of 0.861, Cronbach's alpha is above the threshold of 0.7 (Hair et al., 2018), meaning the scale can be considered reliable. Therefore, a mean index was computed by adding up the items and dividing the score by 7.

The main independent variable is membership in a voluntary sports club. Respondents were asked if they belong to a voluntary sports or recreation organization. Another predictor variable is respondents' gender, which was assessed with the question 'Are you a man or a woman?'. Possible answers were "A man," "A woman," "I do not know," and "I prefer not to answer." The resulting gender variable was binary coded with the categories man and woman. Age and its squared term were included to identify possible non-linear relationships between age and gender stereotypes. Another predictor is whether the respondent is married or lives in a registered partnership. Respondents were also asked to indicate the number of children that live in and outside their household. Highest educational level was assessed with different measures in each country and harmonized to ensure comparability, resulting in three dummy variables measuring lower, medium, and higher education. Respondents' employment status was captured with a set of dummy variables, including employment of at least or less than 30 h per week; self-employment; retirement; being a home maker, a student, or being unemployed; not working because of a disability; and other employment. Monthly net household income was provided in purchasing power parities (*PPP*) to reflect differences in currencies and living conditions. Community size is measured with a dummy variable capturing town sizes of less than 20,000 inhabitants.

A country's gender equality level was captured by a gender equality score, with a range from 0 (perfect inequality) to 1 (perfect equality). The value from 2016 is used to ensure adequate causality in terms of timing (World Economic Forum, 2016). The score consists of four dimensions, including economic participation and opportunity of women, educational attainment of women, health and survival of women, and political empowerment of women.

Finally, several control variables are included. First, we accounted for volunteerism, as previous studies have shown that gender can influence the types of volunteer activities in which people engage, as well as their experiences doing so (Helms and McKenzie, 2014; Gil-Lacruz et al., 2019). Respondents were asked if they volunteered in the last 6 months. Other researchers have suggested that immigrants might have different attitudes toward gender issues than do their peers (Pessin and Arpino, 2018). The respective dummy variable captures if the respondents do not have the nationality of the country where they live. Finally, previous studies have shown an association between gender beliefs and various dimensions of wellbeing. As such, we controlled for two aspects of wellbeing (Courtenay, 2000; Li et al., 2022): life satisfaction and health. The study also includes year dummies.

3.3. Data analysis

The empirical analysis strategy consists of three steps. First, descriptive statistics were obtained to give an overview of the sample. Second, linear regression analyzes were estimated with the gender stereotypes index as the dependent variable to answer the first research question. Model 1 includes the individual predictor variables from Tables 2 and a country's overall gender equality score, while the four dimensions of this score were entered in Model 2. In preparation of the next step, the results were inspected for significant correlates that increase gender stereotypes. In a third step, another regression model with interaction terms was estimated to answer the second research

TABLE 1 Overview of respondents by country and gender in the sample (n = 36,185).

Country	Share of respondents (in %)	No. of respondents (n)	No. of women respondents (n)	No. of men respondents (n)
Albania	3.4	1,243	775	468
Azerbaijan	3.8	1,378	691	687
Austria	3.3	1,187	674	513
Armenia	3.7	1,341	730	611
Bosnia	3.9	1,415	797	618
Bulgaria	2.8	1,030	628	402
Belarus	3.2	1,160	682	478
Croatia	3.2	1,157	686	471
Czech Republic	2.7	992	591	401
Denmark	4.3	1,557	788	769
Estonia	2.5	921	617	304
Finland	2.2	808	420	388
France	4.2	1,536	843	693
Georgia	4.7	1,695	1,092	603
Germany	4.4	1,596	790	806
Hungary	2.9	1,067	621	446
Iceland	3.8	1,360	705	655
Italy	3.9	1,426	721	705
Lithuania	2.5	902	561	341
Montenegro	1.9	697	338	359
Norway	2.8	1,016	525	491
Poland	2.2	795	457	338
Romania	2.5	898	487	411
Russia	3.4	1,222	711	511
Serbia	2.6	940	528	412
Slovakia	2.4	853	517	336
Spain	2.3	825	462	363
Sweden	2.8	1,018	533	485
Switzerland	7.4	2,681	1,406	1,275
North Macedonia	1.8	666	334	332
Total	100.0	36,185	20,164	16,021

question. Specifically, significant positive correlates from the first two models were interacted with sports club membership.

The independent variables were checked for multicollinearity using correlation analyzes and variance inflation factors (VIFs). All correlation coefficients were below the recommended threshold of 0.8 and the VIFs were clearly below the threshold of 10 (Hair et al., 2018). Therefore, the present regression models should not be distorted by multicollinearity. Typically, regression models of respondents from several countries would include country dummies. However, as these country dummies would be perfectly correlated with the five country-level gender equality variables, they cannot be entered into the regressions. An alpha-level of 0.05 was used for all statistical tests.

When examining topics like gender stereotypes which might have a subjective component, positionality and reflexivity of the researchers might be worth discussing. Positionality encompasses the relations with research participants, while reflexivity involves an understanding of how the process of doing research shapes the outcomes of the respective research. These aspects are more important to qualitative research than in in quantitative analysis (Corlett and Mavin, 2018). In the present study, the survey was not designed by the authors and the data were not collected by them; they were just analyzed as a secondary data source. Consequently, there was no contact between the researchers and the survey respondents. While the present empirical analysis and the underlying research questions were designed by the authors, the findings resulted from statistical analysis by employing established methods, leaving few room for being shaped by the authors. Given these points, positionality and reflexivity might be less of an issue in the present research.

TABLE 2 Overview of variables and descriptive statistics (n = 36,185).

Variable	Measurement	Mean	SD	Min	Max
Gender stereotypes index	Mean index of 7 items (Table 2; 1 = no stereotypes; 4 = very high stereotypes)	2.14	0.67	1	4
Sports club	Membership in a voluntary sports or recreation organization (1 = yes; 0 = no)	0.196	–	0	1
Man	Respondent's gender (1 = man; 0 = woman)	0.443	–	0	1
Age	Age (in years)	49.18	17.30	18	82
Age2	Age squared (=Age*Age)	2717.83	1732.59	324	6,724
Partnership	Respondent is married or lives in a registered partnership (1 = yes; 0 = widowed, divorced, separated, never married)	0.563	–	0	1
Children_hh	Number of children in the household	0.75	1.00	0	4
Children_outside	Number of children outside the household	0.82	1.06	0	3
Edu_lower	Highest educational level is lower education (1 = yes; 0 = no)	0.181	–	0	1
Edu_medium	Highest educational level is medium education (1 = yes; 0 = no)	0.482	–	0	1
Edu_higher	Highest educational level is higher education (1 = yes; 0 = no)	0.338	–	0	1
Employed≥30 h	Employment 30 h/week or more (1 = yes; 0 = no)	0.422	–	0	1
Employed<30 h	Employment less than 30 h/week (1 = yes; 0 = no)	0.060	–	0	1
Self-employed	Self-employment (1 = yes; 0 = no)	0.061	–	0	1
Retired	Retired/pensioned (1 = yes; 0 = no)	0.249	–	0	1
Homemaker	Homemaker not otherwise employed (1 = yes; 0 = no)	0.053	–	0	1
Student	Student (1 = yes; 0 = no)	0.045	–	0	1
Unemployed	Unemployed (1 = yes; 0 = no)	0.089	–	0	1
Disabled	Not working because of disability (1 = yes; 0 = no)	0.015	–	0	1
Employed_other	Other employment (e.g., military service; 1 = yes; 0 = no)	0.007	–	0	1
Income	Household's monthly net income (in TSD €; corrected for PPP)	2.319	2.029	0.094	12.507
Townsize<20 k	Living in town with less than 20,000 inhabitants (1 = yes; 0 = no)	0.712	–	0	1
Gender equality	Country's gender equality index in 2016 (0 = perfect inequality; 1 = perfect equality)	0.734	0.053	0.669	0.874
Econ participation	Economic participation and opportunity of women (0 = perfect inequality; 1 = perfect equality)	0.703	0.063	0.574	0.823
Edu attainment	Educational attainment of women (0 = perfect inequality; 1 = perfect equality)	0.994	0.008	0.966	1.000
Health and survival	Health and survival of women (0 = perfect inequality; 1 = perfect equality)	0.972	0.010	0.939	0.980
Political empowerment	Political empowerment of women (0 = perfect inequality; 1 = perfect equality)	0.266	0.170	0.035	0.719
Volunteer	Volunteering in the last 6 months (1 = yes; 0 = no)	0.220	–	0	1
Not_nationality	Respondent does not have the country's nationality (1 = yes; 0 = no)	0.033	–	0	1
Life satisfaction	All things considered, how satisfied are you with your life as a whole these days? (1 = dissatisfied; 10 = satisfied)	7.38	2.08	1	10
Health	All in all, how would you describe your state of health these days? (1 = very poor; 5 = very good)	3.74	0.94	1	5
Year	Year dummies for survey year (2017–2019)	–	–	–	–

4. Results

Table 2 displays the descriptive statistics. Respondents in the sample are on average 49.18 years old and 44.3% are male. Altogether, 3.3% do not have the nationality of the country they live in. More than half of respondents (56.3%) live in some form of registered partnership and have on average 0.75 children in the household and 0.82 outside of the household. Regarding the highest educational level, 18.1% have lower education, 48.2% medium education, and 33.8% higher education. Regarding employment, most respondents are employed at least 30 h per week (42.2%), followed by retirement (24.9%), unemployment (8.9%), self-employment (6.1%), and employment of less than 30 h per week (6.0%). Average monthly net household income is 2,319 (in PPP to account for country-specific differences in purchasing power). Regarding place of residence, 71.2% of respondents live in a town with less than 20,000 inhabitants. Average life satisfaction is 7.38 and subjective health is 3.75. Regarding leisure time engagement, 19.6% are a member of a sports club and 22.0% have volunteered in the last 6 months (Table 2).

The average perception of gender stereotypes is 2.14 (Table 2). Looking at the seven items (Table 3) suggests that the first three items capturing employment roles obtained the highest scores (2.31–2.47), while an educational item received the lowest score of 1.64. The countries where respondents live in have reached an average gender equality level of 0.734 (Table 2). Splitting this total score into four dimensions shows that countries score highest on women's educational

TABLE 3 Items of the gender stereotypes scale reflecting gender role attributes (n = 36,185).

No.	Item (*1* = disagree strongly; *4* = agree strongly)	Mean	SD
1	When a mother works for pay, the children suffer	2.31	0.90
2	A job is alright but what most women really want is a home and children	2.47	0.92
3	All in all, family life suffers when the woman has a full-time job	2.42	0.93
4	A man's job is to earn money; a woman's job is to look after the home and family	2.15	0.98
5	On the whole, men make better political leaders than women do	2.04	0.94
6	A university education is more important for a boy than for a girl	1.64	0.76
7	On the whole, men make better business executives than women do	1.97	0.91
	Gender stereotypes index	2.14	0.67
	Cronbach's alpha	0.861	

attainment (M = 0.994) as well as women's health and survival (M = 0.972). Economic participation of women is ranked third with an average score of 0.703, while women's political empowerment has a relatively low score with 0.266.

Table 4 summarizes the results of the regression analyzes. The models explain between 28.8% (Model 1) and 31.5% (Model 3) of the variation in gender stereotypes. In Models 1 and 2 excluding the interaction terms, membership in a voluntary sports club, being a student, income, volunteering, life satisfaction, and health are significantly and negatively associated with gender stereotypes, meaning that these characteristics lessen the perceived stereotypes level. Living in a more gender equal country in general and in a country scoring high on women's educational attainment, health and survival, and political empowerment also reduces the perception of gender stereotypes significantly. Age has u-shaped relationship with gender stereotype perceptions, meaning that gender stereotypical perceptions decrease until a certain age and increase from this point onwards. The coefficients indicate that the turning point is 42 years.

On the contrary, male gender, living in a partnership, having children in and outside of the household, having lower or medium education (as opposed to higher education), employment of less than 30 h per week, self-employment, being a home maker, and unemployment (as opposed to being employment at least 30 h per week), living in a small town with less than 20,000 inhabitants, and not having the country's nationality are significantly and positively associated with gender stereotypes, indicating that these characteristics add to stereotypical perceptions about women in terms of gender role attitudes. Moreover, respondents living in a country with a higher economic participation and opportunities for women also have significantly higher stereotypical perceptions.

Model 3 includes the interaction terms for the examination of a moderating role of voluntary sports clubs. After accounting for the first order effects, membership in a sports club served as a moderator for several variables. Specifically, the effects of having children in and outside of the household changes signs and turns significantly negative. The previously positive associations of employment of less than 30 h per week, being a home maker, being unemployed, and living in a country with higher economic participation of women turn insignificant. The coefficients on male gender, living in a partnership, as well as lower and medium education become smaller, though remaining positive and significant. The only variables retaining their coefficient size and their significant positive effect are self-employment and living in a small town with less than 20,000 inhabitants. We summarize the findings and the support for our hypotheses in Table 5.

The empirical models also contain a set of control variables. The results for these variables show that respondents who have volunteered in the last 6 months have significantly lower levels of gender stereotypes. Moreover, the better the respondents' health status and the higher their self-reported life satisfaction, the lower their perceived level of gender stereotypes. On the contrary, respondents who do not have the nationality of the country they live in scored significantly higher on gender stereotypes than individuals having the nationality of the country they live in.

5. Discussion

Gender stereotypes are pervasive and negatively impact women, their aspirations, and their opportunities. Importantly, however, stereotypes can also change, whether based on intentional interventions, contextual factors, or people's life experiences (Lenton et al., 2009; Miller et al., 2015; Obioma et al., 2022). Drawing from this understanding, the purpose of the current study was to examine correlates of gender stereotypes and whether participation in voluntary sports clubs moderated these effects. Results show that membership in a voluntary sports club, being a student, income, living in a more gender equal country, volunteering, life satisfaction, and health significantly reduce gender stereotypes. On the contrary, male gender, living in a partnership, having children in and outside the household, lower and medium education, part-time employment, self-employment, unemployment, being a home maker, living in a small town, and not having the country's nationality are correlates of higher gender stereotypes. Importantly, participation in a voluntary sports club is negatively associated with stereotypical gender beliefs and serves to offset otherwise stereotype-increasing effects of other factors. In the following sections, we discuss the findings, highlight the contributions, identify implications, note limitations, and suggest opportunities for future research.

5.1. Findings, contributions, and implications

Most of the hypotheses focusing on personal and background factors were supported (Table 5). Men, people who were married or

TABLE 4 Linear regression analyzes for gender stereotypes index (n = 36,185).

Variable	Model 1	Model 2	Model 3
Constant	5.334***	7.332***	7.501***
Sports club	−0.063***	−0.051***	−0.310***
Man	0.183***	0.182***	0.174***
Age	−0.013***	−0.010***	−0.010***
Age2	0.000***	0.000***	0.000***
Partnership	0.079***	0.062***	0.055***
Children_hh	0.035***	0.023***	0.028***
Children_outside	0.019***	0.009*	0.012**
Edu_lower	0.152***	0.219***	0.207***
Edu_medium	0.094***	0.130***	0.121***
Edu_higher	Ref.	Ref.	Ref.
Employed≥30 h	Ref.	Ref.	Ref.
Employed<30 h	0.012	0.022	0.019
Self-employed	0.077***	0.055***	0.039**
Retired	0.007	0.008	0.007
Homemaker	0.127***	0.137***	0.132***
Student	−0.113***	−0.106***	−0.106***
Unemployed	0.048***	0.056***	0.051***
Disabled	−0.005	−0.004	−0.005
Employed_other	−0.028	−0.034	−0.036
Income	−0.052***	−0.042***	−0.043***
Townsize<20 k	0.049***	0.051***	0.037***
Gender equality	−3.837***	–	–
Econ participation	–	0.999***	0.951***
Edu attainment	–	−1.255**	−1.359***
Health and survival	–	−4.194***	−4.210***
Political empowerment	–	−1.456***	−1.453***
Volunteer	−0.037***	−0.042***	−0.043***
Not_nationality	0.067***	0.079***	0.080***
Life satisfaction	−0.022***	−0.019***	−0.019***
Health	−0.034***	−0.025***	−0.025***
Sports club × Male	–	–	0.042**
Sports club × Partnership	–	–	0.041*
Sports club × Children_hh	–	–	−0.025**
Sports club × Children_outside	–	–	−0.017*
Sports club × Edu_lower	–	–	0.061*
Sports club × Edu_medium	–	–	0.037*
Sports club × Employed<30 h	–	–	0.014
Sports club × Self-employed	–	–	0.092**
Sports club × Homemaker	–	–	0.033
Sports club × Unemployed	–	–	0.024
Sports club × Townsize<20 k	–	–	0.077***
Sports club × Econ participation	–	–	0.218
Year dummies (Ref. = 2017)	Yes	Yes	Yes
R^2	0.288	0.314	0.315
F	563.238***	569.559***	404.983***

Displayed are the unstandardized coefficients; ***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.

TABLE 5 Summary of findings and hypothesis testing.

Hypothesis – expected relationship with gender stereotypes	Result
1: Men – positive	Supported
2: Age – positive	Not supported
3: Marriage/registered partnership – positive	Supported
4: People with children – positive	Supported
5: Educational attainment – negative	Supported
6: Income – negative	Supported
7: Employment outside the home – negative	Supported
8: Community size – negative	Supported
9: Country-level gender equality – negative	Supported
10: Participation in voluntary sports club – negative	Supported
11a: Membership in a voluntary sports club – moderating effect for personal characteristics and alleviation of stereotype levels	Partially supported
11b: Membership in a voluntary sports club – moderating effect for societal-level variables and alleviation of stereotype levels	Partially supported

in registered relationships, and people with children expressed more stereotypes than their peers, whereas people in higher social classes (i.e., high education, occupation, and income) expressed fewer stereotypes. These findings are consistent with our theorizing and previous scholarship in the area. The one exception was with respect to age, as we observed a u-shaped pattern. Thus, contrary to previous research on the topic (Bhatia and Bhatia, 2021; Barreto and Doyle, 2023), people in middle age are least likely to express gender stereotypes.

We also found that societal-level factors were related to people's gender stereotypes – an area that has received comparatively less attention among scholars (Garcia-Retamero et al., 2011). The size of the community was one such element, as people living in communities with more than 20,000 people had more egalitarian gender beliefs. These findings align with the limited research in this area (Garcia-Retamero et al., 2011; Deole and Zeydanli, 2021) and suggest that urban communities might afford people more opportunities to interact with women and men in a variety of roles and contexts. As a result, stereotypes about typical women and men are likely curtailed. Similarly, country-level gender equality was related to more progressive gender beliefs. These findings align with previous research showing that as women and men within a particular country have equitable participation in society and life outcomes, that country's residents adopt more egalitarian beliefs (Henry and Wetherell, 2017).

Finally, we found broad support for our contention that participation in voluntary sports clubs is linked with more progressive gender beliefs and can offset the impact of other factors that might spur gender stereotypes. These organizations play an important role in European countries (Breuer et al., 2015; Breuer and Feiler, 2022), cater to varied population groups, including older people, immigrants, people with health issues, and also women (e.g., Lamprecht et al., 2017; Breuer and Feiler, 2022), and are social spaces where women and men interact with one another (e.g., Breuer et al., 2015; Nichols and Taylor, 2015; Seippel and Skille, 2015). Our findings align with those in other contexts, where researchers have found that participation in sports clubs or on sports teams can influence people's biases (Auld, 2008; Lee and Cunningham, 2014; Mousa, 2020).

Our study makes several contributions. First, we add to the growing body of research pointing to the efficacy of considering how factors at multiple levels of analysis relate to people's diversity-related beliefs (Bond and Haynes, 2014; Ellemers, 2018; Cunningham, 2019). Indeed, focusing only on demographics, background variables, community factors, or societal factors would have only told part of the story. Instead, by incorporating a multilevel view, we identified a fuller picture of the factors shaping people's gender stereotypes. Second, we identified a key moderator, participation in voluntary sports clubs. Moderators provide cues about when and under what conditions changes in correlating factors might occur, and in doing so, they help to expand theory (Colquitt and Zapata-Phelan, 2007). Thus, our study contributes to the theoretical understanding of gender stereotypes, when they might manifest, and their potential malleability.

Findings from the study also point to practical implications. First, the identification of correlates of gender stereotypes among residents in European countries is important to politics, gender policy, and the wider economy. The findings show which individuals are more likely to report stereotypes against women. Since the gender stereotypes items relate to gender roles at home as well as in politics, education, and the economy, they are relevant to understand the perceived role of women in several important domains of society. Therefore, policy makers can use these findings to develop gender policies and measures that raise awareness about the presence of stereotypes in the first place and reduce such stereotypical perceptions afterwards. Likewise, leaders in business enterprises and in education institutions can learn from this work by being sensitized for individual characteristics and conditions that nurture or prevent gender stereotypical perceptions among European residents.

Second, sport and exercise participation have many benefits, including those focusing on physical health, psychological wellbeing, and social health (Ruby et al., 2011; Eime et al., 2013; Nystoriak and Bhatnagar, 2018). There is also some evidence that sport participation can improve social relations among groups (Welty Peachey et al., 2020). Thus, in addition to the interventions Lenton and colleagues identified (Lenton et al., 2009), managers and policy makers seeking to reduce the prevalence of gender stereotypes can use sport. Again, drawing from the sport literature and contact hypothesis (Allport et al., 1954; Schulenkorf and Sherry, 2021), there is some evidence that sport participation is most likely to yield benefits when people cooperate, work toward a common goal, engage interdependently, and

when institutional support for positive interactions is present. Schulenkorf and Sherry also noted the importance of sports being culturally relevant and exciting.

5.2. Limitations and future directions

This study has some limitations that can guide future research. It is limited to the available data and variables. Gender role attitudes were only assessed in the fifth EVS wave, meaning that the analysis could only be based on cross-sectional data. Therefore, the present analysis can only identify associations and not causal effects. In future research, it would be interesting to study with longitudinal data how becoming a sports club member might change gender stereotypes. While the present study included many correlates, gender stereotypes might be shaped by further factors, which were not assessed in the EVS and could therefore not be included in the present models. Future studies should also explore the effect of the frequency and intensity of club-based sport participation and how different sports and competitive settings shape gender stereotypes. Similarly, examining the role of club characteristics like club philosophy, size etc. might provide interesting insights that help to deepen our understanding of the moderating role of voluntary sports clubs as places where gender stereotypes can be alleviated. Combining the present study with another empirical study including more detailed club measures and also different indicators for gender stereotypes represents another avenue for future research. These indicators could include sexual orientation and sexual prejudices as these have been shown to be relevant in sports contexts, but are not included in the present study. Exploring the correlates of sexual orientation-related gender stereotypes would enhance our understanding of prevalent gender stereotypes in society and how they are shaped by sports participation and sports institutions like non-profit sports clubs.

Data availability statement

Publicly available datasets were analyzed in this study. This data can be found at: https://europeanvaluesstudy.eu/methodology-data-documentation/evs-methodology/.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent from the patients/participants or patients/participants' legal guardian/next of kin was not required to participate in this study in accordance with the national legislation and the institutional requirements.

Author contributions

PW and GC conceptualized and designed the study, wrote sections of the manuscript, and read and approved the submitted version. PW organized the data, conducted the data cleaning, performed the statistical analysis, and organized the submission and revision/resubmission process. All authors contributed to the article and approved the submitted version.

Funding

We acknowledge the financial support of the German Research Foundation (DFG) and the Open Access Publication Fund of Bielefeld University for the article processing charge.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

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frontiers | Frontiers in Psychology

TYPE Systematic Review
PUBLISHED 22 September 2023
DOI 10.3389/fpsyg.2023.1242928

OPEN ACCESS

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RECEIVED 20 June 2023
ACCEPTED 08 September 2023
PUBLISHED 22 September 2023

CITATION
Liu Y, Wu YC, Fu H, Guo WY and Wang X (2023) Digital intervention in improving the outcomes of mental health among LGBTQ+ youth: a systematic review.
Front. Psychol. 14:1242928.
doi: 10.3389/fpsyg.2023.1242928

Digital intervention in improving the outcomes of mental health among LGBTQ+ youth: a systematic review

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LGBTQ+ youth experience mental health disparities and higher rates of mental disorders due to barriers to accessing care, including insufficient services and the anticipated stigma of revealing their identities. This systematic review incorporated 15 empirical studies on digital interventions' impact on LGBTQ+ youth mental health, examining their potential to address these inequities. This study innovatively categorized existing digital interventions into four streams: Structured Formal (telehealth, online programs), Structured Informal (serious games), Unstructured Formal (mobile applications), and Unstructured Informal (social media). We found that S&F and U&F effectively reduced symptoms. U&F showed potential but required enhancement, while U&I fostered resilience but posed risks. Further integration of emerging technologies like virtual reality may strengthen these interventions. This review identifies the characteristics of effective digital health interventions and evaluates the overall potential of digital technologies in improving LGBTQ+ youth mental health, uniquely contributing insights on digital solutions advancing LGBTQ+ youth mental healthcare.

KEYWORDS

digital intervention, LGBTQ+, youth, mental health, systematic review

1. Introduction

Lesbian, gay, bisexual, transgender, queer, and other gender and sexual minorities, collectively abbreviated as LGBTQ+, have been found to exhibit poorer mental health outcomes compared to their heterosexual and cisgender peers, with higher rates of depression, anxiety, and other mental health disorders (Borgogna et al., 2019). Specifically, research shows that sexual and gender minorities report depressive symptoms at 1.5 times the general population rate, while transgender individuals demonstrate even higher rates, with studies indicating that 59% of transgender participants experience clinically significant depression (Sutter and Perrin, 2016; Ancheta et al., 2021). However, LGBTQ+ youth face greater challenges in adolescence (Wilson and Cariola, 2020) and are thought to be at higher risk of generalized anxiety disorder and suicidality due to direct and indirect discrimination and harassment from unsupportive family, peers, and society at large (Kaniuka et al., 2019). The 2020 national survey of LGBTQ+ youth in the United States reported that 40% of LGBTQ+ individuals ages 13 to 24 seriously considered suicide plans, and 68% of them reported depression and anxiety symptoms (Delmonaco

et al., 2022). Furthermore, despite experiencing the severity of psychological conditions, sexual and gender minorities face barriers to accessing safe and adequate mental health treatments and services due to various sociocultural factors like insufficient health resources designated for them as well as discrimination against their minority sexual orientation and gender identities (Gilbey et al., 2020). These barriers to help-seeking give rise to health disparities in this population. Consequently, reducing these disparities by improving access is crucial for advancing their overall health.

In addressing these issues, digital interventions that bypass the need for in-person contact (Rauschenberg et al., 2021), delivered via computers, smartphones, or other advanced technological tools such as wearable devices, are increasingly recognized for improving healthcare access and mitigating health inequalities (Friis-Healy et al., 2021). Such digital health interventions, unconfined by traditional clinical settings, offer benefits including convenience, 24/7 accessibility, and the avoidance of travel (Gilbey et al., 2020). The anonymity provided by these platforms could also minimize stigma, encouraging help-seeking for mental health difficulties. The evidence base for digital mental health interventions for general populations is vast and prior systematic reviews have suggested that these types of interventions could significantly reduce symptoms and improve psychological well-being in general populations (Firth et al., 2017; Lattie et al., 2019), a finding further supported by several studies that deemed such digital tools as feasible and acceptable for mental health applications (Lim et al., 2019; Bevan Jones et al., 2020; Rauschenberg et al., 2021). However, limitations exist as these reviews overlooked interventions' characteristics and effective components, which could facilitate subsequent research to understand mechanisms, and leverage this knowledge to amplify effectiveness and maximize efficacy. Moreover, none centered specifically on the understudied LGBTQ+ population. Although recent systematic reviews demonstrate the efficacy of digital technologies for LGBTQ+ adults, they concentrated primarily on physical conditions like HIV prevention and sexual behaviors rather than mental health interventions for LGBTQ+ youth in particular (Bailey et al., 2015; Wadham et al., 2019; Gilbey et al., 2020). Evidence summarizing the use of digital technologies for mental health improvement among LGBTQ+ youth specifically is still exiguous, and the overall effectiveness of these innovations is also unclear despite recent surges in digital tools for this demographic. Consequently, an overview of tailored digital interventions for LGBTQ+ youth may inform further research on enhancing access to targeted services and resources, thereby reducing pre-existing mental health disparities.

A comprehensive overview of this rapidly expanding research area will enable future studies to identify gaps in intervention development and assess the overall strength of evidence supporting their use across the diverse spectrum of young LGBTQ+ populations. Accordingly, the primary objective of this review was to answer the following research questions: (1) What are the characteristics of evidence-based digital health interventions for improving mental outcomes, especially focusing on depression, anxiety, and stress in LGBTQ+ young people? (2) Are existing digital tools acceptable, feasible, and effective at decreasing specific symptoms? (3) What is the potential direction for further research to improve the existing digital tools and leverage the latest technologies for these mental health issues among this population?

2. Materials and methods

2.1. Literature search

This systematic review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, conducting comprehensive searches across multiple databases including Web of Science (271), PubMed (248), Medline (140), Scopus (186), and Taylor & Francis (252) using specific keywords. The focus of this research was on young individuals within the LGBTQ+ community. To encompass this population, keywords were chosen that embodied the diversity of sexual orientations and gender identities, as well as those highlighting interventions involving digital technologies or platforms. Furthermore, keywords were utilized to identify study outcomes related to mental health, encompassing terms for psychological conditions and mental disorders linked with mental well-being. The full search strategy and list of keywords are detailed in Table 1. There were no temporal limitations applied during the database search, which was carried out on August 17, 2022. Beyond the primary database search, additional sources were incorporated into this review, selected based on citations within the articles of the primary research (Figure 1).

2.2. Inclusion and exclusion criteria

Article screening was conducted manually in a systematic three-stage process: (1) title screening; (2) abstract screening; and (3) full-text screening of the related studies. Articles were included in the review if: (a) they were empirical studies published as peer-reviewed journal articles; (b) their full text was in English language; (c) they reported at least one group of sexual or gender minorities as the targeted population of the intervention; (d) a substantial number of participants were aged 12–22, and at least 50% of the sample's

TABLE 1 The search strategy of systematic review.

Search query	Keywords (searched as titles, abstracts, and keywords in each database)
1	"LGBTQ" OR "LGBT" OR "lgbtq+" OR "sexual minority" OR "sexual minorities" OR "gender minority" OR "gender minorities" OR "lesbian" OR "gay" OR "bisexual" OR "transgender" OR "queer"
2	"youth" OR "young" OR "young adults" OR "young people" OR "adolescents" OR "students"
3	"mental" OR "mental health" OR "depression" OR "depressive" OR "anxiety" OR "well-being" OR "wellbeing" OR "disorder" OR "emotion" OR "suicide" OR "psychological"
4	"digital" OR "technology" OR "technologies" OR "internet" OR "internet-based" OR "web-based" OR "social media" OR "social network" OR "SNS" OR "telehealth" OR "ai" OR "vr" OR "eHealth" OR "telemedicine" OR "mHealth" OR "mobile phone"
5	"intervention" OR "treatment" OR "therapy" OR "implement" OR "application" OR "program" OR "strategy" OR "implementation"
Final search query	1 AND 2 AND 3 AND 4 AND 5

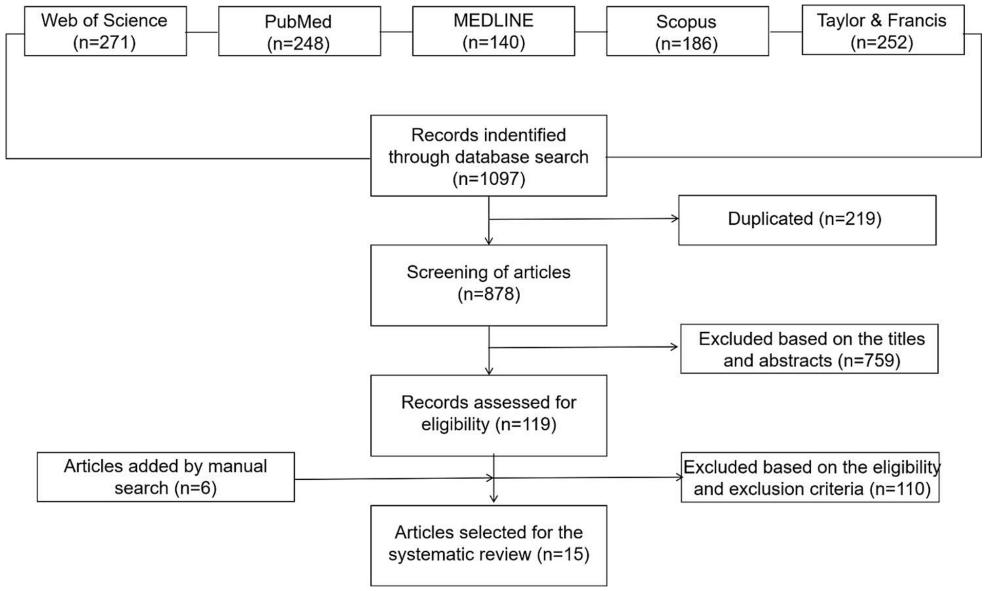

FIGURE 1
Flow diagram of the systematic review process.

participants fell within the defined age group; (e) the interventions in studies was delivered entirely via digital mediums; (f) the studies focused exclusively on mental or psychological outcomes and described an evaluation of the implemented intervention.

Articles were excluded from the review under the following conditions: (a) if the article was a review, opinion, letter, or commentary rather than a peer-reviewed research article; (b) if the full text was not available in English; (c) if the research did not include any individuals identifying as sexual or gender minorities; (d) if the majority of the participants in the intervention group were older than 25, as the focus was on younger individuals; (e) if the intervention was non-digital, such as in-person therapy; (f) if the focus was on physical health outcomes (e.g., HIV), rather than mental health among the intervention recipients.

2.3. Construction of database and data analysis

In total, 1,097 published papers were potentially identified to be related to this systematic review before the screening process After removing 219 duplicates, we evaluated the titles and abstracts of 878 unique citations according to the inclusion and exclusion criteria of this review. Among those citations, 759 were excluded due to their irrelevancy to the criteria. Then, 119 research articles were retrieved for full-text screening. Because of exclusion criteria in 2.2, only 15 articles were included in the database of final review (Table 2).

We assigned a unique identification number to each selected publication in our database. Initially, one author recorded essential details for every paper: journal name, year of publication, paper title, digital object identifier (DOI), author names, research context, country of focus, focus group, research methods (e.g., qualitative, quantitative, and mixed methods), and sample size. Subsequently, this author conducted an in-depth analysis to glean additional crucial details, such as intervention types, intervention names, digital platforms, primary health outcomes, measured results, limitations, and future directions. Another researcher cross-verified this information for consistency and accuracy.

To provide a comprehensive understanding of the landscape of digital interventions for LGBTQ+ youth mental health, we conducted descriptive analyses. Specifically, these analyses focused on identifying the types of interventions, research contexts, research designs, data collection methods, sample sizes, analysis methods, focal countries, and key theories employed across studies. With this foundation, we proceeded to discuss the characteristics, acceptability, feasibility, and effectiveness of existing digital health interventions, also suggesting avenues for future improvements. Finally, we engaged in a detailed discussion on four key online service streams that target mental health outcomes.

3. Results

3.1. Characteristics of evidence-based digital health interventions

Current studies of evidence-based digital health interventions mainly include four types of digital interventions aimed at improving mental health outcomes among LGBTQ+ youth (refer to Table 2). The four types included structured formal methods like Telehealth, structured informal methods like serious games, unstructured formal interventions like online programs, and unstructured informal methods such as social media platforms. The various techniques provide different therapeutic modalities including cognitive-behavioral therapy, identity-affirming treatments, and mindfulness-based stress reduction activities.

Structured formal methods, such as Telehealth, are hallmarked by their high levels of control and standardization, rendering them

TABLE 2 Summary of digital mental health interventions for LGBTQ+ Youth.

Categories of intervention	Intervention name	Intervention type	Digital platform	Study	Primary health outcome	Mean age (range)	Identification	Sample size	Study design	Study setting	Measured result
	Telehealth										
Structured and Formal (S&F)	AFFIRM Online	Affirmative cognitive behavioral therapy	Computer via Zoom	Craig et al. (2021b)	Depression	21.17 (14–29)	LGBTQA+ youth	78	Quantitative, RCT, acceptability test	US	Depressive symptoms↓ Stress appraisal ↑ 95.2% acceptability rate
	imi	Identity-affirming treatment	Web	Bauermeister et al. (2022)	Stress appraisals	16.5 (13–19)	Sexual and gender minority youth	270	Quantitative, Pilot RCT	US	Stress appraisal ↑ Depressive and anxiety symptoms
	Online program										
	QueerViBE	Interactive video tutorials	Web	Martin (2019)	Psychological well-being	18 (15–21)	Trans youth	156	Quantitative, RCT	UK	Psychological distress ↓ Stress appraisal ↑
	OMBSR/online mindfulness-based stress reduction	Self-regulation daily mindfulness activities	Web	Jabson Tree and Patterson (2019)	Perceived stress	18+	LGB	24	Quantitative, uncontrolled pilot	US	Perceived stress ↓
	Virtual Camp	Interactive video tutorials	Computer via Zoom	Gillig et al., 2022	Depression	15.5 (12–19)	LGBTQ youth	41	Quantitative, longitudinal survey	US	Depressive symptoms ↓
	Web & mobile app										
Unstructured and Formal (U&F)	Q Chat Space	Chat-based programs	Web	Fish et al. (2022)	N/A	(13–19)	LGBTQ youth	291	Qualitative, pilot study	US	High acceptability and feasibility rate
	TODAY!	Daily psychoeducation	Mobile application	Fleming et al. (2017)	Depression and anxiety	19 (18–20)	Young sexual minority men	9	Qualitative, usability testing	US	High acceptability rate
	Serious game										
Structured and Informal (S&I)	SPARX	Computerized cognitive behavioral therapy	Computer	Strauss et al. (2019)	Depression	15.6 (11–18)	Trans and gender diverse youth	14	Qualitative, focus group	AU	N/A
				Lucassen et al. (2021)	Depression	(12–19)	Transgender and cisgender youth	9,079	Quantitative	NZ	Lack of change in depression for trans youth

(Continued)

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TABLE 2 (Continued)

Categories of intervention	Intervention name	Intervention type	Digital platform	Study	Primary health outcome	Mean age (range)	Identification	Sample size	Study design	Study setting	Measured result
	Rainbow SPARX	Computerized cognitive behavioral therapy	Computer	Lucassen et al. (2015)	Depression	16.5 (13–19)	Sexual minority youth	21	Quantitative	NZ	Depressive symptoms ↓ Anxiety symptoms ↓
				Lucassen et al. (2018)	Depression	17.9 (15–22)	LGBT+ young people	21	Qualitative, focus group	UK	Low rates of acceptability
	Social media and online groups										
Unstructured and Informal (U&I)	Social media	User experience	Web, mobile device	Craig et al. (2015)	Stress	19.47 (18–22)	LGBTQ young adults	19	Qualitative, grounded study	CA	Online media may be a catalyst for resilience among LGBTQ youth
		Experience of acceptance and hostility	Web, mobile device	Pellicane et al. (2021)	Depression and anxiety	19.87	LGB+ and heterosexual young adults	382	Quantitative, longitudinal study	US	Experiencing higher level of acceptance with lower depressive symptoms for LGB+ participants
	Facebook	Problematic social media experience	Web, mobile device	Vogel et al. (2021)	Depression	21.9 (18–25)	Sexual and gender minority youth	302	Qualitative, observational study	US	Problematic social media use would cause greater depressive symptoms
		Experience of victimization, cyberbullying, and online support	Web, mobile device	McConnell et al. (2017)	Psychological distress	24.02 (19–28)	LGBTQ young adults	175	Quantitative, longitudinal research	US	A sizable effect of cyberbullying on psychological distress but social integration was negatively associated with distress

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ideal for delivering tailored, consistent, and controlled therapeutic interventions. These digital health interventions are akin to traditional face-to-face therapeutic modalities but are delivered digitally. Examples of such interventions include AFFIRM online and imi. These interventions have been successful in reducing depressive symptoms and improving stress appraisals among LGBTQ+ youth (Craig et al., 2021b; Bauermeister et al., 2022). They typically provide therapeutic modalities including cognitive-behavioral therapy, often augmented with supplementary digital resources.

Structured informal methods represent a novel approach to therapeutic interventions. This category includes serious games designed with the intent to provide therapy in a more engaging, interactive, and user-friendly manner. Serious games aim to embed therapeutic concepts within their gameplay, rather than an overtly didactic approach. For example, games may teach emotional regulation skills through immersive gameplay mechanics, and users proceed through game levels while practicing evidence-based coping strategies (Strauss et al., 2019). This informal setting provides a more relaxed and low-pressure environment for users to learn and apply therapeutic techniques.

Unstructured formal interventions like online programs offer a different mode of digital intervention. Although less standardized than their structured counterparts, these interventions offer greater flexibility and customization to the user, allowing for a more personalized therapeutic experience. For example, researchers tested two unstructured online programs – QueerViBE and OMBSR. QueerViBE applies discursive methods to help LGBTQ+ youth negotiate prejudice and reflect on experiences (Jabson Tree and Patterson, 2019; Martin, 2019). OMBSR is an 8-week mindfulness-based stress reduction program that includes meditation and applying mindfulness to daily living. Both of these have shown efficacy in reducing psychological distress and perceived stress. These programs often incorporate therapeutic techniques such as mindfulness-based stress reduction activities, discussion of experiences, and other evidence-based therapeutic strategies that users can explore at their own pace.

Lastly, unstructured informal methods, such as social media platforms, represent the least formal of the digital interventions. These platforms create space for LGBTQ+ youth to connect, share experiences, exchange information, and find support (Craig et al., 2021b; Pellicane et al., 2021). The peer-driven, community-oriented nature of interventions is unique, often providing identity-affirming treatments within a supportive community. Thus, unstructured informal interventions may catalyze resilience within LGBTQ youth. However, risks exist as demonstrated in the study where Facebook use exposed users to discrimination, hate speech, and cyberbullying, negatively impacting psychological health (McConnell et al., 2017).

3.2. Acceptability, feasibility, and effectiveness of current digital health interventions

The acceptability of digital interventions varies considerably. Telehealth interventions have found favor due to their structured approach and consistent therapeutic support (Craig et al., 2021b; Bauermeister et al., 2022). However, these require a reliable, high-speed internet connection, potentially limiting their accessibility and acceptability, especially in areas with limited internet infrastructure. On the other hand, online programs and social media platforms offer an environment that LGBTQ+ youth might find more familiar and accessible. For instance, a study has shown that social media platforms foster a sense of community among LGBTQ+ youth, thus enhancing their acceptability (Craig et al., 2021b).

Feasibility is another critical aspect of digital interventions. Structured formal methods such as Telehealth are feasible if the requisite technological infrastructure is available. However, in certain areas where high-speed internet connection is unavailable or unreliable, these may not be feasible (Craig et al., 2021b; Bauermeister et al., 2022). Unstructured formal methods such as online programs offer more flexibility and are feasible given their requirement for less stringent control, although they require active user engagement, which might be challenging to sustain over extended periods. Furthermore, while serious games like SPARX and Rainbow SPARX are appealing due to their interactive nature, the feasibility of their widespread implementation may be limited by factors such as costs associated with development, maintenance, and updates (Lucassen et al., 2015, 2021).

The effectiveness of digital interventions also varies. Studies have shown that Telehealth interventions such as AFFIRM Online and imi can effectively reduce depressive symptoms and improve stress appraisals (Craig et al., 2021b; Bauermeister et al., 2022). Unstructured formal methods like online programs such as QueerViBE and OMBSR have shown effectiveness in reducing psychological distress and perceived stress (Lucassen et al., 2015, 2021). However, maintaining long-term effectiveness can be challenging due to the need for consistent user engagement. Serious games have had mixed success (Lucassen et al., 2015, 2021). While they have shown potential in treating depressive and anxiety symptoms, the effectiveness varies across individuals. Lastly, social media platforms have both positive and negative impacts. While they can foster resilience and acceptance among LGBTQ+ youth, they also present risks such as cyberbullying and problematic use, potentially exacerbating depressive symptoms and psychological distress (Craig et al., 2021b).

3.3. Potential improvement for the design of the existing research

Among the 15 studies included in the review, only three were randomized controlled trials (RCTs), suggesting that the positive outcomes observed could be attributed to external factors rather than the proposed intervention (Martin, 2019; Craig et al., 2021b; Bauermeister et al., 2022). As such, further studies should consider mixed methods, including RCTs, pre-post evaluations, and interviews, to ascertain the acceptability, feasibility, and effectiveness of the intervention on mental health (Hariton and Locascio, 2018). The majority of studies primarily employed quantitative methods, providing concrete statistical data and objective measurements (Craig et al., 2021b). However, qualitative methods offered rich, detailed data on individual experiences (Fish, 2020). Researchers have highlighted the value of combining both quantitative and qualitative methodologies. Additionally, only three studies collected short-term follow-up data, typically spanning 3 months (Lucassen et al., 2015; Jabson Tree and Patterson, 2019; Martin, 2019). However, previous

research suggests that promising short-term results may not equate to long-term success (Das et al., 2016), underlining the need for more studies to prioritize long-term follow-ups post-intervention.

The research design review revealed that most included studies had small sample sizes, though they reported positive outcomes, notably within the Structured and Formal Intervention, and Unstructured and Formal Intervention categories. These findings demonstrated significant mental health improvements and high acceptance and feasibility levels. However, few interventions specifically targeted LGBTQ+ youth of color or individuals facing racism, who encounter multiple stressors (Sutter and Perrin, 2016). All studies were conducted in developed countries, with only one rural program where health services and resources were lacking (Jabson Tree and Patterson, 2019). Thus, to increase the generalizability and diversity of future research, the implementation of larger sample sizes and broader geographical coverage is recommended. Also, the populations studied encompassed a diverse range of subgroups within the LGBTQ+ youth community, including LGBTQA+ individuals, sexual and gender minorities, transgender youth, LGB individuals, and young men who identify as sexual minorities. However, some groups, like non-binary youth, gender non-conforming youth, and LGBTQ+ youth of color, were underrepresented, indicating a crucial need for more inclusive research. Comprehensively representing the full diversity of LGBTQ+ youth identities is crucial to maximize the effectiveness of digital tools for diverse groups.

While digital interventions hold significant promise for improving mental health outcomes among LGBTQ+ youth, continued research is necessary to address potential risks and optimize these platforms for therapeutic use. Interventions such as AFFIRM online, imi, QueerViBE, and Virtual Camp have demonstrated effectiveness, while apps like Q Chat Space and TODAY! maintain high user acceptability. Games like SPARX offer mixed outcomes but show potential. Although social media and online platforms foster resilience and support, they come with risks like cyberbullying and increased distress. As digital tools evolve, it remains essential to balance their therapeutic potential with these challenges.

4. Discussion

Numerous studies have confirmed that LGBTQ+ youth experience exacerbated mental health challenges, including heightened levels of anxiety, depression, and other psychological disorders when compared to the broader population (Borgogna et al., 2019). The implementation of digital interventions could serve as a key component in addressing these disparities. The necessity for such internet-based assistance has become even more pronounced in the wake of COVID-19, a situation that has led to increased social isolation among these individuals who have not met with support from their families under stay-at-home guidelines (Salerno et al., 2020). This review aims to provide a comprehensive overview of the existing digital interventions for this demographic. It seeks to assess their overall acceptability, feasibility, and effectiveness, while also offering guidance and recommendations for future development.

Previous studies primarily depict "Structured Intervention (SI)" as a relatively novel method to instigate long-term external changes (Bloom and Cohen, 2007), intended to improve health behaviors and outcomes. This concept is often paralleled with professionally driven psychotherapy. On the contrary, "Unstructured Intervention (UI)" is generally defined as a self-governed rehabilitation approach, devoid of preset rules, focusing on individual needs and interests, with assistance from facilitators (Lai et al., 2022). To elaborate, SI relies on a treatment framework and goals devised by healthcare professionals, while UI, aimed at bolstering social support, can be executed through numerous strategies such as group activities and community assistance.

In addition, based on our interpretation, "Formal Intervention (FI)" pertains to collaborations with medical services and professional guidance. In contrast, "Informal Intervention (II)" involves processes where patients independently strive to enhance their health outcomes. Accordingly, in this discussion regarding online services for mental health outcomes, with a focus on depression, anxiety, stress, and distress, the prevalent research trend has bifurcated into four streams: Structured Formal Intervention, Structured Informal Intervention, Unstructured Formal Intervention, and Unstructured Informal Intervention.

4.1. Implication for structured and formal intervention (S&F)

S&F is recognized as one of the most effective digital interventions for enhancing mental health, primarily due to its combination of affirmative treatment and professional counseling (Lelutiu-Weinberger and Pachankis, 2017; Pachankis, 2018). The S&F intervention's scope varies depending on the level of professional involvement, dividing it into two categories: telehealth (pi+), characterized by direct professional intervention, and online programs (pi-), consisting of self-directed or module-based interventions.

Based on the study's suggestion that cognitive behavioral therapy (CBT) could be a gold standard treatment for multiple mental issues among LGBTQ+ young people (Hall et al., 2019), an affirmative CBT group intervention, AFFIRM, was constructed to address the dearth of evidence-based programs specifically designed to meet the mental health needs of this population, but very little research has explored telehealth for this population. Therefore, the current study on the preliminary efficacy of AFFIRM Online found that participants reported significantly reduced depressive symptoms and improved stress appraisal and coping skills compared to the waitlist control (Craig et al., 2021b), which was consistent with the study on the efficacy of AFFIRM (Craig et al., 2021a). In the survey of acceptability, 95.2% of participants indicated that they learned a lot from AFFIRM online and felt connected to the community, which was useful for dealing with stress. Therefore, besides providing clinical care, future research could also facilitate peer interaction during interventions to enhance the sense of community support and alleviate symptoms. In addition to cognitive and behavioral coping skill practice, the imi application was designed to promote identity affirmation by covering four guidance areas including gender, queerness, stress, and stigma (Bauermeister et al., 2022). At the four-week follow-up, participants in the treatment arm experienced the benefit of greater stress appraisal and reported significant reductions in depression and anxiety. Meanwhile, compared to the resource-only control arm, the treatment arm was more likely to express a positive experience and acceptability of the intervention and recommend it to their friends. A possible explanation for this might be that this application that had interactive capacities could be directly responsive to participants' needs but

participants in the control arm could only get access to the resource webpages.

Moreover, when many internet-based programs were proven to be significantly useful in decreasing depression and other mental issues for youth (Clarke et al., 2015), various studies have also been carried out to explore the effect of online programs with tutorials on sexual minority youth's mental health. QueerViBE with trans youth provided interactive video tutorials which were a combination of theory relating to gender identity, queer theory, and masculinities together, and Martin reported that this intervention significantly lowered psychological distress and fostered more positive feelings about trans identity, having utility in decreasing depression symptoms (Martin, 2019). However, as this study's sample is predominantly white participants, further research involving a larger and more racially diverse sample is necessary to evaluate the effectiveness of this intervention for transgender youth of color. Furthermore, some researchers have indicated that it is more difficult for sexual minorities living in rural areas to get access to mental health services (Barefoot et al., 2015), but online mindfulness-based stress reduction (Jabson Tree and Patterson, 2019), known as OMBSR, was delivered to LGB people in Appalachia, a conservative region in the United States. This research outcome, focusing on difference by gender, has reported that women's perceived stress was 23% less than baseline and men's perceived stress decreased by 40% at post-program. Besides, Brave Trails' Virtual Camp has shown significant positive effects by not only promoting participants' acceptance of affirming practices but also fostering connections within the group. It has led to an increase in self-esteem following the formation of friendships, subsequently resulting in a decrease in depressive symptoms. Accordingly, these findings suggest that S&F intervention could be a widely accessible and effective approach to assist LGBTQ+ youth in reducing the symptoms of depression and anxiety, thereby promoting positive mental health outcomes.

4.2. Implication for unstructured and formal intervention (U&F)

Despite an increase in web-based resources for LGBTQ+ youth (McInroy et al., 2019), there are few online adult-facilitated programs fostering resilience. Two studies have tried to explore the association between mobile and web apps which are supported by professionals and the outcome of mental health among young gender minorities. Q Chat Space allowed youth to join professional-facilitated support groups and get connected to people who share the same experience (Fish et al., 2022). The study findings suggested that it was an acceptable and feasible program for LGBTQ+ youth, and they were willing to discuss and share topics related to their lives and health, reporting better mental health than those who do not engage in the online community. Also, this study has shown that there is an urgent need to build a safe and supportive space or environment for these young people who have a strong desire to connect with LGBTQ peers.

Also, there had been no previous studies examining the use of a mobile intervention for depressive symptoms designed for young sexual minorities before the emergence of TODAY! app. The TODAY! app provided constantly refreshed real-time resources in response to users reporting a negative mood and offered daily coaching for coping skills. The qualitative analysis reported that all participants gave positive responses and expressed that this app effectively helped them relieve negative moods and decrease depressive symptoms. This finding that higher engagement with this intervention was linked to greater improvements in outcome variables is consistent with Baltierra's examination of the role of engagement in determining a digital intervention's efficacy (Baltierra et al., 2016). According to data analysis, further research should pay attention to presenting didactic content in multimedia formats, which could optimize learning (Abdulrahaman et al., 2020), instead of just text content. It should also provide more personalized and in-depth feedback on users' mental health difficulties. Meanwhile, this study also suggested that the digital intervention would be expected to explore incorporating social networking features to help eliminate users' sense of social isolation, which could be a crucial contributor to poor mental health outcomes (Garcia et al., 2020). Unlike S&F where LGBTQ+ youth can receive support from professional caregivers only during specific times, highly feasible U&F intervention could enable these young people to spontaneously access health education and treatment at any time when they may be experiencing negative moods or going through hardships, by using their mobile devices.

4.3. Implication for structured and informal intervention (S&I)

S&I intervention for sexual and gender minority youth has been represented by "serious games" or programs that utilize gaming features for such purposes as health improvements. SPARX is a form of computerized cognitive behavioral therapy in the serious game format in New Zealand, and previous studies have concluded that SPARX could be a promising alternative and treatment to usual care for adolescents with symptoms of depression (Fleming et al., 2012; Merry et al., 2012). Contrary to expectations, one study found that this self-help intervention was not as helpful for transgender youth compared to general users – transgender youth showed no significant change in depression scores after using the intervention (Lucassen et al., 2021), while general users reported significant improvements in their PHQ-A (Patient Health Questionnaire-modified for Adolescents) scores. A possible explanation for disappointingly poor completion rates and no change in the mental health outcome among transgender users might be a lack of representation of gender-diverse characters and no tailored or specific e-therapies to treat depression in transgender adolescents in this program. Therefore, SPARX was developed by researchers and clinicians into a specially adapted version of Rainbow SPARX for sexual and gender minority youth (Lucassen et al., 2015). In this study, sexual and gender minority participants reported decreased depressive and anxiety symptoms pre- to post-intervention, and more than 80% completing all the modules indicated that the game would be accepted by other peers. Nevertheless, this finding contrasts with a later qualitative study that reported relatively low rates of acceptability for Rainbow SPARX among LGBT+ youth in the United Kingdom (Lucassen et al., 2018). Participants indicated that the game had inadequate LGBTQ+-specific and up-to-date resources. They also pointed out issues with the graphics, speed, and controls of the game program, which were not very attractive to young people. On the other hand, because this digital game intervention was created in New Zealand, cultural mismatch contributed to dissatisfaction about the game from UK

users and then led to less desirable mental health outcomes. It can thus be suggested that further research designing similar game interventions should consider a broader range of geographical areas and cultural contexts during development. Furthermore, many studies have underscored the importance of connectedness for psychological improvements in sexual and gender minority youth (Mendlein, 2016; Garcia et al., 2020; Montagno and Garrett-Walker, 2022). However, without interpersonal interaction and limited ability to detect users' clinical state, this game intervention may be better delivered as a supplement, rather than an alternative, to therapist-guided treatment for LGBTQ+ youth (Strauss et al., 2019).

In the future, it is critical for researchers to leverage these technological advances in a culturally sensitive, clinically effective, and user-oriented manner. This could potentially involve the use of adaptive algorithms that adjust the intervention to the user's progress and responses, thereby providing a more personalized and effective therapeutic experience. Also, the development of such interventions should involve extensive usability testing to ensure the systems are user-friendly, engaging, and suitable for the target population. As we move forward, it will be crucial to incorporate the perspectives of the LGBTQ+ community throughout the development process to ensure interventions are inclusive, representative, and most importantly, effective.

4.4. Implication for unstructured and informal intervention (U&I)

As an unstructured and informal intervention, social media use has become almost ubiquitous among LGBTQ+ youth in daily life. Young people use social networking sites to create and maintain social relationships, obtain various information, and for entertainment and relaxation (Whiting and Williams, 2013), Meyer suggested social support from communities could help sexual minority to buffer against minority stress and mental disorders (Meyer, 2003). For example, Craig and her colleagues have concluded that online media could empower LGBTQ+ youth to feel stronger through positive storylines, active communities, and support from celebrity role models and provide them with mental and emotional relief (Craig et al., 2015). Indeed, longitudinal research has reported that in LGB+ participants, online experiences of acceptance were negatively associated with depression and anxiety, protecting them from poor mental health outcomes (Pellicane et al., 2021).

However, social media as a "moderation-free" space also poses a threat to LGBTQ+ youth's mental health because this population may be experiencing more discrimination and cyberbullying (Lucassen et al., 2018; Berger et al., 2021). A quantitative study examining Facebook use of LGBTQ+ young adults has suggested that cyberbullying and victimization showed a sizeable effect on psychological distress for LGBTQ youth (McConnell et al., 2017). Further, Vogel, Ramo, Prochaska, Meacham, Layton, and Humfleet have indicated that social media use for gender minority youth could become problematic when it interferes with functioning, and participants with greater problematic social media use had greater depressive symptoms and internalized stigma (Vogel et al., 2021).

Hence, to ensure that social media becomes an effective and positive intervention for helping young people improve their well-being, computer science is crucial in harnessing the potential of social media as a digital intervention tool for improving mental health outcomes among LGBTQ+ youth, while also mitigating its risks. Firstly, implementing machine learning algorithms for content moderation could be instrumental in identifying and filtering out harmful content, thereby reducing the occurrence of online harassment and hate speech. Secondly, artificial intelligence can also play a key role in providing personalized and adaptive online mental health support. This could include tailored recommendations for community resources, moderated discussion groups, and other mental health services that are most relevant to the individual's identity and experiences. Moreover, the development of digital literacy programs, including education on online identity management and digital security, should be prioritized. For instance, young people could be taught how to manage privacy settings, identify and report inappropriate or harmful content, and develop resilience strategies when facing negative online experiences. Lastly, fostering collaborations between researchers, clinicians, computer scientists, and social media platforms can be key in developing technologies and algorithms that not only protect LGBTQ+ youth but also foster a more inclusive and supportive online environment. For instance, the use of natural language processing can help in detecting subtle forms of online harassment or discrimination, and machine learning algorithms could be trained to better understand the specific needs and vulnerabilities of the LGBTQ+ community. With the appropriate safeguards and supportive resources, social media can become an empowering platform for LGBTQ+ youth, fostering resilience, promoting well-being, and providing a sense of community and belonging.

4.5. Future direction

A discussion of four intervention streams showed that S&F and U&F have made significant progress in improving the mental health of LGBTQ+ youth, resulting in reduced depression and stress levels and increased coping skills. Although S&I and U&I interventions have shown potential effectiveness, they still present some uncertainties. Given their features, S&I and U&I could serve as valuable supplements to healthcare, strengthening the impact of therapist-guided treatments. Both the majority of included studies and previous research have emphasized the importance of social connections and community engagement for beneficial health outcomes (McDonald, 2018; Fish, 2020; Garcia et al., 2020). Consequently, platforms such as serious games and social networking sites could provide safe spaces for youth to connect with the community, access health resources, and share their experiences under their chosen "real identities." To maximize the mental health benefits of these interventions, professional guidance and online content moderation are needed (Dias Oliva, 2020; Dias Oliva et al., 2021), thereby reducing the prevalence of problematic internet use.

Notably, none of the studies on digital intervention leveraged advanced technology such as virtual reality (VR) or the "Metaverse" to deliver healthcare to LGBTQ+ youth. VR, a technology that creates a computer-generated world for users to interact with, through real-time computer images, sounds, and other sensory inputs, offers a sense of immersion in the virtual environment. A systematic review of evidence between 2012 and 2015 featuring 24 RCT studies suggested that VR was effective for individuals with severe mental

health outcomes (Valmaggia et al., 2016). A prior study also concluded that virtual environments are adaptable, programmable, and compatible with established psychological theories and practices (Gregg and Tarrier, 2007). VR's synchronous models can fulfill the requirements for interaction and personalization, which are essential in digital mental interventions for LGBTQ+ youth, ensuring a consistent experience (Bell et al., 2020). For instance, therapists can interact with patients in real-time as they would in in-person consultations (Tan et al., 2022), monitor their clinical condition and emotional responses, and tailor treatment programs.

In addition, the Metaverse's potential for facilitating client-professional interactions through customized 3D avatars may offer an enhanced experience compared to existing VR platforms (Usmani et al., 2022). Immersive spaces can also accommodate group and collaborative therapy sessions (Thomason, 2021), a mainstay in the current digital mental health approaches while ensuring privacy. Moreover, given the need for social connections and community support among LGBTQ+ youth, as highlighted in this review, the Metaverse could simulate real-life interactions through "avatars" (Maloney, 2021; Oh et al., 2022), providing socialization opportunities without the risk of depression from isolation. Even serious games, a type of digital health intervention, could be upgraded within the Metaverse, and a 3D immersive setup comparable to real-life experiences could be attractive to youth (Maloney, 2021). However, due to the cost and other constraints of the required devices, digital interventions delivered via VR and the Metaverse are not yet widespread. Still, scholars should continue exploring the effectiveness of VR and Metaverse-based interventions in addressing mental health disparities among LGBTQ+ youth.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

YL, XW, and WG: conceptualization, methodology, data collection, and draft write-up. HF and YW: project administration, data analysis, and interpretation. YL, HF, XW, and YW: proofreading or editing. All authors contributed to the article and approved the submitted version.

Conflict of interest

XW was employed by Sage IT Consulting Group.

The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

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frontiers | Frontiers in Sociology

TYPE Systematic Review
PUBLISHED 17 October 2023
DOI 10.3389/fsoc.2023.1232609

OPEN ACCESS

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RECEIVED 31 May 2023
ACCEPTED 04 September 2023
PUBLISHED 17 October 2023

CITATION
de Dios-Aguado M, Cunha-Oliveira A, Cotto-Andino M, Gama de Sousa Aperibense PG, de Almeida Peres MA and Gómez-Cantarino S (2023) Gender diversity and syphilis: something's going on? *Front. Sociol.* 8:1232609. doi: 10.3389/fsoc.2023.1232609

Gender diversity and syphilis: something's going on?

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Introduction: This study aims to analyze the influence of syphilis among people with sexual and gender diversity, different from the binary dimension.

Materials and methods: A systematic review was conducted as a method to address the objective of the study, based on the Dialectical Structural Model of Care (DSM), to obtain the phenomenon from the perspective of cultural history.

Results: In this review the analysis of 129 documents, of which 22 texts were used. The construction of sex and gender in Western civilization is based on the Judeo-Christian tradition, which permitted many people throughout history to be persecuted and mistreated for living a lifestyle different from that dictated by religious and traditional canons. Therefore, throughout history, gender-diverse people, sexual minorities, and prostitutes have suffered segregation, mockery, aggression, and health problems, including syphilis.

Conclusions: Despite having a treatment and cure, syphilis has stood the test of time and has remained a secret pathology that is obscure and difficult to detect disease, which is still very much present in people of all social classes. It is necessary to review history to understand the reasons why syphilis is still prevalent in different societies today.

KEYWORDS

homosexuality, transsexuality, syphilis, gender, sexuality, nursing history

1. Introduction

For centuries, the construction of sex and gender in Western civilization was based on the Judeo-Christian tradition, which devised the figure of Eve to describe female sexuality. Considering this female figure, women were held responsible for the errors of humanity (Northurp, 1998). The discourse on the female sex, inspired by the medical knowledge of Hippocrates, Galen, Avicenna, Averroes, and Juan Huarte de San Juan, was based on analyses of the anatomy and physiology of women from a modified version of men, which, for years, allowed women to be considered as imperfect beings (Vázquez Jiménez, 2015).

Between the 16th and 17th centuries, owing to the curiosity to understand female sexuality, physician-anatomists Mateo Realdo Colombo, Gabriele Falloppio, and Caspar Bartholin investigated the anatomy and physiology of the female genital organs through

dissection. Through their treatises on anatomy, the immeasurable division of the two sexes began to be proclaimed with scientific rigor (Lafortune and Berriot-Salvadore, 1994).

By the 18th century, women were no longer considered an inferior version of men, but just different beings. The binary dimension of the male-female gender was consolidated. Doctors showed an interest in female pathologies, although they considered that illness in women stemmed from a rupture with nature since the healthy and happy woman was the one who complied with the established social order and maintained sexual relations within marriage (Vázquez Jiménez, 2015; Pérez, 2017). Against this background, it is worth highlighting the importance generated in the process of how a person identifies themselves; they incorporate objects that serve as referential models during the process of forming their identity. In fact, the cultural forms of life remain organized by the heterosexual matrix. Consequently, heterosexuality is installed as a legitimate mode of erotic choice. Therefore, heterosexuality is formed through norms that, to some extent, derive from homosexual relations, forcing their suppression (Butler, 2003).

For centuries, sexual morality conformed to biblical laws, which were summarized by Philo of Alexandria, a Jewish-Hellenist philosopher who interpreted the biblical ten commandments in his treatise De specialibus legibus. The philosopher made a profound and important reflection on the forms of interpersonal relationships and sexual morality. In the text, sexual relationship is explained through metaphorical words or with a euphemistic sense, and his theses come from the deep reflection he made on the forms of interpersonal relationships and sexual morality, a fact that allows us to know the sexual behavior of the time and the different existing gender roles (Pérez, 2017).

It is essential to understand that the term "sex" refers to the inherent biological differences between individuals as men and women, closely related to their primary and secondary sexual characteristics. However, the concept of "gender" encompasses the cultural construct intertwined with aesthetic attributes, values, and perceptions related to what is considered feminine or masculine. In this context, gender stereotypes involve patterns, roles, and personality traits that have historically been associated with the representation of being female or male within a specific society (Atienza Macías and Armaza Armaza, 2014). It was not until the 18th century that women were recognized as beings with their own identities, so it is worth asking what happened in relation to sexual and gender diversity other than the binary dimension. It is even possible to wonder if, until that century, medical science did not become interested in female pathologies in relation to sex-related diseases. There could have been a lack of interest or intolerance to research, especially when sexual relations were maintained within marriage in accordance with the sexual morality governed by the Judeo-Christian tradition. Furthermore, sex and desire are mechanisms of power that, by transmitting sexuality, produce repressive or oppressive systems where one exerts greater dominance over the other (Foucault, 2008). These roles and stereotypes play a crucial role in society, as they have historically established specific boundaries and functions for men and women. However, the problem lies in the fact that these patterns continue to perpetuate lifestyles that originated in the early stages of society without considering the sociocultural evolutions that have taken place over the centuries (Swaab et al., 2021). According to data from the Spanish Ministry of Interior, in 2019, there were 278 hate crimes related to sexual orientation or gender identity, with an increase of 8.6% compared to 2018 (News Mundo, 2021).

Syphilis, a sexually transmitted infectious disease whose causal agent is the bacterium *Treponema pallidum*, has a torpid evolution and is being transmitted by direct contagion or via the placenta. It has several stages, the first of which is characterized by the presence of a non-painful open ulcer called a chancre, the location of which depends on the different sexual practices and may be present on the genitals, mouth, skin, rectum, or vagina (Janier and Caumes, 2012; Pitche, 2022). If treatment is effective, the lesion heals in ∼4–6 weeks. If the medication fails to achieve its purpose, between 2 and 8 weeks after the chancre has healed, syphilis progresses to a secondary period, where a cutaneous-mucosal rash appears with non-painful lesions affecting the skin, mucous membranes, palms of the hands, and soles of the feet. At this stage, *Treponema pallidum* pass into the bloodstream (Capdevila and Fernández, 2007; Pitche, 2022). Therefore, if treatment is inadequate, there is systemic and visceral involvement, causing fever, malaise, arthralgia or myalgia, swollen lymph nodes, headache, weight loss, and fatigue. It can even result in jaundice, splenomegaly, glomerulonephritis, and bone involvement. When treatment remains inadequate, the person continues to have syphilis, even if no symptoms are present; this phase is called latent syphilis and can last for years (Palacios Muñoz et al., 2006; Capdevila and Fernández, 2007), and in this stage, *T. pallidum* colonizes and reproduces, resulting in a circular ulcer called a gum. At this stage, there may be involvement of bones, skin, mucous membranes, nervous tissue, brain and meninges, heart, and arteries (Ministerio de Sanidad and Dirección General de salud Pública, 2021). The infection may be latent for 10–30 years, giving rise to late syphilis, a stage characterized by tabes dorsalis and neurosyphilis, a disease that evolves into syndromes such as psychosis, mania, dementia, and even epilepsy (Capdevila and Fernández, 2007; Janier and Caumes, 2012; Pitche, 2022).

This article aims to analyze the influence of syphilis among people with sexual and gender diversity, other than the binary dimension from the history of nursing. The question guiding the study is: How were relationships between people with sexual and gender diversities, other than the binary dimension, and syphilis established? The justification for the study is based on knowing what has happened and is happening within this group of people in relation to syphilis, especially when its prevalence worldwide is very high in all social groups.

2. Materials and methods

2.1. Study design

In this study, a systematic review was undertaken to address the objective of the study. These reviews are an ideal tool for determining the scope of a set of publications on a given topic. They indicate the volume of publications and studies available. In addition to acquiring a global vision of the documents, the reviews allow researchers to evaluate, synthesize, and critique the evidence inherent to the objective of the study (McFarlane, 1988;

Munn et al., 2018). The Dialectical Structural Model of Care (DSMC) (Siles González, 2005) has been used because of its relevance in delving into the cultural and social roots of structures that are particularly linked to sexual and gender diversity, as opposed to the binary dimension. This model identifies the functional dynamics of structures, allowing the analysis of the causes that lead to their changes.

The Multiple Event Detection and Classification (MEDC) methodology is based on structures that serve as support for the process of ordering and analyzing the data. In this research, its application is important due to the social, cultural, and care study in which we are involved. Therefore, the structures applied to it are the following: (1) functional unit (F.U), where the origin of sexual and gender minorities in the various social systems that determine sexual and gender diversity, other than the binary dimension, is addressed; (2) functional framework (F.M), related to sexual and gender minorities within the social context; and (3) functional element (F.E), which in this case reflects the relationship between sexual and gender minorities and syphilis. These structures utilize a suitable tool for the organization and analysis of the data since the aim is to obtain a vision of the historical phenomena from the perspective of cultural history (Siles González, 2004). Within this study, three thematic blocks were developed centered on the MEDC; each one of them encompassed the structures that make up this historical and cultural model (Siles González and Solano Ruiz, 2016) (Figure 1).

2.2. Search strategy and review process

The process of a systematic review started with an exploratory research question (Peters et al., 2015) aimed at synthesizing and systematically critiquing existing knowledge (Colquhoun et al., 2014). This review involved several steps (Levac et al., 2010).

Initially, the topic was identified, and a research question was established, which was posed within the cultural history and the culture of caregivers using the Dialectical Structural Model of Care (DSM): How were relationships between people with sexual and gender diversities, and syphilis established? The following inclusion criteria were considered: (1) publications in Spanish, English, Portuguese, and French; (2) no time restriction for publication (as this was historical research); (3) subject matter related to sexual and gender diversities; and (4) thematic selection based on the importance and relevance of the topic, as well as the development and influence of homosexuality throughout history. The exclusion criteria included the following: (1) repeated publications; (2) abstracts, editorials, chapters and books, theses, dissertations, and course completion papers; and (3) studies not related to the proposed topic.

The search for documentation was carried out between January and July 2022 by physically visiting the Library of the University of Castilla-La Mancha, the National Library of Spain, the Library of Castilla-La Mancha (Alcázar de Toledo), the National Historical Archive, the CSIC Library, and the World Digital Library (UNESCO). Several databases were consulted, including the following: (1) Latin American Health Bibliographic Database (CUIDEN); (2) PubMed; (3) Scopus; (4) Science Direct; and (5) Google Scholar. MeSH and DeSH terms were used to carry out a more exhaustive and advanced search using the Boolean operators "[AND]" and "[OR]". Additionally, even word-word combinations were used where appropriate to reflect the syntax and search rules common to individual databases. The descriptors were as follows: sexual and gender minorities, transgender persons, gender diversity, syphilis, sexuality, and history of nursing. Due to the diversity of data collected from newspapers, books, digitized documents, and manuscripts, the research corpus was composed of a set of documents containing the core phrase. For the analysis of this corpus of documents, a flow chart was constructed following the PRISMA strategy, which allowed a synthesis of the information provided by each document and, consequently, the analysis of the data (Figure 2).

2.3. Data analysis

The documentary analysis was carried out systematically following the objective of the study. The steps followed in the analysis were as follows: (1) thematic linking; (2) preliminary classification of the documents based on inclusion and exclusion criteria; (3) selection of relevant information; and (4) interpretation and comparison of the results. The selected material was analyzed from the point of view of the three thematic blocks of study, each of them encompassed in the DSMC structures. These included the following: (1) the origin of sexual and gender minorities; (2) sexual and gender minorities within the social context; and (3) sexual and gender minorities and syphilis. The first, second, and third authors carried out general data collection. The fourth author examined the findings in depth, and the fifth and sixth authors identified the thematic blocks under the DSMC structures of functional unit, functional framework, and functional element. Discrepancies were resolved by consensus among the researchers.

3. Results

As can be observed in the PRISMA strategy, 129 publications were identified in the database. However, once the documents were filtered, 99 studies were selected, of which 31 were adjusted to the search strategy, although, to undertake this study, only 22 were useful. It should be noted that most of the documents were published in the 21st century, probably due to the current interest in understanding people with sexual and gender diversities beyond the binary dimension. The findings from the 22 selected studies were categorized into three common thematic blocks for further analysis to provide clarity and consistency in the topic of study. The main thematic lines focused on three common thematic lines: (1) understanding the views and perspectives of the origin of sexual and gender minorities, which was the focus of 10 studies; (2) exploring sexual and gender minorities in the social context, which was the focus in five studies; and (3) determining sexual and gender minorities and syphilis, which was discussed in seven studies.

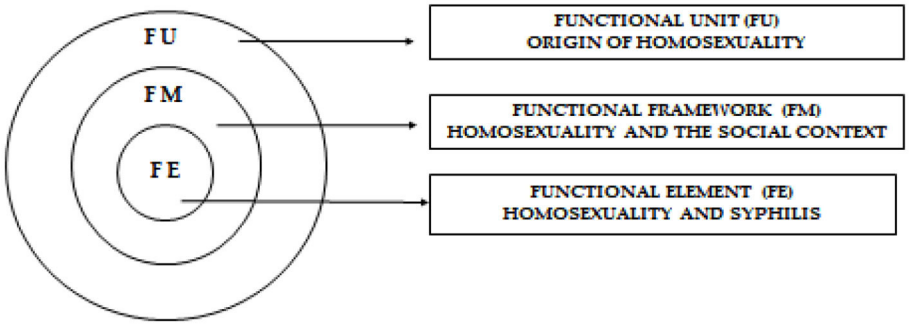

FIGURE 1
MEDC methodology developed by the authors.

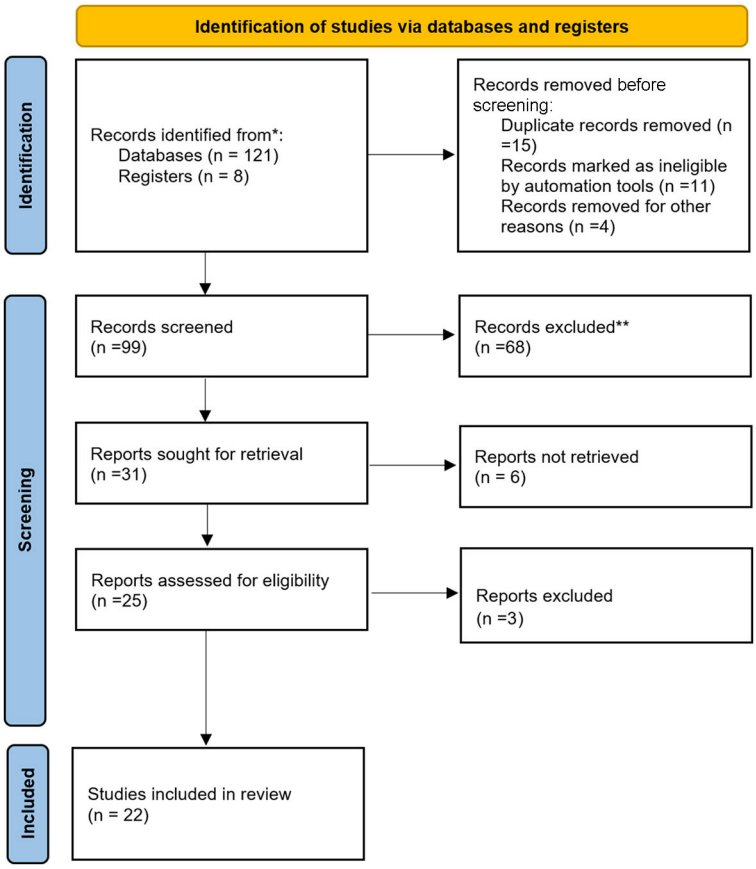

FIGURE 2
Identification of the studies, reviewed, included and used in the research. *Total studies found. **Records excluded after being examined.

3.1. Origin of sexual and gender minorities

Currently, there is no agreement on the origin of homosexuality. Some researchers believe that, in primitive civilizations, it was accepted and permitted as part of the idiosyncrasies of human beings in those civilizations (essentialist current), while other researchers consider homosexuality to be a social construct introduced in the Middle Ages because of the existing dichotomy between homo-social and hetero-social relationships (constructionist current) (Solana, 2018).

Current essentialist scholars argue that, in Egypt, Greece, and Rome, interpersonal relationships were allowed as long as they satisfied the pre-established moral canons and adapted to the rational ethical principles and social convictions of the time, even if they only appeared to be in conformity and the true motive of the relationship was hidden (Pulecio Pulgarin, 2009). Plato, in his work, *The Banquet*, states that it is possible to understand that there are men who sexually seek other men, women who prefer sexual contact with women, and men who desire women and women who desire men (Solana, 2018).

However, current constructionist scholars argue that the concept of homosexuality emerged in the West during the 12th and 13th centuries. According to them, closed communities of men existed where intimate coexistence between members was the backbone of a homo-social relationship. Such relationships fostered virile friendships, whose masculine ideal was the warrior, a man who lived apart from women (Soto Buenaventura, 2021).

During these centuries, feudal society promoted the male-female love relationship, and sexual practices were oriented toward the lady's gallantry, even though the woman was considered a commodity, the property of the masters, the father, and the husband. With gallantry came the concept of courtly love, the basis of the troubadours' lyrics, which exalted the permanent suffering of the lovers in their impossible love and passion and where the love relationship went beyond good and evil. Consequently, the dichotomy of homosexual relationships and heterosexual relationships emerged during the 12th and 13th centuries (Di Gerónimo, 2012).

The Christian Church, between the Second Lateran Council of 1139 and the Fourth Lateran Council of 1212, attempted to weaken the existing exaltation of love within the closed communities of the religious orders. This led to the persecution of marriages and concubinages of priests, deacons, sub-deacons, monks, and nuns. Adulthood was viewed as a sin since male-female love was only allowed within the conjugal framework. Further, with the intention of limiting homo-social relationships within religious orders, he introduced the accusation of sodomy to condemn any loving relationship that was not male-female. Incidentally, the term sodomy comes from the story of Sodom and Gomorrah in the Old Testament (Soto Buenaventura, 2021).

During the 13th and 14th centuries, the Catholic Church, through the tribunal of the Holy Inquisition, tortured people in same-sex relationships accused of sodomy and condemned them to death at the stake for being guilty of a nefarious sin. Such persecution was widespread until the 18th century (Boswell, 1998; Torquemada Sánchez, 2014).

In 17th and 18th century England and France, people in same-sex relationships gathered in so-called fun houses— places where social and sexual norms were challenged—as pleasure was at its peak and there was unbridled passion (Cancino Barffusón, 2012). However, to get around the accusation of sodomy, euphemistic expressions such as libertine, romantic friendship, Malthusian partner, and sexual invert were used. Sexual attraction was considered an autonomous biological and psychic instinct (Foucault, 2008; Cancino Barffusón, 2012). In his play, *The Bostonians*, Henry James recreated an emotional union between two independent women, which gave rise to the term "Boston marriage" (Alventosa del Río, 2008; Beteta Martín, 2012). During this time, only the term "homo-social practices" existed, for it was not until 1869 that the term homosexual was coined to refer to a specific type of person (Cancino Barffusón, 2012).

In the 19th century, people in same-sex relationships began to be targeted for their gestures, their manners, their way of dressing, and their anatomy, morphology, and facial expressions (Foucault, 2008). With the advent of sexology, homosexuality was considered a pathological disorder. As a result, the person who felt affective and sexual attraction for a person of the same sex and behaved in an unconventional way was treated with therapeutic techniques of little validity. With the rise of totalitarian regimes in the 20th century, homosexuality came to be persecuted and strongly repressed, and people in same-sex relationships were considered a danger to society. In this context, lesbianism was considered a disease among female prostitutes (García Valdés, 1980; Alventosa del Río, 2008). With the first surgical interventions on transsexuality, a sub-specialty emerged within sexology whose purpose was to attend to the needs of transsexuality (Beteta Martín, 2012) (Table 1).

Following the spontaneous emblematic moment of homosexuality that occurred in the early hours of 28 June 1969 in the Stonewall Inn (New York), stigmatization, discrimination, and homophobia have been combated. The Stonewall riots that followed are often cited as the first instance when the gay community fought against a system that persecuted non-normative people (Cancino Barffusón, 2012).

3.2. Sexual and gender minorities within the social context

The repression of certain types of sexual behavior in both private and public life began in feudal Europe. A redefinition and updating of social values followed, which led to the persecution of behavior that violated pre-established norms. Those who challenged the values and/or deviated from pre-established norms were called heretics and known as sodomites in the 13th century. They were the target of intolerance and persecution, resulting in the phenomena of interpersonal violence, such that anyone whose behavior deviated from Christian morality was socially marginalized during the 14th and 15th centuries (Bazán Díaz, 2007).

In an intolerant society, as described above, people who were rejected or persecuted for their sexual behavior for centuries lost their rights to develop their human potential and were forced to repress their feelings for fear of being denounced or scrutinized by people whose recognition or social position gave them power (Porras Gallo, 2002).

The demographic growth of the 19th century, a consequence of the Industrial Revolution, produced suburbs on the outskirts of cities inhabited by a diverse group of people, including those marginalized by their sexual behavior. This gave rise to slums or Chinatowns—population nuclei where people lived in overcrowded conditions—with precarious economic means and with the need to seek daily sustenance. The only recourse for men and women in these places who intended to improve their economic condition was practicing prostitution (Porras Gallo, 2002; Huard, 2016).

In Spain, during the Franco dictatorship, prostitution (both male and female) was the economic engine of these neighborhoods despite police controls. The homophobic discourse was developed during this period with the approval of the Church and state institutions. Anyone whose gender identity did not fit the heterosexual model was forced to hide and repress their feelings to the point of becoming invisible for fear of being arrested for public scandal, as homosexuality was criminalized as per the 1954 Law on Vagrants and Thugs. This law was enacted with the aim of curbing and controlling prostitution (Huard, 2016; Díaz, 2019).

TABLE 1 Sexual and gender minority origin.

Authors	Year	Document	Topic
Solana, M.	2018 Artícle	El debate sobre los orígenes de la homosexualidad masculina. Una revisión de la distinción entre esencialismo y construccionismo en historia de la sexualidad.	It is understandable that men desire women and women desire men (Plato).
Pulecio Pulgarin, J. M.	2009 Artícle	Filosofía y diversidad sexual: aportes para una lectura de la constitución colombiana en clave de género.	Essentialist tendency: Egypt, Greece and Rome, in interpersonal relationships satisfactory to the canons, adapted to rational ethical principles and consented to them.
Soto Buenaventura, J. D.	2021 Artícle	La invención de la cultura heterosexual: Louis-Georges Tin.	Essentialist tendency: Egypt, Greece and Rome, in interpersonal relationships satisfactory to the canons, adapted to rational ethical principles and consented to them.
Di Gerónimo, M.	2012 Article	El amor cortés: Escenas amorosas que sostienen mundos. Caso Borges.	Feudal society encouraged male-female love relationship (XII-XIII) the dichotomy of homosexual relationship or heterosexual relationship emerged.
Boswell, J.	1998 Book	Cristianismo, Tolerancia Social y Homosexualidad, Los gays en Europa occidental desde el comienzo de la Era Cristiana hasta el siglo XIV.	Catholic Church (XIII-XIV) through the tribunal of the Holy Inquisition tortured homosexual persons.
Torquemada Sánchez, M. J.	2014 Artícle	Homosexualidad femenina y masculina en relación con el delito de sortilegios.	Persecution by the Church (Holy Inquisition) was very present until the 18th century.
Cancino Barffusón, S. R.	2012 Book	Permanencias, cambios y tensiones en el proceso de visibilización de la homosexualidad masculina en Xalapa, Veracruz.	The term homosexual was coined (1869). Meeting place, houses of entertainment, where social and sexual norms were challenged.
Beteta Martín, Y.	2012 Artícle	De la tradición sáfica a los círculos triádicos: la búsqueda de las identidades lésbicas desde una perspectiva histórica (De la antigüedad clásica a la edad moderna).	Bostonian marriage: emotional union between two independent women.
Alventosa del Rio, J.	2008 Law	Discriminación por orientación sexual e identidad de género en el derecho español.	Late 19th century lesbianism considered a disease of prostitute women.
García Valdés, A.	1980 Book	Historia y presente de la homosexualidad: análisis crítico de un fenómeno conflictivo.	With the rise of totalitarian regimes (20th century) homosexuality was persecuted and strongly repressed, people in same-sex relationships being considered a danger to society.

Consequently, venereal disease among the homosexual population was kept a secret, especially in Chinatown, which provided discretion and a certain level of tolerance toward permissive behavior, making it easier for the homosexual community to take refuge there. However, affluent members of the homosexual population met in more sanitized and hygienic environments. As a result, the Drugstore in Barcelona's Gracia district and Madrid's Chueca district emerged as popular gathering places for the homosexual community. Today, these areas are acknowledged for their association with homosexuality, where it still remains an integral part of the respective neighborhoods (Herrero-Brasas, 2001; Díaz, 2019) (Table 2).

The Law on Vagrants and Thugs was selectively applied with class criteria since individuals in homosexual relationships belonging to powerful families were excluded from it. Therefore, a very high number of those judged by the courts of the time for homosexuality belonged to the most disadvantaged social groups; it was exceptional for someone belonging to the upper social class to be sentenced to prison for homosexuality (Herrero-Brasas, 2001; Huard, 2016; Díaz, 2019). The Law on Vagrants and Thugs was repealed on 4 August 1970 and replaced by the Law on Dangerousness and Social Rehabilitation, which remained in force until 26 December 1978. However, the homosexual community was no longer convicted under this law, though they could be arrested under the Public Scandal Act. People with sexual and gender diversity, different from the binary dimension, did not stop being persecuted until 26 December 1978, when the first president of democracy, Adolfo Suárez, signed a modification of the Law of Dangerousness and Social Rehabilitation, which eliminated homosexuality from its text, thus decriminalizing it in Spain (Herrero-Brasas, 2001).

3.3. Sexual and gender minorities and syphilis

In his writings, Hippocrates describes a disease associated with vagrancy, overcrowding, immorality, and a lack of hygiene, which is similar to the symptoms of syphilis. However, some researchers believe that syphilis arrived in Europe after Columbus' third voyage in 1493; on arriving in Spain, Columbus reported that one of his crew members had contracted an infection on the island of

TABLE 2 Social context: sexual and gender minorities.

Authors	Year	Document	Topic
Bazan Díaz, I.	2007 Artícle	La construcción del discurso homofóbico en la Europa cristiana medieval. En la España medieval.	People whose behavior was far from Christian morality were socially marginalized during the 14th and 15th centuries.
Porras Gallo, M. I.	2002 Artícle	Un acercamiento a la situación higiénico-sanitaria de los distritos de Madrid en el tránsito del siglo XIX al XX.	Industrial Revolution, produced suburbs outside cities: inhabited by people marginalized by their sexual behavior where people lived in overcrowded conditions (slums).
Huard, G.	2016 Artícle	Los homosexuales en Barcelona bajo el franquismo. Prostitución, clase social y visibilidad entre 1956 y 1980.	Under the Franco dictatorship (1939-1975), prostitution, both male and female, was the economic engine of marginalized neighborhoods, with the approval of the Church and State institutions.
Díaz, A.	2019 Article	Los "invertidos": homosexualidad (es) y género en el primer franquismo. Cuadernos de historia contemporánea.	Law on vagrants and malefactors (1954). Law enacted with the aim of curbing and controlling prostitution, including people in same-sex relationships.
Herrero-Brasas, J. A.	2001 Book	La sociedad gay: una invisible minoría.	People in same-sex relationships from the wealthy classes met in places with greater guarantees of hygiene. In places where homosexuality was and is part of the idiosyncrasy of the neighborhood.

Hispaniola (Frith, 2012). The first known treatment for syphilis consisted of the following: applying guaiac resin, meticulous removal of the syphilitic patient's secretions from their lesions, and applying mercury preparations by the active rubbing of the patient's skin with a Neapolitan ointment or gray ointment (Leitner et al., 2007). The discovery of the causative agent of syphilis in 1905 by Fritz Schaudin and Erich Hoffman marked the beginning of effective treatment for this disease. August von Wassermann's understanding of the humoral reaction for the serological diagnosis of syphilis in 1906 furthered progress in this field. Alexander Fleming's discovery of the *Penicillium notatum* bacterium in 1928 also contributed to the advancement of treatment for syphilis. These three milestones changed the course of the disease (Ros-Vivancos et al., 2018).

Syphilis was the cause of death of great music composers, scientists, and politicians who were associated with prostitution and homosexuality. Discretion over this influenced the spread of the most non-visible stages of the disease. Therefore, in the 19th century, with the understanding of the importance given to hygiene, attempts were made to regulate prostitution, even advocating its abolition, while any manifestation of homosexuality was strongly repressed. During the first half of the 20th century, there was strict sanitary control of brothels. Meanwhile, medical treatises of the time supported sex education following Judeo-Christian morality with the intention of eradicating syphilis and, at the same time, promoting sexual relations within the conjugal framework. However, even with this tight control, syphilis was not eliminated among the heterosexual or homosexual population (Ros-Vivancos et al., 2018).

The discovery of penicillin and the control of prostitution considerably reduced the prevalence of syphilis and the incidence of the more serious forms of the disease, such as cardiovascular syphilis, neurosyphilis, and congenital syphilis. However, the disease continues to be called the great simulator because every 10 years or so, there are upturns in incidence. Therefore, with the sexual revolution, a widespread use of contraceptives, the liberalization of homosexual relations, and injecting drug use, syphilis continues to be a worldwide problem among the heterosexual and homosexual populations (Capdevila and Fernández, 2007) (Table 3).

The general objectives of syphilis prevention and control are to reduce the incidence of this infection, to promote early diagnosis to prevent associated comorbidities, and to reduce discrimination against people suffering from this pathology (Palacios Muñoz et al., 2006; Repiso et al., 2009). In Spain, it is difficult to encourage a person for diagnosis among the heterosexual population, but it is almost impossible among the homosexual population, especially when syphilis is perceived as a social stigma, and the infected person does not present symptoms that would make it necessary to carry out a diagnostic test. These two factors, together with the difficulty of accessing resources, the lack of information, and the inconvenience of contact tracing, mean that the chain of transmission is not stopped, and syphilis goes undetected in the heterosexual and homosexual populations (Ministry of Health, 2021).

4. Discussion

The construction of sex and gender in Western civilization is based on the Judeo-Christian tradition, which devised the figures of Adam and Eve to describe sexuality and allowed many people throughout history to be persecuted, abused, and burned at the stake simply for living as their mind, but not their body, dictated.

Against this background, it is worth mentioning that the life of Elena/o de Céspedes (1545–1588), a male transsexual who, as a woman, was mentally convinced that she belonged to the opposite sex and was trapped in a female body. With the help of surgery, she managed to modify her anatomy to adapt it to the gender she really wanted. Once she accomplished the feat (sexually male), Céspedes married María del Caño, and for more than a year, they lived together in the town of Yepes (Toledo, Spain) without their sex life being a cause for suspicion (Barbazza, 1984).

TABLE 3 Syphilis: sexual and gender minorities.

Authors	Year	Document	Topic
Frith	2012 Artícle	Syphilis its early history and treatment until penicillin and the debate on its origins. J Mil Veterans Health.	Syphilis arrived in Europe after Columbus' third voyage in 1493.
Leitner R. M. C., Körte, C., Edo, D., Braga, M. E.	2007 Artícle	Historia del tratamiento de la Sífilis.	First treatments of syphilis: guaiac resin, mercurial preparations, Neapolitan ointment or gray ointment.
Ros-Vivancos C., González-Hernández, M., Navarro-Gracia, J., Sánchez-Payá, J., González-Torga, A., and Portilla-Sogor, J.	2018 Artícle	Evolución del tratamiento de la sífilis a lo largo de la historia.	Serological diagnosis of syphilis: discovery of the *Penicilium notatum* bacterium (1928) by Alexander Fleming.
Capdevilla E. F., Fernández, M. M.	2007 Artícle	Evolución del tratamiento de la sífilis a lo largo de la historia.	Stages and course of the disease.
Palacios Muñoz, R De la Fuente Aguado, J., Murillas Angoiti, J., Nogueira Coito, J. M. Santos González, J.	2006 Artícle	Sífilis e infección por el virus de la inmunodeficiencia humana.	Latency of disease (10–30 years): Late syphilis (tabes dorsalis and neurosyphilis).
Repiso, B., Frieyro, M., Rivas-Ruiz, F., De Troya, M	2010	Uso preservativo y número de parejas sexuales en hombres que tienen sexo con hombres con sífilis.	Prevention and control of syphilis: reduction of incidence, early diagnosis to prevent associated comorbidities.
Ministerio de Sanidad C y BS, FELGTB.	2021	Recomendaciones para la atención de personas trans en el ámbito sanitario	Care and recommendations in the treatment of transgender people.

However, as a result of some quarrel, the couple were denounced to the court of the Holy Inquisition, and on 18 December 1588, the Auto Public de Fe was held in the Plaza de Zocodover in Toledo, where Céspedes abjured herself and, by way of mockery, went through the streets of Toledo wearing insignia that showed her gender diversity. Her sentence was exemplary, and she was confined for 10 years in a hospital. During this time, Céspedes worked without pay in the hospital infirmary, which earned her freedom from the stake, but in the end, they did not achieve her goal of being recognized as a man (Barbazza, 1984).

Throughout human history, syphilis has been closely linked to sexual promiscuity, and for centuries, it was considered a shameful disease, and people who suffered from it were socially rejected. Therefore, people with gender diversity, sexual minorities, and prostitutes suffered segregation, mockery, and aggression. However, medically, they lacked understanding, as syphilis was silenced among this group so as not to suffer discrimination. As a result, when they did seek help to treat their disease, the disease was so advanced that it caused their death, a fact that was very common in the 19th century (Ros-Vivancos et al., 2018). In the First World War, the spike in the disease caused thousands of soldiers to contract syphilis. Given that syphilis was considered a shame, the French army created and promoted the use of "washing stations" where the soldiers would wash their hands after having sexual relations. Therefore, when a soldier was questioned in the event of any symptom of disease if he had not followed this process, the medical team would start treatment for syphilis (Volcy, 2014).

Since the end of the 19th century, lesbianism has been considered a disease among female prostitutes (Alventosa del Río, 2008). Therefore, at the beginning of the 20th century, when the abolitionist campaign (that started in England during the second half of the 19th century) began in Spanish society, it culminated in a new policy that promoted strict control of prostitution. In the era of the French Second Republic, the decree of 28 June 1935 was passed, abolishing prostitution, considering it an illicit livelihood (Rivas Arjona, 2013).

Although the objectives of the 1935 decree included the repression of sexual and gender minorities, as well as the control of syphilis, during the Franco dictatorship, prostitution (male and female) was the economic engine of certain neighborhoods and created a spike in syphilis. It increased in prevalence until the arrival of acquired immunodeficiency syndrome (AIDS) at the end of the 20th century (Huard, 2016; Díaz, 2019).

Many centuries have passed since Céspedes and several years since the First World War, but little has changed in society. Since 2003, there has been a clear increase in syphilis cases in Spain, from 2.32 cases every 100,000 inhabitants to 13.29 cases in 2019, including data showing a male bias, with 89% of infections detected in male populations in the 20–24 age group (Ministry of Health, 2021) (Figure 3).

Therefore, something is going on when many Lesbians, Gay, Transgender, Transsexual, Transgender, Bisexual, Queer, and Intersex (LGBTQIA+) people cannot continue to live according to their minds or their bodies. Some of them are shouted at as "faggot" while being killed, as happened to Samuel Luiz, a nurse in La Coruña. He was killed simply for being near a discotheque, enjoying his time off with his friends. Luiz was assassinated in a free, democratic, and confessional country. Many centuries separate the lives of Céspedes and Luiz, but neither of them achieved their purpose, which is to live according to their minds, not their bodies. Although, indeed, healthcare for the transgender population in Spain has undergone significant advances in recent years, owing to the approval of regional and national laws that guarantee the

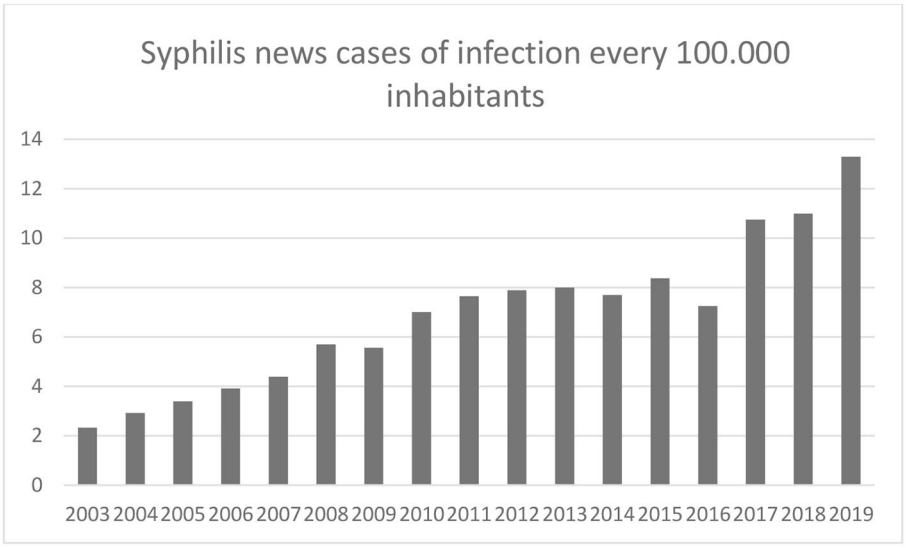

FIGURE 3
Evolution of syphilis cases (2003–19).

rights of LGTBI people, these laws have allowed these people access to more inclusive health services that respect their gender identity (Navarro-Pérez et al., 2015).

Regardless, even today, discrimination is perceived by transgender patients; 48.8% of transgender patients have had delayed or canceled medical appointments. Of these patients, 16.7% said that they are afraid of not being treated with respect by health professionals when seeking care. There is a requirement for an environment that highlights the need for quality care without stigmatization and adequate and updated training for health professionals, including an understanding of diverse gender identities and expressions (Mulió Álvarez and Europe, 2019; Crespo Ibor and Almudéver Campo, 2020).

This study is limited by its historical focus since, for centuries, syphilis was one of the most feared social ills. While the disease has been considered a minor problem in the West for decades, it has re-emerged strongly in Europe and the United States. As a result, new evaluations of its functioning and health care are emerging, making it difficult to generalize its results. However, this study promotes a contribution that aims to encourage nursing teachers to reflect on educating themselves on diverse sexualities in order to create strategies to transform identifiable barriers into opportunities to improve the quality of teaching on this topic.

5. Conclusions

Over the years, gender identity has been socially interpreted in many ways, with the most prominent being behaviors related to male and female homosexuality. The influence of the Church in the moral determination of Western society established that sexual relations could only be maintained within marriage. The sexual couple was constituted within the male-female binomial, with the male and female roles being perfectly defined along with their sexual behavior. There was no room for a homosexual relationship in this construct. Therefore, if such a relationship existed, it was considered a result of some mental disorder of the man or the woman. Under this interpretation, for centuries, people with sexual and gender diversity suffered persecution, rejection, and punishment, either as heresy or criminality.

This article shows the effect of society on the lives and behavior of people who do not conform their gender identity to their birth sex. Throughout history, people with sexual and gender diversity, other than the binary dimension, have suffered segregation, ridicule, assault, and health problems, including syphilis. Despite treatment and cure, this pathology has remained hidden and difficult to detect and is still very pervasive among people from all walks of life. The repression of prostitution and other behaviors considered sexually deviant failed to eradicate syphilis. Therefore, it is necessary to review history to understand why no progress was made in this field of health in relation to other periods when it was assumed that only debauched and marginalized people suffered from syphilis.

This study reveals the existence of intolerance or acceptance by the public toward the LGBTQIA+ community, a situation that sometimes generates the difficulty of a specific approach to the health of this group despite the existence of specific mechanisms for health care. As a result, syphilis continues unabated and manages to increase its incidence every 10 years.

Therefore, this study should serve as an indicator and reminder for LGBTQIA+ people to have a greater number of initiatives where specific health programs are promoted to prevent syphilis from remaining a secret disease among this group.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

MD-A, SG-C, and AC-O: conceptualization. AC-O, PG, and MA: methodology. MD-A and MA: validation. MD-A, SG-C, AC-O, and PG: formal analysis. MD-A, SG-C, AC-O, and MA: investigation. MD-A and SG-C: writing—original draft. MD-A, AC-O, PG, and MA: writing—review and editing. SG-C and AC-O: supervision. PG: project administration. All authors have read and agreed to the published version of the manuscript.

Funding

This study was funded by RESOLUTION 03/31/2023, UCLM AID for research projects co-financed by FEDER. 2023-GRIN-34481.

Acknowledgments

The research team would like to thank the staff of the libraries consulted and the Historical Archives for their help with the search for documentation and the possibility of reviewing it.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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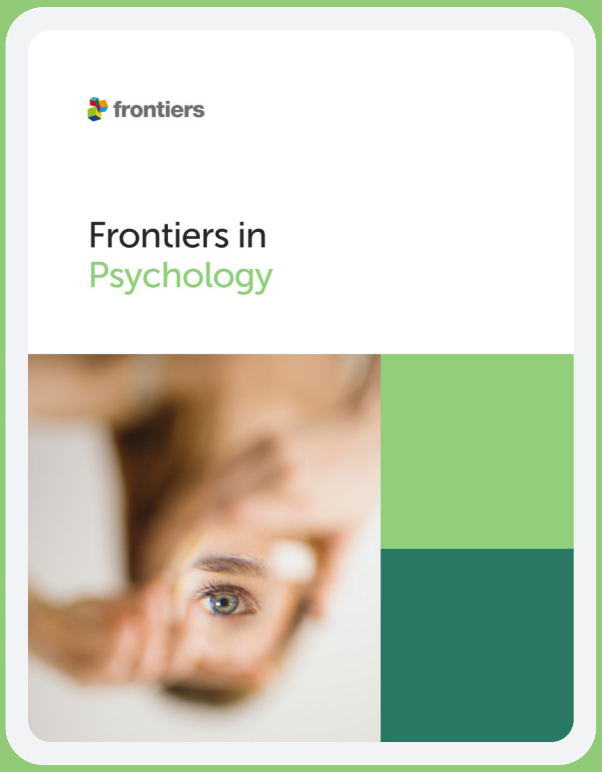

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